


2020 ANNUAL REPORT

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1 Introduction

On behalf of Whirlpool Corporation (Whirlpool), Ramboll US Consulting, Inc (Ramboll) has prepared this 2020 Annual Report (Report) for the former Whirlpool facility on Jenny Lind Road in Fort Smith, Arkansas (Site) (see Figure 1). This Report summarizes the investigation, maintenance and remediation efforts by Whirlpool under the oversight of the Arkansas Energy and Environment's Division of Energy and Environment Division of Environmental Quality (ADEQ) in 2020. This report was prepared in accordance with the Revised Groundwater Monitoring Plan (RGWMP) approved by ADEQ in September 2016; the Remedial Action Decision Document (RADD) issued by ADEQ on December 27, 2013 and revised in November 2015 (Revised RADD); and ADEQ comment letters and Ramboll/Whirlpool responses to previous quarterly/ semi-annual monitoring reports.

The investigation, maintenance and remediation efforts performed at the Site in 2020 consisted of:

- Semi-annual and annual groundwater and indoor air monitoring events in May and October 2020, respectively;
- Additional Northeast Plume groundwater investigation on the Boys & Girls Club property in the vicinity of MW-184, consisting of hydropunch groundwater samples and the installation of MW-200 and MW-202 in July 2020;
- Additional South Plume groundwater investigation to the south of the southern property boundary [Harmon Arkansas Properties, LLC (Harmon) property] based on trichloroethylene (TCE) concentrations detected in the November 2019 investigation, consisting of hydropunch groundwater samples and the installation of MW-201 and MW-203 in July and September 2020;
- Offsite investigation to the southwest (McPherson Oil) based on TCE concentrations detected in TMW-32, consisting of hydropunch groundwater samples and the installation of MW-197 and MW-199 in July and September 2020;
- Installation of MW-198 in the source area to the north of the former Whirlpool manufacturing building, in the vicinity of IW-147; and
- In-situ chemical reduction (ISCR) injections performed in October 2020 along the southern property boundary in the vicinity of TMW-36 and TMW-36B.

Offsite investigations of the Boys & Girls Club, Harmon and McPherson Oil properties were performed in accordance with the respective action plans or work plans and approvals received from ADEQ. The ISCR effort performed in October 2020 and post ISCR monitoring from the 2018 and 2019 ISCR events were performed in accordance with the respective work plans and approvals.

Monitoring at the Site will continue in accordance with the RGWMP with the next groundwater monitoring event planned to occur in Spring 2021.

2 Site Background Information

As summarized in the 2015 Two Year Technical Review Report (Environ 2016), the Site was first developed in 1961 by Norge Corporation as a refrigerator, icemaker and gas/air conditioning manufacturing facility until it was acquired by Whirlpool in 1966. Facility activities included the manufacture of side-by-side household refrigerators, trash compactors and icemakers during Whirlpool's time of operations. Manufacturing operations ceased in 2012.

The Site formerly consisted of approximately 153 acres of which the developed portion of the property consists of the former manufacturing facility [approximately 1,175,000 square feet (ft^2)], a former warehouse (approximately 622,000 ft^2) and ancillary buildings north of the former manufacturing building, including the former boiler room, water treatment plant and degreaser building. Whirlpool sold the warehouse and surrounding property on the southern portion of the Site in September 2014 to Harmon and Whirlpool sold the former manufacturing building and surrounding property (approximately 92 acres) in February 2017 to Phoenix Investors (Phoenix). Two tenants (Mars Petcare and MP Warehouse, Inc) currently conduct warehousing operations within the former manufacturing facility. Phoenix has demolished the ancillary buildings, added shipping docks for warehouse operations and improved asphalt and concrete pavement at locations surrounding the former manufacturing building.

Surrounding property use consists of residential areas located to the north of the property beyond Ingersoll Avenue and commercial industrial properties are located to the south, east and west. Undeveloped property (used for recreational purposes prior to the expansion of Ingersoll Avenue to the east) is also located to the east. Groundwater is not used as a potable water source in the area. In addition, as of 2015, all of the residential properties north of the Site have groundwater use restrictions in place as part of property damage claims settled amicably by Whirlpool and the residents.

As summarized in the 2015 Two Year Technical Review Report (Environ 2016), the combination of various investigation and monitoring activities and first-hand accounts from former workers has indicated the primary source of TCE impact at the Site is attributable to former degreasing operations performed in the degreaser building formerly located near the northwest corner of the existing building (see Figures 2A and 2B for depiction of the northwest corner of the existing building and the existing groundwater impacts in this area). Incidental releases of TCE impacting soil and groundwater at the former linear drainage feature proximate to the former degreaser building occurred in the form of (1) incidental drips onto the degreaser building floor from parts that were being washed with TCE and (2) rinsing or cleaning of the degreaser building floor for general housekeeping purposes and the subsequent discharge of mop water through the overhead doors. These incidental releases occurred approximately 30-50 years ago.

Initial remediation activities were performed by Whirlpool in 2014 in close consultation with and under the oversight of ADEQ. These activities included the imposition of a deed restriction on

the Whirlpool property; in-situ chemical oxidation (ISCO) injections in Areas 1, 2 and 3 (these areas are generally located at the exterior northwest corner of the existing building and extending north to the north side of Ingersoll Avenue) to quickly reduce TCE concentrations in groundwater in these areas; and quarterly monitoring of groundwater for volatile organic compounds (VOCs) and natural attenuation parameters.

Whirlpool also conducted additional voluntary remediation activities in 2014 beyond those required under the RADDs, including targeted ISCO injections within the neck area (area generally located east of the electric substation) and the removal of impacted soil in the source area along the linear drainage feature through the performance of 19 large diameter borings (LDBs) [removal of approximately 350 cubic yards (yd^3) or approximately 500 tons).

In 2015, Whirlpool conducted further remedial actions, including ISCO injections in the Supplemental Neck Area and Areas 2 and 3 to further increase the separation of the north and south plumes, performance of an ISCR pilot test near MW-61R (northeast portion of the North Plume) and settlements with local property owners impacted by the north groundwater plume to obtain deed restrictions precluding the use of groundwater in the future.

In 2016, the following investigation and monitoring activities were completed:

- Quarterly groundwater monitoring during the first and second quarters;
- Indoor air and sub-slab vapor monitoring in the existing building in February and June;
- Abandonment of MW-31R, MW-32R and MW-33R in June for the Ingersoll Avenue expansion project performed by the city of Fort Smith;
- Abandonment of MW-66, MW-67R, MW-193 in August for the Jenny Lind Road expansion project performed by the city of Fort Smith and installation of MW-194 through MW-196 (for continued groundwater monitoring at the northeast portion of the North Plume);
- Approval of the RGWMP by ADEQ in September 2016; and
- Annual groundwater monitoring event in November.

In 2017, the following monitoring activities were completed:

- Semi-annual groundwater monitoring event in April; and
- Annual groundwater monitoring event in October.

In 2018, the investigation, monitoring and remediation efforts performed at the Site consisted of:

- Semi-annual groundwater monitoring event in April;
- Investigation near the southwest property boundary and the northeast boundaries of the North Plume in April 2018;

- ISCR was performed in July and August 2018 at the southwest boundary of the South Plume, northeast boundary of the North Plume and at the southeast property boundary; and
- Annual groundwater monitoring event and well rehabilitation in November 2018.

In 2019, the investigation, monitoring and remediation efforts performed at the Site consisted of:

- North and South Plume investigation in which TMW-35 was installed down-gradient of MW-55R and TMW-36 was installed down-gradient of MW-189 and cross-gradient from TMW-19 in June 2019;
- Well abandonments, replacement well installations and well maintenance in June, September and November primarily due to pavement replacement projects performed by Phoenix along the north side of the former Whirlpool building;
- Semi-annual and annual groundwater, indoor air and sub-slab vapor monitoring events in April and October;
- Additional South Plume groundwater investigation along the south property boundary based on the TCE concentrations detected at TMW-36 consisting of hydropunch groundwater samples collected in November;
- Recovery well installation (RW-1), free product assessment and aquifer testing within Area 1 at the location of a former large diameter boring (LDB-11) in November and December;
- Treatability testing sample collection was performed in November 2019 and treatability testing to further assess pH modifications in groundwater and ISCR reagent effectiveness: and
- ISCR injections were performed in December at the northeast corner of the Site in the vicinity of MW-91 and on the property immediately east of the northeast corner of the Site in the vicinity of MW-99 (6427 Jenny Lind Road).

Based upon the work performed during the last six years and the valuable database of groundwater monitoring data generated over nearly 30 years, the following general conclusions are presented:

- There are no unacceptable exposures onsite based upon indoor air monitoring and current warehousing operations;
- There are no unacceptable exposures to offsite residents, offsite routine workers or offsite utility maintenance workers based upon previous indoor air and crawl space monitoring and continued groundwater monitoring; and
- Analytical results for VOCs in groundwater demonstrate that natural attenuation of TCE is occurring via chemical, geochemical and biological mechanisms in areas of the South, North and Northeast plumes as demonstrated by the presence of the reductive dechlorination by-products cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC).

If future data collection efforts indicate that there is an unacceptable exposure risk to onsite workers, maintenance workers, or construction workers, such future risks will be managed by means of the existing deed restriction, engineering controls, monitoring and proper work practices and protective gear or equipment. If future data collection efforts indicate that there is an unacceptable exposure risk to residents, such future risks will be managed by means of the existing deed restriction, engineering controls and monitoring.

3 Groundwater Monitoring and Onsite Activities

The annual groundwater monitoring event was performed during the week of October 5, 2020. This event included measuring water levels on October 5, 2020, from 132 wells followed by the collection of groundwater samples from 102 wells October 5-9, 2020. The 2013 RADD listed plume boundary wells, onsite wells and offsite wells to be sampled during each groundwater monitoring event (Table 2A). Since the implementation of the RADD, a number of monitoring wells in the original monitoring network have been abandoned due to city road improvements or Site improvements. Also, since 2013, a number of monitoring wells have been installed as a result of continued Site investigative activities. During the 2020 Annual Groundwater Monitoring event, the 102 wells sampled included 44 wells denoted as plume boundary, onsite or offsite wells according to the RADD and RGWMP or designated replacement wells (Table 2A); four shallow wells MW-175, MW-176, MW-178 and MW-179; vapor points VP-7, VP-8, VP-10, VP-12 and VP-14; and the following temporary wells to support the assessment of the source area and plume boundary conditions including TMW-10, TMW-11, TMW-12, TMW-14, TMW-16, TMW-19, TMW-20, TMW-21, TMW-22R, TMW-23, TMW-24, TMW-25, TMW-26, TMW-27, TMW-29, TMW-30, TMW-32, TMW-34, TMW-35, TMW-36, TMW-36B (TMW series of wells).[1]

Groundwater monitoring activities included collection of groundwater samples for analysis of VOCs via EPA Method 8260 in accordance with the RGWMP for all wells monitored and geochemical and monitored natural attenuation (MNA) parameters for select wells. Constituents of concern (COCs) monitored in groundwater are defined within the RGWMP. Table 1 of the plan lists the wells sampled during the annual event. The COCs and additional geochemical parameters were analyzed to assess previous and recent remediation activities as well as natural degradation of site-related chlorinated compounds in groundwater to continue to assess the effectiveness of MNA as the remedy for the groundwater impacts at the Site.

The following sections describe the groundwater monitoring activities completed during the annual event.

3.1 Well Inspection and Static Water Level Measurements.

On October 5, 2020, monitoring wells were visually inspected and static water levels were measured in a total of 132 monitoring wells. The results of the monitoring well inspection are included in Table 2B. Prior to the next sampling event, outstanding well issues will be addressed; however, it is expected that none of the issues identified will affect the quality of the samples collected. On the morning of October 5, 2020, during the well inspection, monitoring wells were opened to allow water levels to equilibrate to atmospheric conditions prior to their measurement using an electronic water level meter in the afternoon. The instrument was calibrated by the manufacturer prior to its purchase and therefore does not require calibration in the field. Water levels were measured to the nearest 0.01 foot with an accuracy of 0.02 feet per

[1] TMW refers to temporary monitoring well. The temporary designation refers to ultimately re-designating wells in the RGWMP for future monitoring. The temporary wells were constructed and installed as permanent wells in accordance with ADEQ requirements.

the manufacturer's specification. The water level meter probe and tape (i.e., the only non-dedicated sampling equipment) were decontaminated prior to use at each well by spraying and scrubbing the probe and tape with Alconox detergent mixed with distilled water and then rinsing the probe and tape with distilled water prior to being wiped dry.

The annual event static water level measurements are presented in Table 3 along with the previous four events of water level measurements recorded from project wells.

3.2 Monitoring Well Sampling

After static water level measurement activities were completed, low flow sampling was performed at each well via the use of a peristaltic pump and dedicated polyethylene tubing. The tubing was placed at a depth within the well approximately equal to the midpoint of the well screen. The wells were then purged, via USEPA low stress (low flow) purging procedures (USEPA 1996), at a rate generally between 0.1 and 0.2 liters (L) per minute to minimize the amount of drawdown in the well and to reduce the likelihood of elevated turbidity. Flow rates and drawdown were checked continuously during purging. Purge water was then placed into a container prior to transfer to the onsite water holding tank for ultimate proper disposal.

Water quality parameters were measured via a water quality probe and flow-through cell. Instruments were calibrated daily prior to the start of sampling. All instruments were calibrated at a minimum of once per day. Calibration logs are included as Attachment A. Readings were recorded approximately every five minutes until the parameters stabilized. Stabilization was considered obtained when three consecutive rounds of parameter readings met the following:

- Turbidity: +/- 10% for values greater than 10 Nephelometric Turbidity Unit (NTU) or less than 10 NTU;
- Dissolved oxygen (DO): +/- 10% for values greater than 0.5 milligrams per liter (mg/L);
- Specific conductance: +/- 3%;
- Temperature: +/- 1°C;
- pH: Within +/- 0.1 standard units; and
- Oxidation reduction potential (ORP): Within +/- 10 millivolts (mV).

Table 4 presents a summary of results for measured field parameters for the 2020 annual event.

The groundwater samples were obtained by directly filling the laboratory provided sampling bottles from the peristaltic pump discharge. The VOC samples were collected in three 40 milliliter (mL) glass vials that contained hydrochloric acid as a preservative per standard procedures. Samples for assessing quality assurance/quality control (QA/QC) metrics were collected by alternately filling investigative and QA/QC sample bottles for each parameter. VOC sample bottles for both the investigative and the QA/QC sample were completely filled, purged of headspace and sealed. Hach Test Kits (all verified with valid expiration dates) were used to

measure ferrous iron in the field. Groundwater samples for analysis of dissolved hydrogen concentration were collected by the Microseeps gas stripping procedure (Microseeps 2014).

A total of 102 groundwater samples, 10 field duplicate samples, five matrix spike/matrix spike duplicate (MS/MSD) samples and five equipment blanks were collected during the 2020 annual event. Duplicate samples were taken at a frequency of one duplicate sample per 10 groundwater monitoring samples. Duplicate samples were collected from ITMW-2R, TMW-23, TMW-27, MW-22, MW-24, MW-57R, MW-83, MW-97, MW-184, MW-192.

Because monitoring wells contain dedicated or new tubing, the only equipment transferred and used from well to well is the water level meter used to monitor well water levels during purging and stabilization prior to sampling and tube weights. Equipment rinsate blanks were collected after water level meters used during the monitoring event were decontaminated to evaluate field decontamination procedures. Equipment rinsate blanks were collected by pouring ASTM Type II deionized water over the decontaminated water level meter probe and tape into the appropriate sample containers. The rinsate blanks were collected after decontamination procedures at IW-147 (EB-01-202010), MW-178 (EB-02-202010), MW-26 (EB-03-202010), ITMW-7 (EB-04-202010) and MW-96 (EB-05-202010). The preservation and analysis of the equipment rinsate blanks was identical to those of the associated environmental samples.

Sample containers were labelled and packed on ice in insulated coolers before being shipped under chain-of-custody via overnight courier or FedEx to Pace Analytical Services in Lenexa, Kansas (for VOC and MNA parameters) and via FedEx to Microbial Insights in Knoxville, Tennessee (microbial parameters). Chain-of-custody procedures were followed from the point of sample collection through completion of analysis. The laboratories used infrared thermometers to take sample temperatures upon sample receipt in accordance with USEPA Manual for the Certification of Laboratories Analyzing Drinking Water, Fifth Edition.

3.3 Other Site Monitoring Activities

In accordance with the RGWMP, groundwater monitoring was performed for shallow monitoring wells in the North Plume (MW-175, MW-176, MW-178 and MW-179). These wells are screened to monitor shallow perched water and this data is used to assist in evaluating the potential for vapor intrusion from groundwater. Due to slow recovery rates, low-flow sampling techniques were not used at the shallow wells. If excessive drawdown occurred, these wells were purged dry once then allowed to recover prior to collection of the sample within 24 hours of purging dry.

To assess the potential for vapor intrusion into offsite buildings located within the North Plume. soil vapor sampling was attempted at VP-9 (Parcel 3). Similar to other vapor points installed in the neighborhood, an air sample was not retrieved from VP-9.

The data from these shallow wells is presented in the 2020 Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report (Attachment B).

4 Annual Monitoring Event Results

The following sections present a discussion of the hydrogeology, analytical methods, the results of the laboratory analyses and an assessment of data quality and usability.

4.1 Hydrogeology

Gradient

Water levels from 135 wells at the Site were collected during the annual event (Table 3) as discussed in Section 3.1. These wells were gauged to provide a current potentiometric surface such that groundwater flow direction could be determined at the Site for the monitoring event.

Figure 2A shows the contours of the groundwater elevations based on the monitoring well static water level measurements completed on October 5, 2020. Based on the current potentiometric maps, the hydraulic gradient, as an indication of the likely direction of groundwater flow, is generally consistent with historical conditions with groundwater gradients trending northeast, east, southeast and southwest. Beginning at the northwest corner of the former Whirlpool manufacturing building, the groundwater gradient trends east-southeast then, north of Jacobs Avenue, the hydraulic gradient is directed to the north-northeast. The gradient develops a divide along Ingersoll Avenue moving eastward from MW-28 with the northeastern and southeastern components becoming more apparent to the east.

The groundwater data also continues to indicate a second hydraulic gradient divide beneath the former manufacturing facility, the axis of which trends from northwest to southeast. The gradient(s) steepen to the east, northeast east of the former manufacturing building and also to the southwest beyond the extent of the former manufacturing building.

A linear interpolation of the gradient between six groups of wells was completed in order to assess the groundwater flow direction and gradients as follows:

- South Plume southeast flow direction from MW-25R to MW-192 results in a gradient of 0.002 feet/foot;
- South Plume southwest flow direction from MW-182 to MW-197 results in a gradient of 0.011 feet/foot;
- South Plume southerly flow from ITMW-5 to TMW-36 results in an estimated gradient of 0.0003 feet/foot;
- Northeast Plume northeast flow direction from MW-87 to MW-184 results in a gradient of 0.017 feet/foot;
- North Plume northeast flow direction from MW-58R to MW-61R results in a gradient of 0.018 feet/foot; and

- North Plume easterly flow direction from MW-56R to MW-194 results in a gradient of 0.005 feet/foot.

Although the gradient remains relatively flat within the former Whirlpool property boundary (i.e., 0.002 feet/foot), the gradient steepens somewhat towards the property boundaries southwest, east along Ingersoll Avenue and northeast near Jenny Lind Road and Brazil Avenue. The southernly gradient from just south of the building to the property boundary is very flat.

Shallow Monitoring Wells

Groundwater elevations from shallow groundwater wells (MW-174 through MW-177) located along the north side of Jacobs Avenue and MW-178 (located immediately south of Ingersoll Avenue) were used to evaluate the shallow horizontal gradient with respect to the monitoring wells screened in the deeper Basal Transmissive Zone (BTZ) (Figure 1). Static water elevations along Jacobs Avenue decrease from west to east; from a high of 468.41 feet at MW-177 to a low of 460.52 feet at MW-174. The calculated shallow groundwater gradient west to east based on these two wells is 0.0095 feet/foot. Static water elevations in the deeper BTZ wells also generally decrease from west (MW-70, 464.34 feet) to east (MW-63R, 461.06 feet) with a resulting gradient of 0.004 feet/foot. The highest shallow groundwater elevations were measured in the most up-gradient shallow well MW-178 (471.08 feet). These results suggest that the shallow groundwater horizontal flow gradient generally mimics the deeper groundwater flow gradient to the east/northeast based on the number and location of shallow groundwater monitoring wells available.

Groundwater elevations from shallow groundwater wells MW-174 through MW-178 were also compared to groundwater elevations from nearby deeper monitoring wells to evaluate vertical gradient. MW-175 is located approximately at the midpoint between deeper groundwater monitoring wells MW-46R and MW-56R allowing the comparison of groundwater elevations at MW-175 to the average of the groundwater elevations at MW-46R and MW-56R. The vertical gradients are summarized in Table 5. Based on this evaluation, observations are as follows:

- Downward vertical gradient (-0.42 feet/foot) at the most up-gradient (southwestern) well grouping MW-178/MW-83;
- Downward gradient (-0.39 feet/foot) at MW-177/MW-70;
- No gradient (0.00 feet/foot) at MW-176/MW-46R;
- Slight downward gradient (-0.03 feet/foot) at MW-175/MW-46R and MW-56R; and
- Upward gradient (0.10 feet/foot) at the eastern most well pairing, MW-174/MW-63.

A comparison of gradients based upon the May and October 2020 water level measurements is shown on Figure 2B. Vertical gradients were generally consistent with historical gradients. The difference in vertical gradient in MW-174/MW-63R changed from -0.41 feet/foot to 0.10 feet/foot representing the biggest difference in gradients from May to October 2020. The static water

level elevations increased in all the deeper wells ranging from increases of 0.34 feet (MW-56R) to 1.49 feet (MW-63R).

4.2 Groundwater Analytical Results and Discussion

All VOC analytical data from all wells were subjected to data validation in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Review (August 2014). The laboratory analytical reports for the samples are presented in Attachment C. Data validation determined that analytical data collected during the 2020 annual monitoring event were usable for its intended purpose based on an evaluation of quality control (QC) parameters discussed in the Data Validation Report (Attachment D). However, some data are qualified as estimated due to the inability to meet all QC criteria. Summaries of analytical results (i.e., detected compounds) for samples collected during the annual event are presented in Table 6A (monitoring wells) and Table 6B (ISCO injection wells). Tables 6A and 6B include data qualifiers that may have been assigned from validation. A discussion of the field and laboratory analytical results for this event is presented below.

4.3 VOC Results

This section presents an evaluation of the VOC data that was collected from the Site during the annual event. TCE results for the annual event are presented on Figures 3A and 3B. Like the groundwater monitoring well classifications presented in the RADD, the groundwater monitoring wells included in the RGWMP have been organized into groups consisting of the plume boundary wells, offsite wells and onsite wells. Table 2A summarizes the wells in each group.

Plume Boundary Wells

This section discusses VOC concentrations that exceed the RADD remedial action levels (RALs) at the plume boundaries. Tabulated VOC concentrations measured in these wells during the annual event are presented in Table 6A and historical TCE concentrations and daughter products are presented in Table 7A.

Notable results from the annual sampling event for wells at or near the plume boundaries include:

North Plume

- MW-55R: TCE concentration of 29.9 micrograms per liter (µg/L) (vs. RAL of 5 µg/L). MW-55R TCE concentration first exceeded 5 µg/L in April 2017. TMW-35 was installed west of MW-55R in October of 2019 to confirm the extent of the plume. Sampling results (TCE non-detect) for TMW-35 and MW-68 to the west and MW-50R to the north continue to remain below the RAL of 5 µg/L. Monitoring will continue in accordance with the RGWMP.

- MW-61R: TCE concentration of 15.8 µg/L (vs. RAL of 5 µg/L). The current value has decreased from the high of 20.8 µg/L in October 2019. TCE concentrations have been reduced from 91.1 µg/L to 4.8 µg/L at TMW-10 located 60 feet up-gradient from MW-61R since additional ISCR treatment in 2018. Groundwater geochemical conditions in the area continue to be reducing and concentrations of cis-1,2-DCE confirm TCE degradation is occurring.
- MW-63R: TCE concentration of 7.1 µg/L (vs. RAL of 5 µg/L). MW-63R TCE concentrations exceeded 5 µg/L in October 2019 for the first time since July 2015 and have ranged from 7.4 µg/L to the current concentration of 7.1 µg/L for three monitoring events. Monitoring will continue in accordance with the RGWMP.
- MW-194: TCE concentration of 5.6 µg/L (vs. RAL of 5 µg/L). TCE concentrations at MW-194 have decreased to 5.6 µg/L from a pre-injection value of 13.3 µg/L since additional ISCR treatment in 2018. Water quality data continues to indicate reducing conditions at this well with a slight increase in ORP and slight decrease in ferrous iron during the 2020 annual event. Since installation of this well in August 2016, seasonal fluctuations of TCE concentrations have been observed with higher TCE concentrations consistently occurring during the fall events and lower TCE concentrations during the spring events (TCE was 4.4 µg/L in May 2020). Monitoring will continue to evaluate trends at this location.

North Plume boundary wells MW-39R, MW-40R, MW-50R, MW-60R, MW-62R, MW-68R, MW-195 and MW-196 remain below reporting criteria or < 5.0 µg/L. There are no additional areas of concern indicated in the October 2020 monitoring results compared to the October 2019 monitoring results.

Northeast Plume

- MW-91: TCE concentration of 51.9 µg/L (vs. RAL of 5 µg/L). The TCE concentration at MW-91 was 437 µg/L in October 2019 just prior to completion of the ISCR treatment at MW-91 and MW-99. The extent of the TCE plume in this area has been reduced significantly with treatment. TCE at MW-99 has been reduced from 72.6 µg/L in October 2019 to the current concentration of 0.85 J µg/L (the “J” qualifier indicates the reported concentrations were below laboratory reporting limits) [further discussion of the ISCR remediation performed at this location is presented in the attached 2020 Annual ISCR Report (Attachment F)].
- MW-202: TCE concentration of 9.3 µg/L (vs. RAL of 5 µg/L). MW-202 was installed in July 2020 for a supplemental offsite investigation completed to the northeast at the 6427 Jenny Lind Road Property. The concentration of TCE in July 2020 was 1.5 µg/L. Monitoring at this well will continue in accordance with the RGWMP. Additional information regarding this supplemental investigation can be found in the 2020 Supplemental Investigation Report (Attachment E).

Plume boundary wells MW-96, MW-97, MW-98, MW-183R and MW-184 remain below reporting criteria or < 5.0 µg/L. TCE at MW-200, installed in July 2020, was < 5.0 µg/L in July and October 2020.

South Plume

- ITMW-21: TCE concentration of 5.4 µg/L (vs. RAL of 5 µg/L). This is the lowest TCE concentration recorded at this well located at the west edge of the source area. Bench scale and field scale tests to supplement remediation efforts in the source area were initiated in October 2019. The results of those tests were presented in the 2020 Semi-Annual Report and in Attachment H of this report.
- MW-187: TCE concentration of 9.8 µg/L (vs. RAL of 5 µg/L). TCE concentrations at MW-187 have ranged from non-detect to the current value of 9.8 µg/L. This event and the 2020 semi-annual event are the first times that MW-187 TCE concentrations have exceeded the RAL.
- MW-188: TCE concentration of 11.7 µg/L (vs. RAL of 5 µg/L). TCE concentrations at MW-188 have ranged from non-detect to 11.7 µg/L. The current value is the first time that the TCE concentration has exceeded the RAL at this well.
- MW-189: TCE concentration of 359 µg/L (vs. RAL of 5 µg/L). TMW-19 installed in 2017 (TCE 16 µg/L) and TMW-36 (TCE 299 µg/L) installed in 2019, were installed to determine TCE levels south of MW-189 at the property boundary. ISCR injections were completed in the Southern Area in the fall of 2020 to address TCE impacts at the south property boundary [2020 Annual ISCR Report (Attachment F)].
- MW-190: TCE concentration of 14.5 µg/L (vs. RAL of 5 µg/L). TCE concentrations at MW-190 have ranged from non-detect to 14.5 µg/L. The current value is the first time that the TCE concentration has exceeded the RAL at this well. . To the south and east of MW-187, MW-188 and MW-190, MW-191, MW-192 and the newly installed MW-201 and MW-203 are currently below the RAL. Monitoring will continue in accordance with the RGWMP.

Southeast Area

- TMW-34: TCE concentration of 84.4 µg/L (vs. RAL of 5 µg/L). TCE concentrations have ranged from 7.4 µg/L to the current value of 84.4 µg/L. Monitoring results for the ISCR treatment conducted in this area in 2018 indicate groundwater conditions are reducing (very low DO and the ORP is negative). Cis-1,2-DCE concentration in October 2020 has increased to 46.0 µg/L (55% of the TCE concentration) indicating that TCE is degrading. Monitoring will continue in accordance with the RGWMP.

Southwest Area

- MW-199: TCE concentration of 92.3 µg/L (vs. RAL of 5 µg/L). MW-199 was installed at the down-gradient or southwest corner of McPherson Oil in July 2020 and was sampled during the annual event. The TCE concentration at the up-gradient well installed at McPherson Oil, MW-197, is 20.1 µg/L. The Southwest ISCR Treatment Area, completed at the former Whirlpool property boundary with McPherson Oil in July and October 2018 has effectively reduced concentrations up-gradient from MW-199 (TCE reductions in area wells reduced by approximately 67% to 99%, Table 3, Attachment F). A summary of the additional investigation in this area can be found in the 2020 Supplemental Investigation Report (Attachment E).

Consistent with historical analytical results for the Site, all other plume boundary well VOC results were reported as non-detect or at concentrations below RALs.

Offsite Wells

The offsite wells include those installed at offsite properties to the north and northeast of the Whirlpool northern property boundary and to the southwest of the southern property boundary that are not otherwise identified as plume boundary wells. This section discusses notable VOC concentrations that exceed the RADD RALs in the offsite wells. Tabulated VOC concentrations measured in the offsite monitoring wells during the annual event are presented in Table 6A and Table 6B.

North Offsite Wells

During the annual event, the highest concentration of TCE detected in groundwater samples from the north offsite wells was 706 µg/L collected from MW-56R. This is an increase from 619 µg/L at MW-56R in May 2020. TCE concentrations are lower up gradient at MW-46R at 460 µg/L. Variations are expected to continue in TCE concentrations within the North Plume and monitoring will continue in MW-56R and in up-gradient (MW-46R) and down-gradient wells (TMW-14). There are sufficient down-gradient monitoring locations to evaluate conditions and there is a down-gradient treatment zone at the eastern extent of the North Plume just west of Jenny Lind Road.

Southwest Offsite Wells

During the annual event, the highest concentration of TCE detected in groundwater samples from the southwest offsite wells was 20.1 µg/L collected from MW-197 located on the up-gradient property boundary of McPherson Oil.

Onsite Wells

This section discusses VOC concentrations in onsite wells which includes certain wells that are located along the perimeter of the former Whirlpool manufacturing facility within the source area

or south of the source area which includes wells immediately adjacent to the former Whirlpool manufacturing building. Tabulated VOC concentrations measured in onsite wells during the annual event are presented in Table 6A.

VOCs were detected above the RADD RALs in 23 groundwater samples collected from onsite wells. VOCs detected at concentrations exceeding the respective RALs consist of:

- 1,1-dichloroethane (1,1-DCA) in ITMW-1R and ITMW-9;
- 1,1-dichloroethene (1,1-DCE) in ITMW-9, ITMW-12R, MW-85R, MW-93 and MW-95;
- cis-1,2-DCE in ITMW-12R, ITMW-18, MW-25R, MW-37, MW-38, MW-85R, MW-91 and MW-95;
- 1,1,2,2-tetrachloroethane (1,1,2,2-TCA) in ITMW-12R, ITMW-19, MW-25R, MW-85R and MW-95;
- Tetrachloroethene (PCE) in MW-95; and
- VC in ITMW-12R, MW-25R, MW-37, MW-38 and MW-95.

During the annual event, the maximum onsite TCE concentration measured was 76,800 µg/L at IW-147. IW-147 is located slightly north of the former linear drainage feature within the source area. An additional well, MW-198 (TCE: 20,600 µg/L) was installed southeast of the former location of MW-86 (south of the former linear drainage feature) in between IW-147 and IW-155 in September 2020. For more details about the installation of MW-198 please see the 2020 Supplemental Investigation Report (Attachment E).

Northeast Corner Wells

Eleven wells were monitored during the annual event to delineate TCE impacts at or near the northeast corner of the Site (MW-96, MW-97, MW-98, MW-99 MW-183R, MW-184, MW-200 and MW-202 are plume boundary wells and MW-87, MW-89 and MW-91 are onsite wells). Analytical results from these wells are included in Table 6A.

During this event, MW-91 exhibited a TCE concentration of 51.9 µg/L which is the lowest concentration at this well since installation in 2014. Overall, monitoring event concentrations have ranged from 51.9 µg/L (during this event) to 605 µg/L (in April 2017). Further discussion of the remediation performed at this location is presented in the 2020 Annual ISCR Report (Attachment F).

MW-87 and MW-89 exhibited decreased concentrations from the 2019 Annual Monitoring Event of 320 µg/L and 6.4 µg/L, respectively.

TCE concentrations in MW-99 located east of Jenny Lind Road decreased to 0.85 J µg/L as discussed above in the Plume Boundary Well discussion.

TCE concentrations in MW-96, MW-97 and MW-98 on the Boys & Girls Club property continue to be below detection limits and the result for MW-184 was slightly above the laboratory detection limit at 0.4 J µg/L. The TCE concentration at MW-183R during the annual event was at 0.82 J µg/L.

The TCE concentrations at MW-200 and MW-202, installed in July 2020, were 0.25 J µg/L and 9.3 µg/L, respectively. For more details about the installation of MW-200 and MW-202 please see the 2020 Supplemental Investigation Report (Attachment E).

Temporary Wells

In accordance with the action plans presented in the 2016 Annual Report and subsequent revised action plans, 21 temporary monitoring wells (consisting of TMW-10, TMW-11, TMW-12, TMW-14, TMW-16, TMW-19, TMW-20, TMW-21, TMW-22R, TMW-23, TMW-24, TMW-25, TMW-26, TMW-27, TMW-29, TMW-30, TMW-32, TMW-34, TMW-35, TMW-36 and TMW-36B) have been installed on the southern portion of the former Whirlpool property and in the North Plume area.

As shown on Figure 3A, temporary wells in the north were installed to delineate the northeastern edge of the plume. TCE concentrations in North Plume temporary wells TMW-10, TMW-11, TMW-12, TMW-14, TMW-20, TMW-21, TMW-22, TMW-23, TMW-24, TMW-29 and TMW-35 in the North Plume area ranged from below detection limits (less than 0.17 µg/L) at TMW-20, TMW-35 and TMW-29 to 495 µg/L at TMW-24.

As shown on Figure 3B, temporary wells were installed southwest of the former manufacturing building to delineate the plume. TCE concentrations in TWM-16, TMW-19, TMW-25, TMW-26, TMW-27, TMW-30 and TMW-32 ranged from below detection limits (less than 0.17 µg/L) at TMW-27 to 27.6 µg/L at TMW-32.

TMW-34 was installed to the southeast to monitor concentrations at the property boundary at the Southeast Treatment Zone down-gradient from MW-185. Concentrations at TMW-34 have ranged from 7.4 µg/L to 84.4 µg/L during monitoring events.

TMW-36 and TMW-36B on the southern portion of the former Whirlpool property ranged from below detection limits (less than 0.17 µg/L) at TMW-36B to 299 µg/L at TMW-36.

Monitored Natural Attenuation Sampling

Thirteen wells were sampled for laboratory and field natural attenuation parameters in accordance with the RGWMP.

Geochemical Parameters

The detection of cis-1,2-DCE in groundwater samples from this Site is evidence that conditions likely are favourable for active reductive dechlorination processes. Key parameters used to

assess the progress of biotic reductive dechlorination include: temperature, concentration or presence of electron acceptors (DO, nitrate, iron, manganese and sulfate), presence and amount of nutrients (e.g., concentrations of nitrogen and phosphorus), bioavailable carbon source to sustain microbial population, concentrations of COCs and pH.

Tables 4 and 6 present the groundwater field parameters for MNA assessment for the annual event. A summary of the key items on Tables 4 and 6 are discussed below:

- The groundwater during this sampling event was generally considered to be anaerobic within 88 of the 102 wells measured indicating DO concentrations less than 1 mg/L (see Table 4).
- The ORP of the groundwater samples ranged from a low of -223 mV in TMW-30 (located in an ISCR treatment area) to a high of 358 mV in ITMW-21 (located west and up-gradient/side-gradient from the Northwest corner of the building near Area 1).[2] The measured ORP levels were less than 500 mV in all Site monitoring wells indicating that the groundwater is under manganese to iron reducing conditions. The ORP readings were generally negative (< 0) in areas impacted by ISCR treatments, 100 to 300 mV in areas where no treatment has occurred and zero to 300 mV where ISCO was performed in 2014 and 2015 (i.e., Areas 1, 2 and 3 and the Neck Area).
- The pH of the groundwater ranged from a low of 3.89 in MW-24 to a high of 11.52 in ITMW-2R which is consistent with the prior sampling event. In general, pH levels are in the range of 5-7.
- The temperature of the groundwater ranged from about 17.2°C to 30.3°C, with many of the temperatures around 15°C to 19°C, which is a range that would support microbial growth in groundwater.

The chemical and geochemical data from the 2020 annual event in comparison to the 2019 annual event do not vary greatly in terms of generally low DO (< 1 mg/L), ORP < 300 mV (ORP negative or < 0.0 in ISCR areas), slightly acidic to neutral pH and groundwater temperatures in the range of 15°C to 19°C

Abiotic Degradation

Sulfide, Fe [II] and acetylene were retained for MNA evaluation purposes in the RGWMP. Sulfide results were below detection limits (i.e., less than 50 µg/L) in all samples with the exception of MW-50R at 280 µg/L. However, because sulfide forms insoluble compounds with many metals, a lack of detection does not indicate that sulfate reduction does not occur. Specifically, sulfide is readily removed from solution by reaction with Fe[II] to form solid-phase iron sulfide minerals. Fe [II] has been detected in all MNA locations and in 80% of all samples since April 2018. Additionally, the presence of Fe [II] suggests that sorbed Fe2+ ions and Fe [II] minerals (e.g., green rust, hematite) may be present in soils. Iron sulfide minerals, Fe [II]

[2] A reading of 740.00 mV was detected in MW-178. This well is screened from 7 to 8 feet below ground surface (bgs) in a shallow water zone several feet above the generally accepted site water bearing zone in the semi-confined BTZ.

minerals and sorbed Fe2+ ions all drive reductive chlorination of chlorinated solvents (He et al. 2015). This geochemical data therefore demonstrates the capacity of the Site for abiotic degradation.

Acetylene is a break down constituent from the abiotic degradation of cis-1,2-DCE (acetylene then degrades to ethylene or ethene). Acetylene results were below detection limits (i.e., less than 0.50 µg/L) in all samples except at IW-147 with a concentration of 3.3 µg/L. Since cis-1,2-DCE can degrade directly to VC without generating acetylene, the assessment of abiotic processes based upon acetylene concentrations is limited.

The presence of ethene suggests complete dechlorination of chlorinated constituents. As discussed above, dechlorination to ethene occurs via abiotic and/or biological processes. Ethene data is provided on Table 6A and Table 6B and data indicates ethene was detected at 15 of the 29 locations monitored[3] and relatively significant ethene concentrations were detected atMW-38 (14.0 µg/L), MW-91 (2.6 µg/L), MW-99 (2.5 µg/L), TMW-16 (2.2 µg/L), TMW-22R (12 µg/L), TMW-25 (2.1 µg/L) and TMW-30 (2.3 µg/L). Concentrations of ethene were significantly correlated with dissolved Fe [II] concentrations (p=0.001). Association of ethene with reduced iron suggests the possibility for abiotic reductive dechlorination. These observations suggest abiotic processes are contributing to the complete dechlorination of TCE at various locations at the Site.

Biological Degradation

Groundwater sample results continue to show levels of cis-1,2-DCE in groundwater. Of all the monitoring wells sampled, only 13 wells exhibited TCE concentrations where the cis-1,2-DCE concentration was below detection limits. The TCE concentrations in these 13 wells ranged from 0.32 J µg/L (ITMW-2R) to 12.7 µg/L (TMW-30) and TCE concentrations were less than 5 µg/L in three of these 13 wells. The consistent detection of cis-1,2-DCE in groundwater provides evidence that degradation of TCE is occurring.

The laboratory analytical results include microbial data with detected concentrations of Dehalococcoides (Dhc), tceA reductase (TCR) and VC reductase (VCR). The most elevated Dhc levels were in two wells sampled for Attenuation Parameters that are also located in the North Plume ISCR treatment area {TMW-10 [Dhc 1,120 cells per milliliter (c/mL)] and TMW-11 [Dhc 341 c/mL]} (Table 6A and Table 6B).

Four wells outside ISCR treatment areas (RW-69, MW-38 and former ISCO wells IW-73 and IW-147) have detections of Dhc ranging from 0.6 c/mL at IW-147 to 41.3 c/mL at MW-38 (MW-38 is also in Area 1 where ISCO applications have occurred) indicating the potential for biological activity in the vicinity of these wells.

[3] The detection of breakdown constituents is unlikely at monitoring locations where MNA analysis is performed where TCE concentrations are low (i.e., typically less than 5 µg/L to 100 µg/L) since the concentrations of breakdown constituents will be two to three orders of magnitude less than the TCE concentrations depending upon the rate of TCE degradation.

Biological processes have been enhanced at locations where reducing conditions and pH conditions have been improved (i.e., reduced ORP and increased pH to achieve neutral conditions). For example, Dhc populations increased approximately 15 months following establishing an improved reducing environment (current ORP measurements in TMW-10 and TMW-11 are -136.3 mV and -64.9 mV, respectively) and adjusting the pH closer to neutral (current pH measurements in TMW-10 and TMW-11 are 6.85 and 6.84, respectively).[4] Dhc populations continue to remain moderately elevated at TMW-10 and TMW-11 even though TCE concentrations are below 5 µg/L, cis-1,2-DCE concentrations are below 1 µg/L and VC concentrations are 3.8 µg/L and 0.34 J µg/L, respectively. Biological processes have likely contributed to the near total dechlorination of TCE in the vicinity of TMW-10 and TMW-11.

As noted above, dechlorination to ethene occurs via abiotic and/or biological processes and a relatively significant ethene concentration was detected at MW-38 (14.0 µg/L) (considering the TCE concentration is 1,110 µg/L, the cis-1,2-DCE concentration of 353 µg/L and VC concentration of 237 µg/L). The Dhc population of 41.3 c/mL and reducing conditions suggest biological processes may be contributing to the complete dechlorination of TCE in the vicinity of MW-38 in the source area.

Future monitoring will continue to assess biological processes.

4.3.2 Groundwater Data Quality Assessment

All field and analytical data were reviewed by Ramboll. Validation findings are summarized in the following. The detailed validation report is included in Attachment D.

4.3.2.1 Field Data

Field data was collected and validated according to the RADD, work plan and associated standard operating procedures (SOPs) and USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Review (August 2014). The field data and documentation were evaluated against the following criteria, as appropriate.

Samples were collected at the specified locations identified in the RGWMP approved by ADEQ in September 2016:

- Field instrumentation calibration and QA/QC checks on equipment were conducted daily prior to field work; and

[4] Concentrations of Dhc previously detected at TMW-10 following the 2015 Pilot (Non-detect, 158 and 555 cells/mL) were non-detect (< 2 cells/mL) in TMW-10 approximately 90 days following the 2018 injections (August to November 2018), 20,000 cells/mL in October 2019 and 1,120 cells/mL in October 2020 (note: TMW-11 was located just outside the estimated area of influence from the 2015 injections (that included bioaugmentation with Dhc) and did not exhibit reducing conditions as observed in MW-61R and TMW-11. Concentrations of Dhc previously detected at TMW-11 following the 2015 Pilot (14.2 to 715 cells/mL) had decreased to non-detect (< 2 cells/mL) in TMW-11 by November 2018. Concentrations of Dhc approximately 15 months following the 2018 injections were 638 cells/mL in October 2019 and 341 cells/mL in October 2020 [2020 Annual ISCR Report (Attachment F)].

- Sample documentation protocol and chain-of-custody protocols were followed per Ramboll field procedures.

4.3.2.2 Laboratory Analytical Data

All VOC (SW846 5030B/8260B) analytical results for the plume boundary, onsite and offsite wells, received data validation by Ramboll. During the data validation process, data validation qualifiers were assigned to the results per USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (August 2014), as necessary, to indicate potential limitation on use of the data. In addition, data qualifier codes were added to the results to indicate the reason(s) for qualification and the associated bias direction if discernible.

5 Supplemental Investigation(s)

This section summarizes the results for the supplemental investigation efforts conducted in July and September of 2020. The supplemental investigations were conducted in three areas:

- Southwest: An additional offsite investigation was completed to the southwest (McPherson Oil) based on TCE concentrations detected at the southwest property boundary of the former Whirlpool property at TMW-32;
- South: An additional offsite investigation was completed to the south (Harmon property) based on TCE concentrations detected at the southern property boundary at TMW-36; and
- Northeast: An additional offsite investigation was completed to the northeast (6427 Jenny Lind Road Property, owned by the Boys & Girls Club) to delineate groundwater conditions south, east and north of the ISCR Treatment Zone installed in 2019.

In addition to the investigations, a replacement groundwater monitoring well (MW-198) was installed in the source area between IW-147 and IW-155 and a new monitoring well (MW-204) was installed on the Whirlpool property south and west of the building to investigate current groundwater conditions. The details for these supplemental Investigation events are provided in the 2020 Supplemental Investigation Report (Attachment E).

The results of the investigation at McPherson Oil at the southwest property boundary indicated TCE concentrations were detected above the RADD of 5 µg/L in eight groundwater samples collected on the McPherson Oil property and along Geren Road, including the western most sample location (MCP-HP-13). The most elevated TCE concentration of 92.3 µg/L was detected in MW-199 installed at the down-gradient or southwest corner of McPherson Oil (the groundwater gradient is from northeast to southwest). TCE concentration at the up-gradient well installed at McPherson Oil (MW-197) was 20.1 µg/L. The lower concentration at MW-197 is likely associated with the Southwest ISCR Treatment Area, completed at the former Whirlpool property boundary with McPherson Oil in July and October 2018 having reduced concentrations up-gradient from MW-199 (TCE reductions in area wells reduced by approximately 67% to 99%, Table 3, Attachment F). The extent of VOCs was delineated at McPherson Oil, but the extent of VOC impacts extends to the southwest from the McPherson Oil southwest border (MCP-HP-11, 18.1 µg/L) (Figure 1, Attachment E).

The offsite investigation at the south former Whirlpool property boundary on the Harmon property was performed based on TCE concentrations detected at the southern property boundary at TMW-36 (299 µg/L) exceeding the RAL of 5 µg/L. Soil borings were completed south (the potentiometric surface gradient is generally south) from TMW-36 at six locations, HM-HP-01 through HM-HP-04 and HM-HP-05 (completed as MW-201) in July 2020 and MW-203 was installed in September 2020. TCE was not detected above 1.0 µg/L in groundwater at any of the soil borings nor monitoring wells (Figure 2, Attachment E). The objective to delineate the extent of TCE groundwater impacts was successfully completed. To mitigate future plume

expansion to the south near TMW-36, an ISCR Treatment Zone was completed along the south property boundary injections in October 2020 (details are presented in Attachment F of this report).

East, from the northeast corner of the former Whirlpool facility, on the vacant lot south of the Boys & Girls Club facility, soil borings were drilled at three locations and two additional monitoring wells were installed south and east of the ISCR Treatment Zone completed in the area of MW-99 (Figure 3 in Attachment E presents the location of the borings and wells and Attachment F provides details regarding the ISCR Treatment Zone). Results from the initial groundwater sampling in July 2020 indicated that TCE was non-detect at NE-HP-01 (MW-200) (below 1.0 µg/L), detected at 1.5 µg/L at NE-HP-02 (MW-202) and 0.17 µg/L at NE-HP-03. Subsequent groundwater sampling in October 2020 indicated that TCE was < 1.0 µg/L (0.25J) at MW-200 and 9.3 µg/L at MW-202. The two additional monitoring wells were installed to provide groundwater elevation data to determine localized potentiometric surface gradient and provide VOC monitoring south and east of the ISCR Treatment Zone completed in the area of MW-99. To the northeast, TCE was either non-detect or detected at less than 1 µg/L in all groundwater samples collected during this investigation. Currently, there continues to be no known complete exposure pathways to groundwater on the Boys & Girls Club property to cause health risk concerns.

MW-198 was installed in the source area at the request of ADEQ for the placement of a new monitoring well between IW-147 and IW-155 south southeast of the former location of MW-86. TCE concentrations in this area have historically been elevated (e.g., MW-86 when last sampled in April 2019) TCE in groundwater was 75,000 µg/L. In October 2020 TCE concentration at IW-147 was 76,800 µg/L and at MW-198 TCE was 20,600 µg/L.

The subsurface profile in the MW-198 boring consisted of reddish-brown silty clay from the surface to approximately 20 feet, underlain by a layer of gravel with clay and sand (identified as the BTZ) which extended from 20 feet bgs to 29 feet bgs and was underlain by weathered shale. Elevated photoionization detector (PID) readings were detected at depth in the soil, 250 parts per million by volume (ppmv) at 27.5-29.0 feet bgs. Soil was collected from six intervals (15-17.5 feet bgs, 17.5-20 feet bgs, 20-22.5 feet bgs, 23-25 feet bgs, 25-27.5 feet bgs and 27.5-28 feet bgs) and placed into separate Oil-In-Soil jars to test for the presence of dense non-aqueous phase liquid (DNAPL). Soil chosen from the wettest portions of each interval, homogenized and added to the fill line in the jars, then deionized water was added to the water fill line as described in the provided instructions. In the presence of DNAPL a red dye will appear. No red dye or DNAPL was observed in all the soil samples collected.

MW-204 was installed near the former boring location M-325 to further refine the plume boundary on the southern Whirlpool property. Lithology in the MW-204 boring consisted of clayey silts from surface to a depth of 20 feet bgs, underlain by silty clay to a depth of 27 feet bgs. Underlaying the silty clay was a layer of fine sand, dense and saturated to a depth of 32.5 feet bgs, which was then underlain by sandy gravel (the BTZ) to terminus. TCE was detected in

the groundwater at MW-204 with a concentration of 34.8 µg/L when installed in September 2020. In October 2020 the TCE concentration at MW-204 was 55.6 µg/L. The monitoring wells installed during these events will continue to be monitored in conjunction with groundwater monitoring events as defined within the RGWMP.

6 Plume Concentration Trends

This section includes discussion of trends for individual wells, trends for groups of wells, plume boundaries, and estimates of the quantity of TCE in the respective plumes. The discussion and assessment of the plume area are based upon a macro-analysis of the entire plume versus a single well analysis to categorize the plume stability. Individual wells will inherently exhibit variability and fluctuations that will influence perception, inference or modelling of plume boundaries at the time of any given monitoring event. The macro-analysis of the entire data set minimizes the over weighting of any well or data set from a well. Monitoring wells installed after the 2013 RADD was issued by ADEQ are only included in this analysis if they have been sampled a sufficient number of times to establish temporal trends (statistical trend analysis typically requires data from at least four sampling events).

Table 7A and Table 7B presents a historical summary of TCE and degradation products, cis-1,2-DCE and VC concentrations in groundwater samples. These values are used for the analysis of trends described in the remainder of this section.

6.1 Lines of Evidence

Several analytical tools or lines of evidence were used to evaluate plume conditions including:

- **Statistical Methods**. Mann-Kendall non-parametric test (Gilbert 1987; USEPA 2000) to calculate the temporal trend in individual well analyte concentrations over time; and
- **Isoconcentration Maps.** Qualitative method to evaluate temporal trends by comparing representations of plume concentration and extent for certain periods over the duration of monitoring.

6.1.1 Statistical Analysis of Temporal Trends

The Mann-Kendall test (Gilbert 1987) is a non-parametric test for linear trend, based on the idea that a lack of trend would be represented by a time series plot fluctuating randomly about a constant mean level, with no visually apparent upward or downward pattern. Because Mann-Kendall is a non-parametric test, it is not dependent upon the magnitude of data, the distribution of the data (does not have to have a normal distribution), missing data from a sampling event or irregularly spaced monitoring events. Mann-Kendall assesses whether a time-ordered data set exhibits an increasing or decreasing trend, at a predetermined level of significance.

The Mann-Kendall statistic is computed by looking at all possible pairs of measurements in the data set and scoring each pair as follows:

- An earlier value lower in magnitude than a later one is assigned a value of 1;
- An earlier value higher in magnitude than a later sample is assigned a value of –1; and
- Two identical values are assigned 0.

The scores from all the pairs are added together to get the Mann-Kendall statistic (S), a positive value of S indicates that a majority of the differences between earlier and later measurements are positive, which suggests an increasing trend over time. Conversely, a negative value for S implies that a majority of the differences between earlier and later values are negative indicating a decreasing trend. A value near zero indicates a roughly equal number of positive and negative results. This indicates the values have randomly fluctuated around a constant mean with no apparent trend. If the Mann-Kendall test indicates that there is not a statistically significant trend a second test, coefficient of variation (COV), is performed to determine if the trend is stable (COV is less than 1, little variation above and below the mean value) or if no trend exists (COV is greater than 1, high variation above and below the mean value).

The applicable outcomes of the temporal trend analysis are as follows:

- **Increasing**. Statistically significant increasing trend for concentrations (>90% confidence).
- **Stable.** No statistically significant trend for concentrations along with low variability for results (COV <1).
- **No Trend**. No statistically significant trend for concentrations along with high variability for results (COV >1).
- **Decreasing**. Statistically significant decreasing trend for concentrations (>90% confidence).
- **Practical Quantitation Limit (<PQL).** All sample results have a J qualifier (estimated result greater than the method detection limit but less than the reporting limit) or a mixture of non-detects and results with J qualifiers.
- **Not Detected (ND).** Constituent has not been detected at the well during the time period analyzed.

Only monitoring wells included in the RGWMP or designated replacement wells are included in the temporal trend analysis[5]. The following is the list of wells in each category (this list is only presented for evaluation of plume concentration trends):

- **North Plume Wells (28 wells)**. MW-24, MW-27, MW-28, MW-39/39R, MW-40/40R, MW-46R, MW-50/MW-50R, MW-55/55R, MW-56/MW-56R, MW-57/57R, MW-58/58R, MW-60/60R, MW-61/MW61R, MW-62/62R, MW-63/63R, MW-68, RW-69, IW-73, IW-77, IW-78, MW-82, MW-83, MW-84, MW-194, MW-195, MW-196, TMW-10 and TMW-11.
- **Northeast Corner Wells (nine wells)**. MW-87, MW-89, MW-91, MW-96, MW-97, MW-98, MW-99, MW-183/MW-183R and MW-184.

[5] Trend analysis was performed for the network of monitoring wells in the ADEQ approved RGWMP. Trend analysis utilizing old data from monitoring wells not in the ADEQ approved RGWMP is not appropriate. Monitoring wells not currently monitored as part of the ADEQ approved RGWMP still exist and could be utilized in the future, if warranted.

- **South Plume Wells (29 wells)**. ITMW-1/ITMW-1R, ITMW-2/ITMW-2R, ITMW-5, ITMW-7, ITMW-9, ITMW-10, ITMW-16, ITMW-18, ITMW-19, ITMW-20, ITMW-21, MW-22, MW-24, MW-25/MW-25R, MW-26, MW-29, MW-38, MW-85/MW-85R, MW-93, MW-95, MW-182, MW-185, MW-186, MW-187, MW-188, MW-189, MW-190, MW-191 and MW-192.
- **Source Area Wells (seven wells)**. ITMW-18, ITMW-19, MW-25/MW-25R, MW-38, MW-85/MW-85R, MW-93 and MW-95.

Contaminant concentration trends as established during the annual monitoring event are summarized below:

- **North Plume Wells (28 wells).** The Mann-Kendall trend analysis utilizes data from all wells associated with the 2020 annual groundwater monitoring event for the North Plume (Table 8). As described in more detail below, our determination that a majority of the wells exhibit a decreasing or stable TCE concentration trend is based on the fact that 82% (23 of 28 wells) of these wells exhibit either little or no TCE or a decreasing or stable TCE concentration trend.

  The trend analysis for the 28 wells associated with monitoring the North Plume indicates the following:

  - Two wells exhibit a stable trend for TCE concentrations (MW-46R and IW-73).
  - Eleven wells exhibit a decreasing trend for TCE concentrations (MW-24, MW-28, MW-58/58R, MW-63/63R, RW-69, IW-77, IW-78, MW-83, MW-194, TMW-10 and TMW-11).
  - Three wells exhibit no trend regarding TCE concentrations according to the statistical test (MW-27, MW-68 and MW-82). TCE concentrations in these wells have been non-detect or at very low concentrations. MW-27 is the first well exhibiting no trend and TCE concentrations have ranged from non-detect (< 1 µg/L) to 10.2 µg/L during the last five years of monitoring (2016-2020). MW-68 is the second well exhibiting no trend and TCE concentrations have ranged from non-detect (< 1 µg/L) to 0.57 J µg/L during the last five years of monitoring (2016-2020).) MW-82 is the third well exhibiting no trend and TCE concentrations have ranged from 5.6 µg/L to 60.3 µg/L during the last five years of monitoring (2016-2020).
  - Seven wells exhibit TCE concentrations below detection limits or below reporting limits (MW-39R, MW-40R, MW-50R, MW-60, MW-62, MW-195 and MW-196).
  - Five wells exhibit an increasing trend for TCE concentrations (each of which is discussed below) (MW-55R, MW-56R, MW-57, MW-61R and MW-84).

  TCE concentrations in nine of the 28 North Plume wells (31%) have been non-detect or less than a concentration of 2.4 µg/L since September 2014 and 13 of the 28 wells (46%) have exhibited decreasing or stable trends; therefore, 22 of the 28 North Plume

wells (79%) exhibit either little or no TCE or a decreasing or stable TCE concentration trend.

- The TCE concentration at MW-55R had a maximum observed concentration of 29.9 µg/L in the October 2020 Sampling Event. The occurrence of TCE concentrations exceeding the RAL at MW-55R are mitigated based on the analytical results for down-gradient wells (MW-50R and MW-60R) and side-gradient and boundary well TMW-35 which exhibit little or no TCE impact. TCE concentrations will continue to be monitored at this location due to the concentration variations observed since November 2010.
- The TCE concentration of 15.8 µg/L at MW-61R is lower than the highest historical concentration of 20.8 µg/L in October 2019. ISCR treatment areas were completed in the summer of 2018 to address TCE impacts in groundwater at plume boundary wells including MW-61R. During the recent December 2019 ISCR Event MW-61R was redeveloped and resampled to confirm representative water quality and for VOC results. The water quality results were similar comparing the October and December 2019 monitoring events and the TCE concentration in the December 2019 sample decreased to 15 µg/L (the results from this sampling effort are provided in the 2020 Annual ISCR Report (Attachment F). The data suggests the ISCR efforts in this area are beginning to reduce TCE concentrations particularly considering the significant TCE concentration reductions in up-gradient wells TMW-10 and TMW-11.
- The TCE concentration at MW-56R is 706 µg/L. This is a decrease from 803 µg/L at MW-56R in April 2019. Concentrations are lower up gradient at MW-46R at 460 µg/L. Variations are expected to continue in TCE concentrations within the North Plume and monitoring will continue in MW-56R and in up-gradient (MW-46R) and down-gradient wells (TMW-14). There are sufficient down-gradient monitoring locations to evaluate conditions and there is a down-gradient treatment zone at the eastern extent of the North Plume just west of Jenny Lind Road.
- The TCE concentration at MW-57R of 327 µg/L is lower than the highest historical concentration of 453 µg/L in November 2016. TCE concentrations and trends will continue to be monitored at this well.
- The TCE concentration at MW-84 in October 2020 was 1.7 µg/L[6] which is lower than the historical maximum of 214 µg/L from May 2014. No concentration after May 2014 is above 5 µg/L.

- **Northeast Corner Wells (nine wells).** Three wells (MW-87, MW-89 and MW-91) located on Whirlpool property in the area of the northeast corner plume and six wells (MW-96 through MW-99, MW-183 and MW-184) located on Boys & Girls Club property

[6] MW-84 exhibited a high persulfate concentration during sampling on October 6, 2020. Ascorbic Acid VOA vials were not available at that time. MW-84 was resampled on October 20, 2020 using Ascorbic Acid VOA vials.

further to the northeast have been sampled at least ten times between June 2014 and October 2020.

- TCE concentrations in MW-87 and MW-91 are stable. The TCE concentration in October 2020 of 320 µg/L in MW-87 is lower than the maximum of 948 µg/L in November 2016. The TCE concentrations in MW-91 from May and October 2020, 59.8 µg/L and 51.9 µg/L respectively, are lower than the maximum concentration of 605 µg/L from April 2017
- TCE concentrations at MW-89 and MW-183 are decreasing.
- TCE concentrations are increasing at MW-99 and MW-184. The TCE concentration at MW-99 has ranged from below detection limits (less than 0.17 µg/L) to a maximum concentration of 72.6 µg/L in October 2019. Concentrations in May 2020 and October 2020 were 1.5 µg/L and 0.85 J µg/L, respectively. The TCE concentrations at MW-184 have all been below reporting detection limits of 1 µg/L, so this statistical increasing trend is qualitatively similar to those trends which are reported as below the practical quantitation limit by the 3TMO software.
- TCE concentrations in MW-96 through MW-98 are below detection limits or not detected.

- **South Plume Wells (29 wells).** As described in more detail below, our determination that a majority of the wells exhibit a decreasing or stable TCE concentration trend is based on the fact that 22 of 29 (75%) of the southern wells exhibit either little or no TCE or a decreasing or stable TCE concentration trend. The trend analysis for the 29 wells associated with monitoring the South Plume indicates the following:
  - Five wells exhibit a stable trend for TCE concentrations (ITMW-1R, ITMW-10, MW-38, MW-95 and MW-186).
  - Nine wells exhibit a decreasing trend for TCE concentrations (ITMW-7, ITMW-16, ITMW-18, ITMW-19, ITMW-21, MW-24, MW-25, MW-93 and MW-182).
  - Three wells exhibit no trend regarding TCE concentrations (ITMW-20, MW-26 and MW-85).
  - Five wells exhibit TCE concentrations below reporting limits (ITMW-2R, MW-22, MW-29, MW-191 and MW-192).
  - Seven wells (ITMW-5, ITMW-9, MW-185, MW-187, MW-188, MW-189 and MW-190) exhibit increasing TCE concentration trends (see further discussion below).
    - The TCE concentration at ITMW-5 of 2560 µg/L in October 2020 is below the historical maximum concentration of 3,700 µg/L from October 2019. TCE concentrations and trends will continue to be monitored at this well.

  - The TCE concentration at ITMW-9 of 1770 µg/L in October 2020 is below the historical maximum concentration of 2810 µg/L from October 2019. TCE concentrations and trends will continue to be monitored at this well.
  - The TCE concentration at MW-185 of 176 µg/L is a historical maximum concentration. ISCR remediation was conducted approximately 60 feet down-gradient of this well in August 2018. TMW-34, located down-gradient east of the ISCR remediation, provides further plume definition in this area. The TCE concentration at TMW-34 was 84.4 µg/L in October 2020. The water quality results comparing the May and October 2020 monitoring events; indicate conditions became more reducing; the ORP decreased from 7.9 to -29.7 and DO decreased from 0.77 to 0.06. Water quality and analytical data values from this effort are included in the 2020 Annual ISCR Report (Attachment F). Further monitoring at this location is needed to fully evaluate ISCR effectiveness and to assess if the plume boundary is potentially at risk for expansion.
  - The TCE concentration at MW-187 of 9.8 µg/L is a historical high concentration and fourth consecutive monitoring event increase. TCE concentrations and trends will continue to be monitored at this well.
  - The TCE concentration at MW-188 of 11.7 µg/L is a historical high concentration and second consecutive monitoring event increase. TCE concentrations and trends will continue to be monitored at this well.
  - The TCE concentration at MW-189 of 359 µg/L is below the historical maximum concentration of 670 µg/L from November 2018.
  - The TCE concentration at MW-190 of 14.5 µg/L is a historical high concentration and second consecutive monitoring event increase. TCE concentrations and trends will continue to be monitored at this well.

- **Source Area Wells (seven wells).** The source area wells showed predominantly decreasing or stable concentration trends for TCE.
  - Two wells exhibit a stable trend for TCE concentrations (MW-38 and MW-95);
  - Four wells exhibit a decreasing trend for TCE concentrations (ITMW-18, ITMW-19 and MW-93); and
  - One well exhibits no trend regarding TCE concentrations (MW-85).

6.1.2 Isoconcentration Maps

Figures 3A and 3B show isoconcentration lines at the North, Northeast and South plumes for the 2019 Annual Event. Notable changes in the North Plume boundaries on Figure 3A consist of:

- TCE concentration of 15.8 µg/L in MW-61R and concentrations reduced to below 5 µg/L at TMW-10 and TMW-11 causing the inferred 5 µg/L TCE isoconcentration line to form a new 5 µg/L line separated from the main 5 µg/L isoconcentration line now farther south; and
- TCE concentration of 10.2 µg/L in MW-27 and 40.9 µg/L in MW-83 causing the 5 µg/L isoconcentration line to encircle MW-27 and MW-83.

Notable changes in the Northeast Plume boundaries on Figure 3A consist of:

- TCE concentration of 0.85 J µg/L at MW-99 (decrease from 72.60 µg/L) causing the 5 µg/L TCE isoconcentration line to move west.
- TCE concentration of 9.3 µg/L in MW-202 causing the 5 µg/L isoconcentration line to extend slightly south and east.
- Additional TCE concentration reduction at MW-91 from 59.8 to 51.9 µg/L causing the 100 µg/L isoconcentration line to move slightly west. Prior to the ISCR treatment in 2019 the concentration exceeded 100 µg/L.

Notable changes in the Source Area consist of:

- TCE concentration increase in MW-24 from 19.0 µg/L to 148 µg/L causing the 100 µg/L isoconcentration line to extend slightly north;
- TCE concentration reduction at MW-85R causing the >10,000 isoconcentration line to only encompass IW-147; and
- TCE concentration reduction in MW-93 from 14,700 µg/L to 9,130 µg/L causing the >10,000 isoconcentration line to constrict and only encompass MW-95.

Notable changes in the South Plume boundary on Figure 3B consist of:

- A pathway for safe access to ITMW-6 was created to resume sampling the monitoring well. Additionally, MW-204, located at the previous M-325 membrane interface probe (MIP) boring location, was installed to provide current groundwater data [see the 2020 Supplemental Investigation Report (Attachment E) for installation details]. The results indicated TCE concentrations of 2,110 µg/L in ITMW-6 and 55.6 µg/L in MW-204 (M-325 was historically 1,500 µg/L) causing the 1,000 µg/L isoconcentration line and 100 µg/L isoconcentration line to shift to the west.
- MW-203 and MW-201 were installed to define the South Plume boundary [see the 2020 Supplemental Investigation Report (Attachment E) for installation details]. TCE concentrations at MW-201 and MW-203 of 0.25 U µg/L and 0.57 J µg/L (collected September 2020, data provided in Table 2 of the 2020 Supplemental Investigation Report in Attachment E), respectively, have closed off the 5 µg/L contour line along the southern property boundary.

- TCE concentration of 176 µg/L in MW-185 causing a new 100 µg/L line extending to the west; ISCR injections were performed in this area in the summer of 2018. Additional evaluation and sampling will continue to assess plume migration in this area.
- Further investigation of the plume in the southwest was conducted in July and September of 2020 with the installation of MW-197 and MW-199 [see the 2020 Supplemental Investigation Report (Attachment E) for installation details]. ISCR injections performed at the southwest Whirlpool property boundary in 2018 and the resulting decrease in TCE concentrations, caused a separation of the plume between the ISCR injection area and the offsite (McPherson Oil) investigation area. Concentrations above 5 µg/L in TMW-30, TMW-32 and MW-197 have formed an up-gradient edge of the plume as depicted on Figure 3B. A TCE concentration of 92.3 µg/L in MW-199 has caused the 5 µg/L isoconcentration line to extend southwest.

6.2 Summary of Plume Concentration Trends

North Plume

- The aerial extent for the North plume remains predominantly within the bounds of the historical maximum plume extent with treatment as observed in October 2019 (the last comprehensive yearly sampling event).

Northeast Plume

- The aerial extent for the Northeast plume did not change on the Boys & Girls Club Campus where concentrations in the monitoring wells remain < 1 µg/L. South of Ingersoll and east of the Whirlpool property the 2019 ISCR Treatment is controlling plume expansion to the vacant lot owned by the Boys & Girls Club. At the South boundary of the vacant lot, October 2020 results for TCE exceed 5 µg/L (MW-202 TCE 9.3 µg/L) (2020 Supplemental Investigation Report in Attachment E). The source for this TCE is unknown based on the apparent groundwater gradient to the north and historical investigation information.

South Plume (Southwest)

The onsite portion of the Southwest Plume is currently controlled at the west property boundary with the 2018 ISCR treatments. The offsite portion of the Southwest Plume, which has been dissected at property boundary by the 2018 ISCR Treatment, extends beyond the southwest boundary of McPherson Oil and Geren Road, is not defined at the southwest extent where TCE is 18 µg/L (McPherson Oil Investigation, 2020 Supplemental Investigation Report in Attachment E). **South Plume**

- The western portion of the South Plume, at plume boundary wells MW-187 and MW-188, TCE exceeds > 5 µg/L (MW-187 9.8 µg/L and MW-188 11.7 µg/L). At the Central portion of South Plume at the property boundary (TMW-36, TCE 299 µg/L) the 2020

ISCR Treatment was completed to treat additional plume migration. Offsite investigation results to the south indicate TCE < 5 µg/L (Harmon Property Investigation, 2020 Supplemental Investigation Report in Attachment E). TCE concentrations exceed the RAL for the first time in 2020 at MW-187 and MW-188 indicating possible plume movement to the southwest. Additional monitoring data will be used to indicate the effectiveness of the ISCR treatment for plume control in the area of TMW-36.

South Plume (Southeast)

- An ISCR treatment zone was completed in 2018 at the southeast property boundary east, downgradient, from MW-185 (2018 TCE concentration 11.7 µg/L). Groundwater data indicates reducing conditions in this area at the down-gradient Treatment Zone monitoring well TMW-34 (TCE 84.4 µg/L) and the relative concentration of cis-1,2-DCE has increased from 20-55% of the TCE concentration with no detections of VC. The October 2020 monitoring results indicate TCE concentrations increased at the upgradient well MW-185 (176 µg/L) and TMW-34. The upgradient source is not defined based on the historical investigation data.

The site-wide groundwater conditions can be categorized as three separate plumes with distinct characteristics (i.e., North Plume and Northeast Plume, South Plume).

The North Plume is characterized by:

- A north-northeast potentiometric gradient that is flat in the south portion of the North Plume but steepens to north-northeast;
- TCE concentrations, from the southwest to the northeast, generally less than 200 µg/L in the southwest up-gradient area, trending to a central plume area with more elevated concentrations 300 µg/L to 700 µg/L, then decreasing concentrations down-gradient at the ISCR treatment zones with one area, MW-61R exceeding 5 µg/L at the down-gradient site boundary; and
- An aerial extent of approximately 512,230 ft^2 located north of the Whirlpool property (containing the manufacturing building) and extending to the residential area to the north-northeast.

The Northeast Plume is characterized by:

- An east, northeast potentiometric gradient.
- TCE concentrations generally between 5 µg/L and 320 µg/L.
- An aerial extent of approximately 304,210 ft^2 located northeast of the Whirlpool building and extending to the adjacent offsite property. Offsite groundwater TCE concentrations in monitoring wells are below the RALs (excluding the TCE concentration detected at MW-202).

The South Plume is characterized by:

- A multi-directional potentiometric surface gradient with three trends:
  - A relatively flat south, southeast gradient from the source area at the northwest corner of the building;
  - An easterly-northeast gradient at the southeast portion of the building; and
  - A southwestern component where the gradient increases to the southwest in the southern section of the plume.
- Source area (Area 1) TCE concentrations greater than 10,000 µg/L.
- An aerial extent of approximately 1,604,857 ft^2 (much of which is located under the footprint of the Whirlpool building).

7 ISCR Remedial Effectiveness

This section summarizes the monitoring results for the ISCR injection treatment zones installed in August 2018, December 2019 and October 2020. The details for these ISCR events are provided in the 2020 Annual ISCR Report (Attachment F).

The ISCR technology employed during each of these events combines abiotic chemical reduction and anaerobic bioremediation for the treatment of chlorinated VOCs in groundwater. These physical, chemical and biological processes combine to produce a reducing environment in the treated saturated zone to stimulate complete dechlorination of TCE and daughter products to non-toxic end breakdown products. ISCR reagents are typically effective for a timeframe of multiple years; therefore, the evaluation of data associated with this supplemental injection is anticipated to continue for a similar period of time.

The 2020 ISCR Injection Event performed at the Site was completed along the south property boundary in the vicinity of TMW-36. This injection was performed between October 6-9, 2020, in accordance with the work plan dated September 18, 2019. The total injected ISCR reagent contained 3,780 pounds of ZVI; 210 pounds of nutrient; 1,386 pounds of hydrolyzed kelp; 210 pounds of sodium sulfate; 6,636 pounds of Provect-IR®; 3,150 pounds of calcium propionate; 210 pounds of yeast extract; 210 pounds of magnesium hydroxide; 105 gallons of AMR compound; 453.6 grams of Vitamin B12 and 3,160.7 grams of Vitamin B2 suspended in water to create approximately 6,300 gallons of injectant volume. This volume was injected into the saturated zone at 23 temporary points along the south property boundary in the vicinity of TMW-36.

Baseline water levels at TMW-36 and TMW-36B were measured and recorded prior to ISCR reagent injection. Both wells exhibited a slight rise in groundwater elevations during injections. Field water quality parameters were measured and recorded periodically from TMW-36 to assess groundwater geochemistry for the ISCR process. Notable observations regarding the data collected from TMW-36 are as follows:

- Specific conductivity decreased slightly [from 847 micro-Siemens per centimeter (µS/cm) to 734 µS/cm] during injections compared to the baseline reading. The post-injection specific conductivity reading was 803 µS/cm.
- ORP decreased slightly (+219 mV pre-injection to +121.7 mV) during injections compared to baseline readings. The post-injection ORP reading was +186.9 mV.

In addition to the field water quality information summarized above, a slight odor of decay was noted during post-injection monitoring of TMW-36. The next post ISCR sampling event will occur during the semi-annual groundwater sampling event in April or May of 2021.

The field and analytical monitoring data for ISCR injection treatment zones installed in August 2018, December 2019 and October 2020 are summarized below:

- Field water quality parameters, field observations and analytical data indicate that the ISCR reagent impacted the majority of monitoring wells within the radius of influence of the ISCR reagent injections.
- During both the 2018 and 2019 injection events, the ORP measured values decreased and specific conductivity levels increased at the majority of the wells monitored. Both of these changes indicate the ISCR reagent reached or impacted the groundwater at the respective monitoring wells. Further monitoring is necessary for wells near the 2020 ISCR injections to determine post-injection effectiveness.
- At the majority of the wells monitored for the 2018 ISCR Event approximately 800 days post injection, the ORP measured values continue to be reducing, the DO measured values remained within the reducing range (anoxic) and specific conductivity levels remained elevated. This indicates the geochemistry is suitable for the reductive process to continue.
- Significant concentrations of total iron, sulfate, total organic carbon (TOC), dissolved organic carbon (DOC), methane and volatile fatty acids (VFA) (acetate, propionate, butyrate and pyruvate) continue to be detected in the ISCR monitoring wells (directly affected by the 2018 injections) approximately 800 days following ISCR injections compared to the baseline and earlier monitoring data indicating geochemistry is suitable for the reductive process to continue.
- Cis-1,2-DCE concentrations in the majority of monitoring wells in comparison to baseline levels indicate that the ISCR injection enhanced reductive dechlorination in the groundwater.
- In the MW-61R Treatment Zone, the TCE concentration has decreased from 91.1 µg/L to 4.8 µg/L at TMW-10 (95% decrease in concentration). MW-61R is the only monitoring well in the North Plume that has had a marginal increase in TCE concentration since the ISCR injections; however, reductive conditions present at MW-61R and up-gradient at TMW-10 could still effect groundwater chemistry over the next several months ultimately resulting in a reduction in TCE concentrations.
- TCE concentration reductions in the North Plume Treatment Zone ranged from 58% to 99% 800 days after ISCR reagent injections which is indicative of enhanced reductive dechlorination in the groundwater. The sum of TCE concentrations decreased in the wells monitored by 93%.
- TCE concentration reductions in the Southwest Plume Treatment Zone ranged from 67% to > 99% approximately 800 days after ISCR reagent injections which is indicative of continuing enhanced reductive dechlorination in the groundwater. The sum of TCE concentrations in the ISCR monitoring wells decreased 97% in this area 650 days post injection.

- In the Southeast Treatment Zone, reducing conditions have been established and continue with increases in ferrous and methane. TCE at TMW-34 has increased from 17.6 µg/L to 84.8 µg/L. Cis-1,2-DCE concentrations have increased from 6.9 µg/L to 46.0 µg/L over the same time frame indicating active breakdown of the TCE.
- TCE concentration reductions in the Northeast Plume Treatment Zone were 84% for MW-91 and 99% for MW-99 300 days after ISCR injections, indicating continuing enhanced reductive dechlorination in the groundwater.

As discussed in correspondence in 2019, Whirlpool is assessing a more sustainable and longer lasting remedy or remedies to supplement the remediation efforts performed at the Site in 2014, 2015 and 2018 through 2020.

7.1 Methane

In response to ADEQ correspondence dated March 19, 2020, additional research and discussion of methane production in the permeable reactive barrier (PRB) areas in the north and southwest plumes was conducted. Johnson and Ettinger (JE) modelling, research of applicable guidance for methane and, research of methane as it relates to vapor intrusion is presented here.

7.1.1 Johnson and Ettinger Modelling of Methane

In 2012, the potential for vapor intrusion from groundwater into residential buildings in the neighborhood north of the Site and the onsite building were evaluated using multiple lines of evidence in a human health risk assessment (HHRA), which was presented as Appendix A of the revised Risk Management Plan (RRMP) (ENVIRON 2013). The risk assessment included the use of groundwater and soil vapor data in the evaluation of the potential for vapor intrusion. The risk assessment relied on JE modelling to estimate indoor air vapor concentrations from groundwater concentrations offsite as described in the Human Health Risk Assessment (HHRA) update (Ramboll Environ 2016).

The JE modelling approach used in the HHRA update was applied to methane concentrations in groundwater to evaluate the potential for methane reaching concentrations that might reach a potential explosive condition [i.e., within 10% of the methane lower explosive limit (LEL) of 5% methane in air]. The following parameters were applied to differentiate it from the evaluations presented there:

- The depth to groundwater was assumed to be 12 feet bgs to describe a general condition of groundwater north of the facility;
- The physical/chemical parameters for methane were used instead of those for TCE and other chlorinated solvents; and

- In addition to computing the indoor air concentration, the sub-slab vapor concentration was also considered to simulate the condition where ignition happens just below the slab.

A concentration of 450,000 µg/L produces a concentration in sub-slab vapor which is at a volume percentage of 0.5% (i.e., 10% of the LEL). The calculations for this are shown in Tables 1-4 of Attachment G. Note that this concentration is more than a factor of 18 larger than the maximum detected methane concentration of 24,000 µg/L in groundwater.

Results from the JE modelling used in the groundwater and soil gas vapor intrusion investigation for the North Plume indicate that TCE in groundwater in the areas of the North Plume with the highest methane concentrations would not present an unacceptable health risk. Calculated lifetime cancer risk and non-cancer hazards for the highest detected TCE concentration in the North Plume in October 2020 (706 µg/L at MW-56R) were 3.0E-06 and 0.50, respectively. Both the estimated lifetime cancer risk and non-cancer hazard are below or within the acceptable range. As demonstrated by the graphical presentation of TCE and methane concentrations in select monitoring wells, TCE concentrations tend to decrease as methane concentrations increase. Since the 2018 injections, the TCE concentrations in the North PRB Area wells where methane concentrations have been elevated have been reduced to 22 µg/L (TMW-21, November 2018) or less, when corresponding methane concentrations exceed 10,000 µg/L for a given sample data point. The available data indicates that the production of methane is not expected to enhance TCE vapor intrusion and thereby increase health risks in PRB areas in the North Plume.

7.1.2 Applicable Guidance for Methane

The Indiana Department of Environmental Management (IDEM) issued a guidance document titled Addressing Methane at Anaerobic Bioremediation Sites. This guidance dated October 5, 2012 and updated August 31, 2019, outlines suggested screening levels and actions for soil gas methane at anaerobic bioremediation sites.

Methane solubility in water is typically in the range of 22,000-35,000 µg/L (IDEM 2019). Any concentrations above this may indicate advective flow to the surface. Concentrations in the groundwater in the North plume have ranged from non-detect to a high of 17,000 µg/L in TMW-21 which is well below the typical solubility that would facilitate advective flow.

Concentrations in the groundwater in the South Plume ISCR Injection Area have ranged from non-detect to a high of 24,000 µg/L in TMW-16 which is in the lower limit of the typical methane solubility but the risk is mitigated by the location which is a relatively remote wooded area with no surface structures.

Appendix B of the IDEM guidance provides the following explanation for the 10,000 µg/L (10 mg/L) screening level:

"Not enough data exists for a data-driven analysis of a groundwater methane concentration screening level indicative of hazardous conditions. Henry's Law predicts 1-2 mg/L in the groundwater could theoretically produce 5% methane (see below). However, using only Henry's Law does not account for any oxygen consumption of methane. USGS (2006) indicated 10 mg/L as a screening level but did not support the concentration with a stringent numerical analysis. Nevertheless, 10 mg/L is about half the solubility and seems like a reasonable indication that the Site's microbial population is generating substantial groundwater methane and soil gas methane should be investigated if receptors are present."

	Suggested Screening Levels and Actions for Soil Gas Methane at Anaerobic Bioremediation Sites		
Sampled Medium	**Concentration**	**Concentration**	**Action**
Groundwater	>10 mg/L	> 10 mg/l (same)	Monitor Soil Gas
Soil Gas External	>10% of LEL	> 5,000 ppm v/v	Check for receptors/ consider mitigation
Soil Gas Sub Slab	>10% of LEL	> 5,000 ppm v/v	Mitigate
	<10% of LEL	< 5,000 ppm v/v	Monitor
Indoor Air	>10% of LEL	> 5,000 ppm v/v	Evacuate/ Mitigate

7.1.3 Methane Biodegradation in the Subsurface

The 2015 USEPA Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites states that 6 feet of biologically active soil can be sufficient to biologically degrade petroleum hydrocarbons (USEPA 2015). Methane is the simplest petroleum hydrocarbon and is generally a breakdown product of other larger carbon chain petroleum hydrocarbons. The well logs for the wells in the North Plume and South Plume indicate that the water bearing zones are more than 6 feet bgs in each area. The relevant well logs are presented in Attachment G. The vertical separation distance of 6 feet would indicate that the methane will biologically degrade before reaching the ground surface in both the North and South Plume treatment areas.

8 Bench Scale Treatability Study Sampling

Ramboll conducted a bench scale treatability study with soil and groundwater collected from Area 1/Source Area at the Site from December 2019 through October 2020. The Bench Scale Treatability Study Work Plan was submitted to ADEQ on September 16, 2019. A response to an ADEQ comment letter dated October 4, 2019, regarding the work plan was submitted on November 13, 2019. The treatability study was performed by SiREM Laboratories (SiREM) using Site soil and groundwater samples collected from Area 1 during the week of November 18, 2019.

The objectives of the treatability study are as follows:

- Assess optimum site geochemistry for reductive dechlorination (pH, ORP, etc.) (pH has also been assessed as described in the Recovery Well Installation Work Plan);
- Assess which additives may be required to establish and maintain optimum reductive conditions;
- Assess how residual concentrations of sulfate from previous ISCO events may affect future ISCR processes; and
- Assess optimum dosage requirements for the ISCR reagents for the Site.

The following discussion is a brief overview of the Bench Scale Treatability Study Report (Attachment H). A more thorough write-up of the treatability study methods, results and observations is provided within this attached report.

Soil for the bench scale testing was collected using direct push drilling methods at SBTS-1 from 22-27 feet bgs within the saturated zone in Area 1 where historical TCE concentrations are elevated generally near the location of the former drainage feature. SBTS-1 is located in the vicinity of LDB-11 and IW-141 (abandoned in June 2019). Groundwater for the bench scale testing was collected from IW-147 using low flow sampling methods.

This treatability study involved the setup and management of two control microcosms and three treatment microcosms for the purpose of assessing ISCR treatability to reduce TCE and breakdown constituents in saturated soil and groundwater to non-toxic final degradation products. Initially, only two treatment amended microcosms were setup on December 2, 2019 consisting of treatments with Provect-IR® provided by Provectus Products, Inc. (Provectus) and EOS-ZVI provided by EOS Remediation LLC. Both of these products were dosed into their respective treatments with 0.18 grams of donor to a target 0.3% of geologic material.

During the course of monitoring these two treatments, a third treatment microcosm was initiated on April 21, 2020, using ERD65 plus dual-valent iron (DVI), also provided by Provectus. ERD65 and DVI amended microcosms were dosed at 0.3 grams of DVI and 1 mL of ERD65 to a target of 0.5% of solution.

In addition to the treatment microcosm studies, a buffering evaluation test was completed in December 2019 to determine the buffering demand of the groundwater and geologic material required to obtain the groundwater pH of 7 ± 0.2. Two pH buffering amendments were tested in sodium bicarbonate and calcium carbonate. Results of the buffer demand tests indicated a that use of sodium bicarbonate was able to reach a final pH of 6.94, up from an average initial pH of 6.38; while us of calcium carbonate led to a final average pH of 6.69, up from the average initial pH of 6.40. The calcium carbonate dosed reactors were less reactive to pH adjustment and although an increase in pH was observed, the target pH range was not achieved within the monitoring period of this study. As a result of the findings from this pH buffer study, treatment microcosms requiring initial and periodic pH adjustments were adjusted using a sodium bicarbonate solution.

Bioaugmentation was not originally planned to be performed during this study. As the study progressed it was determined that the treatments within the Provect-IR® and EOS-ZVI microcosms should be bioaugmented due to the apparent degradation process stalling at cis-1,2-DCE by Day 76. Bioaugmentation of the Provect-IR® and EOS-ZVI microcosms occurred on Day 98. As bioaugmentation was now included as part of the study, observations from the supplementary ERD65 and DVI amended treatment noted ORP results indicative of reducing conditions early on and these microcosms were bioaugmented on much earlier than the prior treatment microcosms on Day 14.

Aqueous samples were collected from the control and treatment microcosms every two to three weeks for analysis of TCE, cis-1,2-DCE, VC and dissolved gases (e.g., acetylene, ethane, ethene, methane). Additionally, periodic groundwater samples from electron donor amended microcosms were sampled and analyzed for VFAs, (e.g., lactate, acetate and propionate), anions, pH, ORP and microbial genetic testing [e.g., Dhc and function gene analysis (FGA)]. Control microcosms were also analytically tested as appropriate for comparison to treated microcosms.

This Bench Scale Treatability Study consisted of five studies including two control microcosms and three treatment microcosms for the purpose of assessing the efficacy of ISCR to reduce TCE and breakdown constituents in saturated soil and groundwater to non-toxic final degradation products. The following observations were noted during the treatability bench study:

- Control Microcosms: Control microcosms did not achieve reducing conditions as based on review of ORP, methane, nitrate and sulfate redox parameters. Within the controls no methane was generated, no reduction of sulfate was observed and ORP were generally above +200 mV during the study.
- Control Microcosms: Control microcosms were non-detect for the presence of Dhc culture throughout the study and all concentrations of TCE remained relatively stable with no increases in degradation breakdown products (i.e., cis-1,2-DCE and VC).

- Treatment Microcosms: Sulfate concentrations were initially elevated to approximately 600 mg/L during baseline testing and remained above 400 mg/L[7] until Day 98 for the Provect-IR® and EOS-ZVI amended microcosms. The ERD65 and DVI treatment microcosms were dosed with KB-1® on Day 14, much earlier than the other treatment microcosms and sulfate dropped below 400 mg/L by Day 35. After bioaugmentation of each treatment microcosm, sulfate concentrations were generally reduced more quickly than prior to bioaugmentation by the end of the study period to an average of 62 mg/L for the Provect-IR® microcosms and to non-detect for the EOS-ZVI and ERD65 and DVI microcosms.
- Treatment Microcosms: Provect-IR®, EOS-ZVI and ERD65 contain fermentable electron donor sources that result in the production of hydrogen which is the ultimate electron donor used by dechlorinator microbial organisms. The VFA acetate was detected by Day 18 in all the treatments. The Provect-IR® treatment microcosms were reamended with additional Provect-IR® donor formulation on Day 127 as all VFA's had decreased from an average total VFA concentration of 157 mg/L on Day 35 to only 4.8 mg/L by Day 98.
- Treatment Microcosms: Initial baseline groundwater results were non-detect for the presence of Dhc and by Day 49 Dhc analysis results for the Provect-IR® and EOS-ZVI amended treatments were still non-detect. Based upon apparent degradation process stalling at cis-1,2-DCE by Day 76, the Provect-IR® and EOS-ZVI amended treatments were bioaugmented with KB-1® on Day 98. Further Gene-Trac testing was conducted at the end of the treatability study for all amended treatment microcosms and all were detected at concentrations equal to or greater than $3x10^8$ enumerations/L. Generally, for complete dechlorination of TCE to ethene, Dhc and FGA should be greater than $1x10^7$ enumerations/L[8].
- Treatment Microcosms: All of the treatment microcosms showed at least 95% reduction of TCE within the first 100 days (95% reduction in 98 days for Provect-IR®, 99% reduction in 53 days for EOS-ZVI and 100% reduction in 29 days for ERD65 and DVI); temporary increases of degradation breakdown products; and generation of non-toxic end breakdown products such as ethene and acetylene.
- Treatment Microcosms: Concentrations of cis-1,2-DCE within the initial treatment microcosms amended with Provect-IR® and EOS-ZVI showed apparent signs of remediation stalling (i.e., incomplete constituent degradation and inability to be further broken down to additional daughter products) during sampling events on Days 49, 63 and 76. As a result of this apparent stall, these treatment microcosms were bioaugmented on Day 98 with KB-1® culture. The ERD65 and DVI amended microcosms were subsequently amended much earlier within their study timetable on

[7] Dhc dechlorinating bacteria are not able to thrive in the presence of sulfate concentrations greater than 400 mg/L (Panagiotakis, I., D. Mamais, M. Pantazidou, S. Rosetti, F. Aulenta and V. Tandoi. 2014. Predominance of Dehalococcoides in the presence of different sulfate concentrations. Water Air and Soil Pollution. 225: 1785).
[8] Lu, X., J.T. Wilson, D.H. Kampbell, 2006. Relationship between Dehalococcoides DNA in Groundwater and Rates of Reductive Dechlorination at Field Scale. Water Research. 40: 3131-3140.

Day 14. After bioaugmentation, cis-1,2-DCE concentrations quickly decreased within the Provect-IR® and EOS-ZVI amended microcosms.

The results from these microcosms are indicative of the following conclusions:

- The native bacterial populations at the Site in the source area do not appear to be suitable for facilitating complete dechlorination of TCE to ethene.
- Provect-IR®, EOS-ZVI or ERD65 and DVI amendments can establish and sustain the geochemical conditions conducive for reductive dechlorination of chlorinated ethenes.
- Evidence of the β-elimination pathway and the reductive dechlorination pathway in the Provect-IR® and EOS-ZVI treatments indicate that a combination of abiotic and biotic mechanisms occurred.
- High sulfate concentrations were reduced to below 400 mg/L prior to the onset of cis-1,2-DCE dechlorination to VC and ethene. The formation of iron sulfide, as evident by the black precipitates in the microcosms, likely also contributed to the degradation of the chlorinated compounds.
- Complete dechlorination of TCE to ethene was achieved within all treatment microcosms, however bioaugmentation with KB-1® was required to advance the reductive dechlorination passed cis-1,2-DCE within the Provect-IR® and EOS-ZVI treatment microcosms.
- The pH in the Site material was below the range for optimal reductive dechlorination and the treatments were adjusted with a sodium bicarbonate pH buffer to adjust and maintain the pH in the optimal dechlorination range (6.8-7.5).

The results of this study indicate that ERD65 with bioaugmentation combined an electron donor has the potential to be an effective remedial approach for the Site. The rate of reactions may have varied between each of the treatment chemistries; however, each treatment study was successful at demonstrating effective remediation of Site chemicals of interest (COIs). Given the success of each treatment microcosm, the selection of a remedial chemistry to implement at the Site will likely focus more on characteristics relating to potential for reapplication, sub-surface distribution (solubility, viscosity, particle size, etc.), onsite handling (mixing procedures, health and safety considerations, etc.) and cost.

9 Summary and Conclusions

Ramboll performed investigation, maintenance and remediation efforts at the Site in 2020 consisting of:

- Offsite investigation to the southwest of the Whirlpool property at the McPherson Oil property and along Geren Road to further delineate the plume boundary;
- Offsite investigation to the south of the Whirlpool property at the Harmon property to further delineate the plume boundary;
- Offsite investigation to the northeast of the Whirlpool property at the 6427 Jenny Road Lind property to further delineate the plume boundary and assess the ISCR injection PRB effectiveness;
- Source area monitoring well, MW-198, was installed near the former location of MW-86 to further characterize the source area;
- MW-204 was installed near the former boring location M-325 to further refine the plume boundary on the Whirlpool property;
- Semi-annual and annual groundwater and indoor air monitoring events in May and October 2020, respectively;
- Bench scale treatability testing with samples collected in November 2019 through October 2020 and treatability testing to further assess pH modifications in groundwater, ISCR reagent effectiveness and bioaugmentation was completed; and
- ISCR injections were performed in October 2020 at the southern boundary of the Site.

The 2020 Annual Groundwater Monitoring Event was completed in October 2020. The results of the annual groundwater monitoring event indicate the following:

- The direction of the hydraulic gradient continues to be influenced by a hydraulic divide located just north of the Whirlpool building with groundwater flow directions predominantly to the northeast and south on either side of the general divide.
    - Groundwater north of the divide is flowing in a northeasterly direction; and
    - Groundwater south of the divide is flowing in a southern-southeasterly direction with another divide trending southwesterly and southeasterly-south of the former manufacturing building.
- The site-wide groundwater conditions can be categorized as three separate plumes with distinct characteristics (i.e., South Plume, North Plume and Northeast Plume).
    - The South Plume is characterized by:
        - A relatively flat south-southeast potentiometric gradient with a southwestern gradient in the southwestern section of the plume;

  - Source area (Area 1) TCE concentrations greater than 10,000 µg/L; and
  - An aerial extent of approximately 1,604,857 ft^2 (predominately located under the footprint of the former Whirlpool building).
- The North Plume is characterized by:
  - A north-northeast potentiometric gradient that is flat in the south portion of the North Plume but steepens to north-northeast;
  - TCE concentrations generally between 100 and 700 µg/L; and
  - An aerial extent of approximately 512,230 ft^2 located north of the former Whirlpool property and extending to the residential area to the north-northeast.
- The Northeast Plume is characterized by:
  - An east-northeast potentiometric gradient.
  - TCE concentrations generally between 5 and 320 µg/L.
  - An aerial extent of approximately 304,210 ft^2 located northeast of the former Whirlpool building and extending to property owned by the Boys & Girls Club. Offsite groundwater TCE concentrations in monitoring wells are below the RALs (excluding the most recent TCE concentrations detected at MW-99).

Groundwater monitoring results in the vicinity of the ISCR injection locations (800-day post ISCR injection) indicate the following:

- In the MW-61R Phase II Treatment Zone (in the North Plume), the TCE concentration decreased from 91.1 µg/L to 4.8 µg/L at TMW-10 (95% decrease in concentration). Daughter products initially increased as TCE decreased but as the TCE has degraded cis-1,2-DCE and VC concentrations have remained low (<1 µg/L and 3.8 µg/L respectively). The concentration of VC is expected to continue to decrease with the established reducing groundwater conditions and the presence of Dhc (and VC Reductase). MW-61R is the only monitoring well in the North Plume area that has had a marginal increase in TCE concentration since the ISCR injections in 2018; however, reductive conditions present at MW-61R and up-gradient of MW-61R at TMW-10, may still effect groundwater chemistry resulting in a reduction in TCE concentrations in MW-61R as has occurred in the past.
- The sum of TCE concentrations in the North Plume decreased in the wells monitored by 93% in this area approximately 800 days after ISCR reagent injections compared to baseline concentrations.
- The sum of TCE concentrations in the Northeast Plume decreased in the wells monitored by 87% in this area approximately 300 days after the ISCR reagent injections compared to baseline concentrations.

- The sum of TCE concentrations in the Southwest Plume decreased in the wells monitored by 97% in this area approximately 800 days after ISCR reagent injections compared to baseline concentrations.
- Vapor intrusion monitoring continues to identify that risk estimates for vapor intrusion from groundwater in the neighborhood are below ADEQ's risk management limits of 10-4 and 1 for cumulative cancer risk and non-cancer hazards, respectively (see Attachment B).
- The indoor air data indicate a potential complete exposure pathway due to vapor intrusion into the building. Of the detected constituents, only TCE exceeded the respective conservative indoor air screening level based on a hazard index of 0.1; however, cumulative risk estimates for the onsite worker were below or within ADEQ acceptable range of non-cancer hazard and cancer target values. These results do not indicate health risks from indoor exposures under current operating conditions.

The investigation and monitoring activities at the Site have not identified any complete exposure pathways in the residential area (i.e., direct exposure, consumption or vapor intrusion). Given the current deed restrictions for the Whirlpool property and impacted offsite properties, there is no unacceptable risk to human health or the environment. Deed restrictions precluding the use of groundwater and access agreements to facilitate future investigation or monitoring, if required, apply where groundwater impacts have been characterized in the residential area.

Monitoring at the Site will continue in accordance with the RGWMP with the next groundwater monitoring event planned to occur in Spring 2021.

A five-year technical review will be provided following or coinciding with the 2021 Annual Report (i.e., five years after implementation of the RGWMP in 2016) in February 2022.

10 References

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Tables

TABLE 1
CONSTITUENTS OF CONCERN AND RADD GROUNDWATER REMEDIAL ACTION LEVELS
Whirlpool Facility - Fort Smith, Arkansas

Constituent of Concern	Remedial Action Level (µg/L)[1]
Acetone	12,000[2]
Benzene	5.0
Bromodichloromethane	80
Bromoform	80
Bromomethane	7.0[2]
2-Butanone	4,900[2]
Carbon Disulfide	720[2]
Carbon Tetrachloride	5.0
Chlorobenzene	100
Chloroethane	21,000[2]
Chloroform	80
Chloromethane	190[2]
Dibromochloromethane	80
1,1-Dichloroethane	2.4[2]
1,2-Dichloroethane	5.0
1,1-Dichloroethene	7.0
cis-1,2-Dichloroethene	70
trans-1,2-Dichloroethene	100
1,2-Dichloropropane	5.0
1,3-Dichloropropene	0.41[2]
Ethylbenzene	700
2-Hexanone	34[2]
4-methyl-2-pentanone	1,000[2]
Methylene chloride	5.0
Styrene	100
1,1,2,2-Tetrachloroethane	0.066[2]
Tetrachloroethene (PCE)	5.0
Toluene	1,000
1,1,1-Trichloroethane	200
1,1,2-Trichloroethane	5.0
Trichloroethene (TCE)	5.0
Vinyl chloride	2.0
Xylenes (total)	10,000

Notes:
RADD = Remedial action decision document
µg/L = Micrograms per liter
(1) = Maximum Contamination Level (USEPA, May 2013)
(2) = USEPA Tapwater Screening Level (MCL and Maximum Contaminant Level Goal Unavailable)

TABLE 2A
GROUNDWATER MONITORING WELL NETWORK SAMPLED
Whirlpool Facility - Fort Smith, Arkansas

Plume Boundary Wells				
MW-50R	MW-60R	MW-61R	MW-67*	MW-66*
MW-63R	MW-62R	MW-36	MW-27	MW-28
ITMW-16	ITMW-2*	MW-22	ITMW-4	ITMW-6
MW-29	ITMW-20	MW-26	MW-31*	MW-39R
MW-40R	IW-72*	MW-68		

Offsite Wells				
IW-73	IW-74	MW-41	IW-76	IW-77
MW-71	MW-46R	RW-69	MW-55R	MW-56R
MW-57R	MW-58R			

Onsite Wells				
MW-25R	ITMW-19	ITMW-17*	ITMW-11	ITMW-12*
ITMW-18	ITMW-15	MW-38	MW-33*	MW-65
MW-35R*	IW-80	MW-34	MW-32*	ITMW-21
ITMW-7	ITMW-10	ITMW-9	ITMW-1R	ITMW-13*
ITMW-14*				

Notes:

* Indicates wells that have been abandoned since 2013

TABLE 2B
MONITORING WELL INSPECTION (OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Well ID	October 2020 Well Condition and Notes	Comments
ITMW-1R	broken screws	NA
ITMW-2R	no issues	NA
ITMW-4	no issues	NA
ITMW-5	no issues	NA
ITMW-6	--	--
ITMW-7	no issues	NA
ITMW-9	no issues	NA
ITMW-10	no issues	NA
ITMW-11	no issues	NA
ITMW-12R	no issues	NA
ITMW-15	no issues	NA
ITMW-16	no issues	NA
ITMW-18	broken screws	NA
ITMW-19	no issues	NA
ITMW-20	wasp nest	NA
ITMW-21	no issues	NA
IW-72	no issues	NA
IW-73	no issues	NA
IW-74	no issues	NA
IW-75	no issues	NA
IW-76	no issues	NA
IW-77	no issues	NA
IW-78	no issues	NA
IW-79	no issues	NA
IW-80	no issues	NA
MW-22	no issues	NA
MW-23	no issues	NA
MW-24	no issues	NA
MW-25	no issues	NA
MW-26	no issues	NA
MW-27	no issues	NA
MW-28	no issues	NA
MW-29	no issues	NA
MW-30	no issues	NA
MW-34R	no issues	NA
MW-35R	no issues	NA
MW-36R	no issues	NA
MW-37	no issues	NA
MW-38	no issues	NA
MW-39R	no issues	NA
MW-40R	no issues	NA
MW-41R	no issues	NA
MW-46R	no issues	NA
MW-50R	no issues	NA
MW-55R	no issues	NA
MW-56R	no issues	NA
MW-57R	no issues	NA
MW-58R	no issues	NA
MW-60R	no issues	NA
MW-61R	no issues	NA
MW-62R	no issues	NA
MW-63R	no issues	NA
MW-65R	no issues	NA
MW-68	no issues	NA
MW-70	no issues	NA
MW-71	no issues	NA
RW-69	no issues	NA
MW-81	no issues	NA

Well ID	October 2020 Well Condition and Notes	Comments
MW-82	no issues	NA
MW-83	no issues	NA
MW-84	no issues	NA
MW-85	no issues	NA
MW-86	no issues	NA
MW-87	no issues	NA
MW-88	no issues	NA
MW-89	no issues	NA
MW-90	no issues	NA
MW-91	no issues	NA
MW-92	no issues	NA
MW-93	no issues	NA
MW-94	no issues	NA
MW-95	no issues	NA
MW-96	no issues	NA
MW-97	no issues	NA
MW-98	no issues	NA
MW-99	no issues	NA
MW-172	no issues	NA
MW-173	no issues	NA
MW-174	no issues	NA
MW-175	no issues	NA
MW-176	no issues	NA
MW-177	no issues	NA
MW-178	no issues	NA
MW-179	no issues	NA
MW-180	no issues	NA
MW-181	no issues	NA
MW-182	no issues	NA
MW-183R	no issues	NA
MW-184	no issues	NA
MW-185	no issues	NA
MW-186	no issues	NA
MW-187	no issues	NA
MW-188	no issues	NA
MW-189	no issues	NA
MW-190	no issues	NA
MW-191	no issues	NA
MW-192	no issues	NA
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MW-197	no issues	NA
MW-198	no issues	NA
MW-199	no issues	NA
MW-200	no issues	NA
MW-201	no issues	NA
MW-202	no issues	NA
MW-203	no issues	NA
MW-204	no issues	NA
IW-115	no issues	NA
TMW-10	no issues	NA
TMW-11	no issues	NA
TMW-12	no issues	NA
TMW-14	no issues	NA
TMW-16	no issues	NA
TMW-19	no issues	NA
TMW-20	no issues	NA
TMW-21	no issues	NA
TMW-22R	no issues	NA
TMW-23	no issues	NA
TMW-24	no issues	NA
TMW-25	no issues	NA
TMW-26	no issues	NA
TMW-27	no issues	NA
TMW-29	no issues	NA
TMW-30	no issues	NA
TMW-32	no issues	NA
TMW-34	no issues	NA
TMW-35	no issues	NA
TMW-36	no issues	NA

Notes:

NA: Not Applicable

TABLE 3
SUMMARY OF MONITORING WELL STATIC WATER LEVEL MEASUREMENTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Well Coordinates		Previous TOC Elevation (feet) (if applicable)	TOC Elevation (feet)	Screen Length (feet)	Screened Interval (feet)	Maximum Static Water Elevation (Since Oct 2012)	Maximum Elevation Date	Minimum Static Water Elevation (Since Oct 2012)	Minimum Elevation Date	Static Water Elevation (feet)									
	Easting (feet)	Northing (feet)									11/13/2018		4/23/2019		10/22/2019		5/11/2020		10/5/2020	
											DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation
ITMW-1[4]	591383	368913		476.93	13.75	16.50 - 30.25	463.92	10/5/2015	460.53	4/25/2017	16.40	460.53	16.27	460.66	NA	NA	NA	NA	NA	NA
ITMW-1R	591378	368921		473.82	10.00	19.00-29.00	NA	NA	NA	NA	NA	NA	NA	NA	14.31	459.51	12.41	461.41	11.96	461.86
ITMW-2[4]	591189	369021		474.97	14.45	12.75 - 27.20	465.92	10/14/2013	461.87	4/25/2017	12.59	462.38	12.40	462.57	NA	NA	NA	NA	NA	NA
ITMW-2R	591244	369072		474.84	5.00	26.50-31.50	NA	NA	NA	NA	NA	NA	NA	NA	11.54	463.30	12.05	462.79	11.5	463.34
ITMW-3[4]	591306	369075		474.72	14.80	10.65 - 25.45	467.17	10/14/2013	460.27	1/12/2015	13.18	461.54	13.01	461.71	NA	NA	NA	NA	NA	NA
ITMW-4	591251	368208		478.19	14.00	18.20 - 32.20	466.85	1/12/2015	459.49	11/13/2018	18.70	459.49	18.34	459.85	18.02	460.17	18.13	460.06	17.77	460.42
ITMW-5	590982	368205		478.93	9.75	19.90 - 29.65	463.22	10/5/2015	454.77	4/22/2013	19.45	459.48	19.04	459.89	18.70	460.23	18.85	460.08	18.38	460.55
ITMW-6	590923	367970		483.04	14.50	21.65 - 36.15	466.20	1/12/2015	454.06	4/22/2013	23.60	459.44	23.10	459.94	22.86	460.18	22.49	460.55	22.47	460.57
ITMW-7	590546	368323		481.95	15.00	21.90 - 36.90	463.65	7/20/2015	457.98	10/14/2013	20.42	461.53	19.87	462.08	19.82	462.13	19.41	462.54	19.57	462.38
ITMW-9	591256	368146		481.90	13.50	19.95 - 33.45	463.29	10/5/2015	455.60	4/22/2013	22.58	459.32	21.18	460.72	21.91	459.99	22.04	459.86	21.6	460.30
ITMW-10	590978	368157		480.84	10.95	22.65 - 33.60	463.17	7/20/2015	457.64	4/22/2013	21.36	459.48	20.97	459.87	20.61	460.23	20.76	460.08	20.28	460.56
ITMW-11	590978	369040		474.07	13.45	15.25 - 28.70	465.82	10/1/2012	459.11	1/12/2015	10.86	463.21	10.68	463.39	10.11	463.96	10.71	463.36	9.96	464.11
ITMW-12[4]	590998	369007		476.67	15.00	15.00 - 30.00	466.49	1/12/2015	462.07	4/25/2017	13.82	462.85	13.58	463.09	NA	NA	NA	NA	NA	NA
ITMW-12R	591015	369004		474.32	10.00	20.00-30.00	NA	NA	NA	NA	NA	NA	NA	NA	10.65	463.67	10.36	463.96	10.54	463.78
ITMW-13[4]	591047	369052		477.79	15.00	14.00 - 29.00	465.10	7/20/2015	462.09	4/25/2017	14.94	462.85	14.72	463.07	NA	NA	NA	NA	NA	NA
ITMW-14[4]	591098	369056		477.30	14.70	14.80 - 29.50	468.88	10/14/2013	461.08	1/12/2015	14.62	462.68	14.40	462.90	NA	NA	NA	NA	NA	NA
ITMW-15	590944	369043		474.50	15.00	15.00 - 30.00	465.41	10/1/2012	462.36	4/25/2017	11.22	463.28	11.09	463.41	10.53	463.97	11.11	463.39	10.4	464.1
ITMW-16	590967	369100		478.79	15.00	17.00 - 32.00	468.22	1/12/2015	462.49	3/25/2014	15.64	463.15	15.45	463.34	14.84	463.95	NA	NA	14.82	463.97
ITMW-17	590864	369051		477.90	15.00	16.00 - 31.00	466.20	10/14/2013	462.17	4/25/2017	14.92	462.98	14.69	463.21	NA	NA	NA	NA	NA	NA
ITMW-18	590976	368955		473.55	15.00	15.00 - 30.00	465.03	7/20/2015	458.99	1/12/2015	10.76	462.79	10.53	463.02	9.98	463.57	10.46	463.09	9.86	463.69
ITMW-19	590890	368961		476.25	15.00	16.00 - 31.00	465.94	1/12/2015	462.15	4/25/2017	13.28	462.97	13.05	463.20	12.52	463.73	12.98	463.27	12.37	463.88
ITMW-20	590370	369042		477.87	15.00	14.00 - 29.00	465.23	7/20/2015	462.80	11/7/2016	14.35	463.52	13.90	463.97	13.87	464.00	13.88	463.99	13.5	464.37
ITMW-21	590629	368898		476.52	15.00	16.00 - 31.00	465.12	7/20/2015	461.27	4/22/2013	13.17	463.35	12.79	463.73	12.52	464.00	12.73	463.79	12.35	464.17
MW-22	591853	368913		473.93	15.00	14.00 - 29.00	464.24	10/5/2015	460.86	11/13/2018	13.07	460.86	12.94	460.99	12.00	461.93	12.63	461.30	11.89	462.04
MW-23	590892	369238		475.80	15.00	14.00 - 29.00	465.50	1/12/2015	462.40	4/25/2017	12.62	463.18	12.38	463.42	11.79	464.01	12.31	463.49	12.72	463.08
MW-24	590876	369134		476.39	15.00	18.00 - 33.00	465.35	7/20/2015	462.41	4/25/2017	13.20	463.19	13.00	463.39	12.40	463.99	12.91	463.48	12.3	464.09
MW-25[4]	590743	369006		476.89	15.00	17.00 - 32.00	465.37	7/20/2015	462.46	4/25/2017	13.65	463.24	13.39	463.50	NA	NA	NA	NA	NA	NA
MW-25R	590747	368986		472.59	5.00	25.00-30.00	NA	NA	NA	NA	NA	NA	NA	NA	9.79	462.80	9.01	463.58	8.64	463.95
MW-26	590566	369230		478.05	15.00	18.50 - 33.50	465.56	7/20/2015	463.10	4/25/2017	14.25	463.80	13.88	464.17	13.54	464.51	13.79	464.26	13.37	464.68
MW-27	591077	369226		475.42	15.00	15.00 - 30.00	465.33	7/20/2015	462.39	4/25/2017	12.25	463.17	12.05	463.37	11.50	463.92	12.00	463.42	11.39	464.03
MW-28	591324	369209		470.49	15.00	13.00 - 28.00	465.20	7/20/2015	458.86	1/12/2015	7.68	462.81	7.50	462.99	6.80	463.69	7.42	463.07	6.77	463.72
MW-29	590181	368371		474.91	15.00	16.00 - 31.00	468.30	1/12/2015	461.94	11/7/2016	11.84	463.07	11.28	463.63	11.54	463.37	11.41	463.50	11.23	463.68
MW-30	590579	368432		478.99	15.00	21.00 - 36.00	467.41	1/12/2015	461.81	11/7/2016	16.61	462.38	16.11	462.88	16.02	462.97	16.09	462.90	15.76	463.23
MW-31[4]	590824	369286		476.03	10.00	17.50 - 27.50	464.73	10/13/2014	460.52	1/12/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-31R	590823	369288		475.73	10.00	20.00-30.00	465.13	7/20/2015	463.93	4/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-32[1,4]	590909	369279		475.68	10.00	17.00 - 27.00	464.74	10/13/2014	462.59	3/25/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-32R	590908	369282		475.50	10.00	20.50-30.50	465.09	7/20/2015	463.94	4/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-33[1,4]	590994	369276		474.88	10.00	15.80 - 25.80	464.76	10/13/2014	462.50	3/25/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-33R	590993	369277		474.60	10.00	19.00 - 29.00	465.19	7/20/2015	463.97	4/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-34[1,4]	590932	369336		474.29	10.00	19.50 - 29.50	464.81	10/13/2014	462.68	3/25/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-34R	590911	369339		474.23	7.00	21.50-28.50	465.43	7/20/2015	462.48	4/25/2017	10.92	463.31	10.69	463.54	10.11	464.12	10.65	463.58	NA	NA
MW-35R[3]	590994	369333		473.87	10.00	19.50 - 29.50	465.32	7/20/2015	462.33	4/25/2017	10.69	463.18	10.46	463.41	9.88	463.99	NA	NA	8.98	464.89
MW-36[1,4]	591079	369329		473.30	15.00	12.00 - 27.00	464.85	10/13/2014	462.71	3/5/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-36R	591078	369328		472.98	9.00	20.00-29.00	465.27	7/20/2015	462.25	4/25/2017	9.88	463.10	9.63	463.35	9.06	463.92	9.57	463.41	8.98	464.00
MW-37	590972	369028		473.57	15.00	15.00 - 30.00	465.39	7/20/2015	462.37	4/25/2017	10.42	463.15	10.19	463.38	9.64	463.93	10.11	463.46	9.49	464.08
MW-38	590960	369040		474.60	15.00	15.00 - 30.00	465.39	7/20/2015	462.35	4/25/2017	11.35	463.25	11.22	463.38	10.68	463.92	11.16	463.44	10.56	464.04
MW-39[1,4]	590833	369421		475.46	10.00	19.50 - 29.50	465.00	1/12/2015	461.61	3/5/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-39R	590840	369429		474.72	5.00	24.50-29.50	465.41	7/20/2015	462.43	4/25/2017	11.44	463.28	11.20	463.52	10.59	464.13	11.06	463.66	10.53	464.19
MW-40[1,4]	590998	369622		473.35	10.00	17.75 - 27.75	464.76	10/13/2014	455.04	10/14/2013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-40R	591013	369624		473.09	10.00	18.50 - 28.50	465.29	7/20/2015	462.31	4/25/2017	9.89	463.20	9.65	463.44	9.07	464.02	9.60	463.49	9.02	464.07
MW-41[1,4]	591061	369469		472.09	10.00	18.75 - 28.75	464.45	10/13/2014	462.63	3/25/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-41R	591061	369478		471.84	10.00	18.00 - 28.00	465.13	7/20/2015	462.21	4/25/2017	8.81	463.03	8.56	463.28	7.97	463.87	8.50	463.34	7.42	464.42
MW-46R	591472	369609		465.79	5.00	16.60 - 21.60	464.88	7/20/2015	457.50	1/12/2015	2.92	462.87	2.63	463.16	2.05	463.74	2.48	463.31	1.88	463.91

TABLE 3
SUMMARY OF MONITORING WELL STATIC WATER LEVEL MEASUREMENTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Well Coordinates		Previous TOC Elevation (feet) (if applicable)	TOC Elevation (feet)	Screen Length (feet)	Screened Interval (feet)	Maximum Static Water Elevation (Since Oct 2012)	Maximum Elevation Date	Minimum Static Water Elevation (Since Oct 2012)	Minimum Elevation Date	Static Water Elevation (feet)									
	Easting (feet)	Northing (feet)									11/13/2018		4/23/2019		10/22/2019		5/11/2020		10/5/2020	
											DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation
MW-50[4]	591415	370213		463.11	10.00	8.00 - 18.00	459.81	10/13/2014	453.92	1/12/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-50R	591415	370210		462.65	5.00	13.00 - 18.00	459.29	10/5/2020	452.67	4/25/2017	8.33	454.32	9.19	453.46	6.91	455.74	6.90	455.75	3.36	459.29
MW-55[1,4]	591291	369893		465.50	5.00	15.50 - 20.50	463.06	10/14/2013	461.59	10/1/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-55R	591291	369895		465.30	2.00	19.00 - 21.00	465.06	7/20/2015	462.02	4/25/2017	1.83	463.47	1.82	463.48	1.24	464.06	1.75	463.55	1.12	464.18
MW-56[1,4]	591687	369730		463.22	5.00	14.50 - 19.50	462.55	10/13/2014	456.49	3/25/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-56R	591687	369732		463.17	2.00	18.00 - 20.00	462.47	7/20/2015	459.03	11/7/2016	2.48	460.69	1.77	461.40	1.41	461.76	1.46	461.71	1.12	462.05
MW-57[1,4]	591690	369811		462.90	5.00	14.00 - 19.00	461.14	4/13/2015	457.65	10/1/2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-57R	591693	369806		462.92	5.00	15.00 - 20.00	462.26	7/20/2015	458.68	11/7/2016	2.25	460.67	1.54	461.38	1.31	461.61	1.27	461.65	0.98	461.94
MW-58[1,4]	591570	369907		462.71	5.00	12.50 - 17.50	462.71	7/28/2014	461.01	1/12/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-58R	591571	369898		465.98	5.00	14.00 - 19.00	464.68	7/20/2015	461.64	4/25/2017	3.50	462.48	3.07	462.91	2.32	463.66	2.83	463.15	2.19	463.79
MW-60[1,4]	591710	370193		460.85	5.00	12.00 - 17.00	458.07	10/13/2014	452.38	4/22/2013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-60R	591710	370193		460.66	5.00	10.50 - 15.50	459.24	10/5/2020	455.11	4/25/2017	4.00	456.66	5.16	455.50	1.63	459.03	4.14	456.52	1.42	459.24
MW-61[1,4]	592003	370175		459.61	5.00	10.50 - 15.50	453.32	7/28/2014	448.21	3/5/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-61R	591999	370175		459.31	5.00	10.50 - 15.50	456.38	10/5/2015	451.85	4/25/2017	6.86	452.45	6.30	453.01	5.02	454.29	5.12	454.19	4.44	454.87
MW-62[1,4]	591791	369569		464.33	5.00	15.50 - 20.50	464.03	1/12/2015	456.68	3/5/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-62R	591790	369572		464.19	5.00	15.00 - 20.00	461.72	7/20/2015	457.49	4/25/2017	5.52	458.67	5.11	459.08	3.72	460.47	4.32	459.87	3.39	460.8
MW-63[1,4]	591994	369560		463.87	5.00	16.00 - 21.00	461.43	10/13/2014	455.05	4/22/2013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-63R	591993	369559		463.94	5.00	15.00 - 20.00	462.29	7/20/2015	458.56	4/25/2017	4.59	459.35	5.00	458.94	2.98	460.96	4.37	459.57	2.88	461.06
MW-65R	590980	369335		473.91	10.00	19.50 - 29.50	473.57	1/12/2015	462.38	4/25/2017	10.76	463.15	10.49	463.42	9.91	464.00	10.44	463.47	9.76	464.15
MW-66	592280	369855		462.05	5.00	12.60 - 17.60	460.24	7/20/2015	446.54	1/12/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-67	592291	370027		459.01	5.00	9.60 - 14.60	458.42	7/28/2014	449.31	10/13/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-67R	592291	370022		459.16	5.00	12.00 - 17.00	458.96	7/20/2015	456.44	5/2/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-68	591173	369815		469.81	10.00	14.00 - 24.00	465.23	7/20/2015	462.36	4/25/2017	6.18	463.63	6.23	463.58	5.66	464.15	6.18	463.63	5.58	464.23
RW-69[3]	591170	369678		470.89	10.00	15.00 - 25.00	464.97	7/20/2015	462.00	4/25/2017	8.00	462.89	7.74	463.15	7.18	463.71	7.72	463.17	7.12	463.77
MW-70	591162	369693		471.53	NA	NA	465.33	7/20/2015	462.38	4/25/2017	8.27	463.26	8.05	463.48	7.47	464.06	7.99	463.54	7.19	464.34
MW-71	591170	369695		471.35	NA	NA	465.35	7/20/2015	462.36	4/25/2017	8.10	463.25	7.85	463.50	7.29	464.06	7.79	463.56	7.4	463.95
IW-72[3]	591056	369590		471.65	10.00	15.00 - 25.00	465.19	7/20/2015	462.11	4/22/2013	8.57	463.08	8.34	463.31	7.78	463.87	8.23	463.42	7.69	463.96
IW-73	591060	369503		471.48	NA	NA	465.29	7/20/2015	462.38	4/25/2017	8.27	463.21	8.02	463.46	7.44	464.04	7.91	463.57	7.36	464.12
IW-74[2,3]	591058	369545		472.06	10.00	15.00 - 25.00	465.26	7/20/2015	462.30	4/25/2017	8.90	463.16	8.68	463.38	8.11	463.95	8.61	463.45	8.02	464.04
IW-75	591072	369605		472.17	NA	NA	465.36	7/20/2015	462.37	4/25/2017	8.92	463.25	8.69	463.48	8.11	464.06	8.63	463.54	8.03	464.14
IW-76	591050	369426		472.26	NA	NA	465.17	7/20/2015	462.21	4/25/2017	9.22	463.04	8.98	463.28	8.40	463.86	8.91	463.35	8.33	463.93
IW-77[2]	591027	369380		473.01	10.00	20.00 - 30.00	465.37	7/20/2015	462.41	4/25/2017	9.79	463.22	9.55	463.46	8.98	464.03	9.50	463.51	8.94	464.07
IW-78	590984	369338		473.49	NA	NA	465.38	7/20/2015	461.77	11/7/2016	10.30	463.19	10.06	463.43	9.47	464.02	9.99	463.50	9.43	464.06
IW-79	591018	369335		473.84	NA	NA	465.39	7/20/2015	462.39	4/25/2017	10.61	463.23	10.39	463.45	9.80	464.04	10.33	463.51	9.75	464.09
IW-80[2,3]	591047	369343		473.30	10.00	20.00 - 30.00	465.21	7/20/2015	462.28	4/25/2017	10.23	463.07	9.98	463.32	9.40	463.90	9.91	463.39	9.36	463.94
IW-101	590930	369201		475.70	5.00	22.90-27.90	464.66	1/6/2016	463.13	11/13/2018	12.57	463.13	12.46	463.24	11.83	463.87	12.41	463.29	11.78	463.92
IW-115	591007	369344		473.41	5.00	19.10-24.10	464.64	1/6/2016	462.38	11/7/2016	9.99	463.42	10.14	463.27	9.54	463.87	10.07	463.34	9.48	463.93
IW-129	590989	368977		473.54	5.00	24.55 - 29.55	463.08	5/12/2014	463.08	5/12/2014	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA
IW-130	590924	369186		475.58	5.00	23.38 - 28.38	463.20	5/12/2014	463.20	5/12/2014	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA
IW-131	591006	369339		473.37	5.00	19.72 - 24.72	463.21	5/12/2014	463.21	5/12/2014	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA
IW-132	590835	369040		475.49	5.00	23.00-28.00	NA	NA	NA	NA	NM	NA	NM	NA	11.69	463.80	12.24	463.25	11.53	463.96
IW-134	590885	369037		474.22	5.00	23.00-28.00	NA	NA	NA	NA	NM	NA	NM	NA	10.33	463.89	10.90	463.32	10.19	464.03
IW-147	590782	368993		473.13	5.00	20.00-25.00	NA	NA	NA	NA	NM	NA	NM	NA	9.32	463.81	9.84	463.29	9.18	463.95
MW-81	591039	369406		473.54	5.00	20.00-25.00	465.33	7/20/2015	462.35	4/25/2017	10.36	463.18	10.11	463.43	9.53	464.01	10.06	463.48	9.49	464.05
MW-82	590977	369395		473.60	5.00	21.00-26.00	465.35	7/20/2015	462.36	4/25/2017	10.43	463.17	10.18	463.42	9.62	463.98	10.11	463.49	9.56	464.04
MW-83	590946	369211		475.48	5.00	22.00-27.00	465.25	7/20/2015	462.32	4/25/2017	12.38	463.10	12.15	463.33	11.60	463.88	12.11	463.37	11.49	463.99
MW-84	590882	369194		475.53	5.00	24.00-29.00	466.39	1/6/2016	462.23	4/25/2017	12.47	463.06	12.27	463.26	11.69	463.84	12.20	463.33	11.61	463.92
MW-85[4]	590760	369018		474.41	5.00	25.00-30.00	465.21	7/20/2015	462.24	4/25/2017	11.36	463.05	11.10	463.31	NA	NA	NA	NA	NA	NA
MW-85R	590769	369015		472.34	5.00	24.50-29.50	NA	NA	NA	NA	NA	NA	NA	NA	8.58	NA	9.09	463.25	8.42	463.92
MW-86[4]	590767	368995		473.19	5.00	23.00-28.00	465.10	7/20/2015	462.19	4/25/2017	10.18	463.01	9.87	463.32	NA	NA	NA	NA	NA	NA
MW-87	592269	368835		470.78	10.00	17.00-27.00	460.91	10/5/2015	457.59	11/13/2018	13.19	457.59	13.08	457.70	12.51	458.27	12.85	457.93	12.42	458.36
MW-88	592151	369043		468.89	10.00	18.00-28.00	462.85	10/5/2015	457.71	4/23/2019	9.22	459.67	11.18	457.71	8.12	460.77	10.76	458.13	8.19	460.70
MW-89	592357	369059		466.91	10.00	15.00-25.00	459.23	10/5/2015	456.30	5/11/2020	10.39	456.52	10.38	456.53	9.87	457.04	10.61	456.30	10.15	456.76

TABLE 3
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Whirlpool Facility - Fort Smith, Arkansas

Location	Well Coordinates		Previous TOC Elevation (feet) (if applicable)	TOC Elevation (feet)	Screen Length (feet)	Screened Interval (feet)	Maximum Static Water Elevation (Since Oct 2012)	Maximum Elevation Date	Minimum Static Water Elevation (Since Oct 2012)	Minimum Elevation Date	Static Water Elevation (feet)									
	Easting (feet)	Northing (feet)									11/13/2018		4/23/2019		10/22/2019		5/11/2020		10/5/2020	
											DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation
MW-90	592157	369157		466.71	10.00	15.00-25.00	463.26	10/5/2015	458.71	4/23/2019	5.82	460.89	8.00	458.71	4.25	462.46	7.34	459.37	4.48	462.23
MW-91	592371	368830		468.90	10.00	15.00-25.00	460.19	10/5/2015	456.33	5/11/2020	11.90	457.00	11.88	457.02	11.29	457.61	12.57	456.33	11.6	457.30
MW-92	590778	368921		473.74	10.00	20.00-30.00	465.29	7/20/2015	462.30	4/25/2017	10.62	463.12	10.38	463.36	9.85	463.89	10.29	463.45	9.69	464.05
MW-93	590908	368894		477.81	10.00	25.00-35.00	465.12	7/20/2015	462.10	4/25/2017	14.88	462.93	14.63	463.18	13.89	463.92	NA	NA	13.93	463.88
MW-94	591015	368903		477.86	10.00	25.00-35.00	464.97	7/20/2015	461.93	4/25/2017	15.22	462.64	14.98	462.88	14.22	463.64	NA	NA	14.26	463.60
MW-95	590981	368821		477.63	10.00	25.00-35.00	465.01	7/20/2015	461.95	4/25/2017	14.89	462.74	14.66	462.97	13.89	463.74	NA	NA	13.92	463.71
MW-96	592775	369354		457.83	5.00	10.00-15.00	451.84	10/22/2019	449.11	4/25/2017	6.83	451.00	7.15	450.68	5.99	451.84	7.11	450.72	8.11	449.72
MW-97	592687	369527		459.43	5.00	11.50-16.50	451.44	10/22/2019	448.41	1/12/2015	8.52	450.91	8.74	450.69	7.99	451.44	8.60	450.83	8.24	451.19
MW-98	592840	369198		461.62	10.00	15.00-20.00	451.64	10/22/2019	449.16	4/13/2015	10.68	450.94	11.01	450.61	9.98	451.64	11.21	450.41	11.31	450.31
MW-99	592554	368814		466.80	5.00	18.50-23.50	459.89	7/20/2015	456.67	5/11/2020	10.03	456.77	9.97	456.83	9.41	457.39	10.13	456.67	10.04	456.76
MW-172	590858	369002		472.94	10.00	18.00-28.00	465.27	7/20/2015	461.26	4/25/2017	9.84	463.10	9.62	463.32	9.05	463.89	9.61	463.33	8.91	464.03
MW-173	591973	369624		463.56	1.00	5.00-6.00	463.41	10/5/2020	457.61	4/13/2015	1.19	462.37	0.95	462.61	1.16	462.40	1.00	462.56	0.15	463.41
MW-174	591976	369644		463.45	1.00	11.00-12.00	461.85	5/11/2020	457.67	4/13/2015	4.76	458.69	3.00	460.45	3.13	460.32	1.60	461.85	2.93	460.52
MW-175	591603	369655		464.17	1.00	13.50-14.50	464.17	10/22/2019	460.25	4/13/2015	2.09	462.08	1.73	462.44	0.00	464.17	1.27	462.90	1.03	463.14
MW-176	591474	369675		465.24	1.00	13.00-14.00	464.66	7/20/2015	461.99	4/25/2017	2.38	462.86	2.02	463.22	1.42	463.82	1.89	463.35	1.35	463.89
MW-177	591148	369698		471.50	1.00	9.00-10.00	469.97	1/6/2016	461.78	4/25/2017	4.03	467.47	3.81	467.69	4.19	467.31	2.95	468.55	3.09	468.41
MW-178	590973	369232		475.40	1.00	7.00-8.00	472.05	5/2/2016	470.38	11/7/2016	4.03	471.37	3.78	471.62	4.41	470.99	4.02	471.38	4.32	471.08
MW-179	590984	369232		475.39	1.00	12.00-13.00	473.98	11/13/2018	462.70	4/13/2015	1.41	473.98	8.29	467.10	7.26	468.13	11.01	464.38	8.75	466.64
MW-180	590996	369231		475.32	1.00	6.00-7.00	471.93	5/2/2016	469.60	11/7/2016	4.57	470.75	4.17	471.15	4.69	470.63	4.75	470.57	4.84	470.48
MW-181	591156	369695		471.87	1.00	6.00-7.00	469.57	5/11/2020	456.87	10/5/2015	4.34	467.53	3.69	468.18	DRY	DRY	2.30	469.57	3.65	468.22
MW-182	590403	367900		474.64	10.00	21.00-31.00	461.60	10/5/2015	459.39	11/7/2016	15.25	459.39	14.58	460.06	14.52	460.12	14.29	460.35	14.09	460.55
MW-183[4]	592664	369246		462.42	5.00	15.00-20.00	452.22	4/25/2017	450.11	10/5/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-183R	592672	369248		462.43	5.00	13.00-18.00	452.23	10/22/2019	448.68	11/13/2018	13.75	448.68	11.53	450.90	10.20	452.23	10.96	451.47	12.48	449.95
MW-184	592646	369023		465.58	5.00	19.00-24.00	458.42	10/5/2015	451.20	10/5/2020	9.62	455.96	9.74	455.84	9.04	456.54	9.92	455.66	14.38	451.20
MW-185	592256	367995		473.86	10.00	20.00-30.00	463.49	10/5/2015	458.90	11/13/2018	14.96	458.90	14.64	459.22	14.43	459.43	14.56	459.30	12.91	460.95
MW-186	590124	367716		469.80	10.00	18.00-28.00	457.44	5/2/2016	451.25	10/5/2020	14.00	455.80	13.15	456.65	13.62	456.18	12.59	457.21	18.55	451.25
MW-187	590249	367588		477.42	10.00	24.00-34.00	459.21	5/2/2016	457.42	11/7/2016	19.69	457.73	18.91	458.51	18.84	458.58	18.71	458.71	18.55	458.87
MW-188	590646	367509	481.14	481.09	10.00	26.00-36.00	462.10	10/5/2015	459.41	11/13/2018	21.68	459.41	21.35	459.74	21.13	459.96	21.20	459.89	20.79	460.30
MW-189	590860	367666	485.59	485.50	10.00	31.00-41.00	462.83	10/5/2015	459.41	11/13/2018	26.09	459.41	25.63	459.87	25.40	460.10	25.36	460.14	25.09	460.41
MW-190	591325	367745		481.29	10.00	27.00-37.00	463.27	10/5/2015	459.38	11/13/2018	21.91	459.38	21.53	459.76	21.26	460.03	21.33	459.96	21.02	460.27
MW-191	591662	367732		476.85	10.00	23.00-33.00	463.37	10/5/2015	459.27	11/13/2018	17.58	459.27	17.14	459.71	16.89	459.96	16.95	459.90	16.66	460.19
MW-192	592078	367679		475.33	10.00	21.00-31.00	463.42	10/5/2015	459.10	11/13/2018	16.23	459.10	15.83	459.50	15.54	459.79	15.60	459.73	15.44	459.89
MW-193[4]	592312	370289		455.26	5.00	7.50-12.50	453.76	5/2/2016	451.25	10/5/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-194	592161	369791		462.47	10.00	11.00-12.00	459.62	10/5/2020	457.03	4/23/2019	4.72	457.75	5.44	457.03	3.29	459.18	4.21	458.26	2.85	459.62
MW-195	592185	370025		459.36	5.00	13.00-18.00	458.66	10/22/2019	455.78	4/25/2017	2.80	456.56	3.02	456.34	0.70	458.66	2.26	457.10	0.83	458.53
MW-196	592217	370132		457.63	5.00	10.00-15.00	454.92	10/5/2020	452.30	4/25/2017	4.88	452.75	3.52	454.11	3.05	454.58	3.44	454.19	2.71	454.92
MW-197	367744	589986		466.81	10.00	15.00-25.00	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	11.19	455.62
MW-198	368982	590776		473.08	10.00	19.00-29.00	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	8.95	464.13
MW-199	367542	589597		463.09	10.00	12.00-22.00	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	9.11	453.98
MW-200	368850	592704		467.57	10.00	15.20-25.20	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	10.49	457.08
MW-201	367185	591200		481.07	10.00	26.00-36.00	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	20.71	460.36
MW-202	368637	592660		468.16	10.00	14.20-24.20	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	9.9	458.26
MW-203	367411	591032		483.51	5.00	32.00-37.00	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	29.63	453.88
MW-204	367991	590580		481.31	10.00	26.00-36.00	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	20.44	460.87
TMW-10	591973	370113		460.75	5.00	10.50-15.50	455.62	10/5/2020	455.62	10/5/2020	5.20	455.55	6.36	454.39	2.81	457.94	4.97	455.78	2.46	458.29
TMW-11	591956	370078		460.20	5.00	10.50-15.50	464.13	10/5/2020	464.13	10/5/2020	4.40	455.80	5.70	454.50	2.00	458.20	4.13	456.07	1.77	458.43
TMW-12[5]	591873	369860	461.77	464.19	10.00	10.00-20.00	453.98	10/5/2020	453.98	10/5/2020	4.91	459.28	4.00	460.19	3.56	460.63	3.52	460.67	3.21	460.98
TMW-13[4]	592083	369870		460.10	5.00	13.00-18.00	457.08	10/5/2020	457.08	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TWM-14	591873	369736		461.89	10.00	11.00-21.00	460.36	10/5/2020	460.36	10/5/2020	2.31	459.58	2.07	459.82	0.42	461.47	1.52	460.37	1.06	460.83
TMW-15[4]	592032	369683		465.32	10.00	13.00-23.00	458.26	10/5/2020	458.26	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TMW-16	590180	367791		469.87	10.00	18.00-28.00	453.88	10/5/2020	453.88	10/5/2020	13.39	456.48	11.83	458.04	11.09	458.78	11.12	458.75	11.29	458.58
TMW-17[4]	590856	367810		484.05	10.00	32.50-42.50	460.87	10/5/2020	460.87	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TMW-18[4]	590672	367598		478.79	10.00	25.00-35.00	458.29	10/5/2020	453.53	4/25/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
SUMMARY OF MONITORING WELL STATIC WATER LEVEL MEASUREMENTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Well Coordinates		Previous TOC Elevation (feet) (if applicable)	TOC Elevation (feet)	Screen Length (feet)	Screened Interval (feet)	Maximum Static Water Elevation (Since Oct 2012)	Maximum Elevation Date	Minimum Static Water Elevation (Since Oct 2012)	Minimum Elevation Date	Static Water Elevation (feet)									
	Easting (feet)	Northing (feet)									11/13/2018		4/23/2019		10/22/2019		5/11/2020		10/5/2020	
											DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation	DTW	GW Elevation
TMW-19[5]	590841	367571	485.35	484.99	10.00	33.00-43.00	458.43	10/5/2020	453.72	4/25/2017	25.64	459.35	25.16	459.83	24.95	460.04	24.87	460.12	24.62	460.37
TMW-20	592210	369929		460.57	7.00	11.50-18.50	460.98	10/5/2020	459.28	11/13/2018	3.95	456.62	4.04	456.53	1.81	458.76	NA	NA	1.8	458.77
TMW-21	592082	369959		460.01	10.00	10.00-20.00	457.59	4/25/2017	457.59	4/25/2017	2.77	457.24	2.56	457.45	0.84	459.17	1.68	458.33	1.02	458.99
TMW-22[4]	591985	369997		460.82	7.00	12.00-19.00	461.47	10/22/2019	458.78	4/25/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TMW-22R	591992	369990		460.71	5.00	13.50-18.50	457.58	4/25/2017	457.58	4/25/2017	3.64	457.07	2.38	458.33	1.16	459.55	2.40	458.31	1.01	459.7
TMW-23[5]	591874	370019	461.94	461.68	5.00	14.00-19.00	458.78	10/22/2019	456.48	11/13/2018	4.40	457.28	5.52	456.16	2.60	459.08	4.93	456.75	2.43	459.25
TMW-24[5]	592006	369808	461.23	461.15	7.00	12.00-19.00	459.53	4/25/2017	459.53	4/25/2017	2.94	458.21	1.95	459.20	1.10	460.05	2.01	459.14	0.86	460.29
TMW-25	590283	367848		473.14	10.00	20.50-30.50	459.45	4/25/2017	459.45	4/25/2017	15.50	457.64	14.49	458.65	14.28	458.86	14.22	458.92	14.09	459.05
TMW-26	590115	367763		472.10	10.00	18.00-28.00	460.37	10/5/2020	459.35	11/13/2018	16.44	455.66	15.23	456.87	15.04	457.06	14.91	457.19	14.82	457.28
TMW-27	590091	367871		467.45	10.00	16.00-26.00	458.77	10/5/2020	456.53	4/23/2019	11.08	456.37	10.08	457.37	10.06	457.39	9.75	457.70	9.82	457.63
TMW-28[4]	590092	367956		468.27	10.00	17.00-27.00	459.17	10/22/2019	457.24	11/13/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TMW-29	592211	369848		462.19	10.00	12.00-19.00	NA	10/1/2012	NA	10/1/2012	8.73	453.46	7.57	454.62	7.81	454.38	8.61	453.58	9.94	452.25
TMW-30	590113	367737		469.37	10.00	18.50-20.50	459.70	10/5/2020	457.07	11/13/2018	14.09	455.28	13.08	456.29	12.70	456.67	15.17	454.20	12.63	456.74
TMW-32	590048	367787		466.9	10.00	16.50-26.50	459.25	10/5/2020	456.16	4/23/2019	11.41	455.49	10.60	456.30	10.78	456.12	10.42	456.48	10.58	456.32
TMW-34	592334	368003		471.37	5.00	21.00-26.00	460.29	10/5/2020	458.21	11/13/2018	12.70	458.67	12.44	458.93	12.24	459.13	12.36	459.01	12.26	459.11
TMW-35	591121	369924		473.37	5.00	18.00-23.00	459.05	10/5/2020	457.64	11/13/2018	NA	NA	NA	NA	9.16	464.21	9.66	463.71	8.97	464.4
TMW-36	590884	367543		485.35	5.00	36.00-41.00	457.06	10/22/2019	455.66	11/13/2018	NA	NA	NA	NA	25.35	460.00	25.25	460.10	25.01	460.34
TMW-36B	367548	590885		485.35	5.00	25-31	NA	10/5/2020	NA	10/5/2020	NA	NA	NA	NA	NA	NA	NA	NA	25.18	460.17

Notes:

TOC = Top of casing
NA = Not available
NM = Not measured
1 = Construction diagram notes use of pre-packed stainless steel screen
2 = Construction diagram text and graphical representation differ on construction details. Graphical representation used to infer elevations
3 = Construction diagram notes presence of sedimentation sump below screened interval
4 = Abandoned Monitoring Well

Horizontal and vertical coordinates converted to Arkansas State Plane, North Zone (NAD83) and North American Vertical Datum of 1988 (NAVD88) based on in historic site file. Casing elevations for ITMW-1 through ITMW-21 and MW-22 extracted from 2011/2012 Annual Ground Water Monitoring Report dated June 28, 2012.
Casing elevations for remaining wells extracted from survey data provided by Philip J. Leraris, PE, LS, dated May 12, 2009.
IW-129, IW-130, IW-131, and MW-81 to MW-99 surveyed during 2014.
Well screen intervals and depths adapted from monitoring well construction diagrams.

5 = During the November 2018 well repair event TOC elevations were modified due to repair work for TMW-12, TMW-19, TMW-23 and TMW-24. The TOC elevations listed on the table represent the most current elevations. All water level elevations prior to November 2018 were calculated using the previous surveyed TOC elevations.

TABLE 4
SUMMARY OF FINAL WELL GROUNDWATER FIELD PARAMETER MEASUREMENTS (OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Well Casing Diameter (inches)	Date Sampled	Water Level prior to Purging (ft btoc)	Total Depth of Well Casing (feet)	Set Tubing Depth (feet)	Time Sampled	Water Level after Purging (ft btoc)	Purge Volume (Gallons)	Purge Rate (ml/min)	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Ferrous Iron (mg/L)	Persulfate (mg/L)	Color
ITMW-1R	4	10/7/2020	11.79	34.05	27.18	8:25	28.72	3.5	100	21.8	835	2.26	6.41	55.3	779.00	0.24	NM	Clear
ITMW-2R	4	10/8/2020	11.36	27.00	19.78	10:30	11.56	3.0	100	24.2	1,036	0.76	11.52	24.2	24.10	0.19	NM	Clear
ITMW-5	4	10/8/2020	18.34	39.29	34.50	12:23	18.62	3.0	100	21.8	908	0.19	5.71	130.3	1.60	0.02	NM	Clear
ITMW-6	4	10/8/2020	22.29	39.29	32.00	11:44	22.31	3.6	100	18.7	1,209	0.19	5.89	271.5	1.04	0.15	NM	Clear
ITMW-7	4	10/8/2020	19.30	36.98	29.50	16:38	19.48	4.5	100	22.9	784	0.46	5.01	135.5	1.27	0.03	NM	Clear
ITMW-9	4	10/7/2020	21.61	34.95	28.20	12:15	21.59	3.2	100	23.7	627	0.65	5.68	228.4	5.12	0.08	NM	Clear
ITMW-10	4	10/8/2020	20.19	36.82	31.32	11:34	20.33	2.5	100	21.1	2	1.41	5.71	211.1	1.17	0.00	NM	Clear
ITMW-11	4	10/8/2020	9.96	29.25	22.50	12:05	9.98	6.0	100	25.0	2,014	0.09	5.75	74.0	5.85	0.07	NM	Clear
ITMW-12R	2	10/8/2020	10.44	32.64	25.14	13:50	10.48	4.5	125	24.2	1,418	0.06	5.95	68.9	0.98	0.05	NM	Clear
ITMW-16	4	10/8/2020	14.69	39.18	29.18	10:09	16.20	5.5	200	22.4	184	0.16	6.33	125.7	4.40	0.05	NM	Clear
ITMW-18	4	10/8/2020	9.76	29.50	22.00	16:10	9.82	2.0	100	22.6	681	3.33	6.98	214.0	6.93	0.04	NM	Clear
ITMW-19	4	10/8/2020	12.65	33.23	25.73	13:35	12.60	3.0	100	22.1	5,376	2.10	5.90	292.7	7.73	0.09	NM	Clear
ITMW-20	4	10/6/2020	13.50	31.03	23.50	12:33	13.95	2.5	150	21.5	695	0.64	5.15	133.3	0.43	0.00	NM	Clear
ITMW-21	4	10/8/2020	12.30	32.99	25.49	11:25	12.86	2.3	100	20.9	2,659	0.11	4.62	351.1	5.66	0.07	NM	Clear
MW-22	4	10/8/2020	11.74	29.20	21.70	9:05	11.96	2.8	200	22.3	126	0.16	5.40	320.2	6.66	0.05	NM	Clear
MW-24	4	10/8/2020	12.19	32.51	27.51	8:53	12.20	4.0	100	21.8	3,685	0.16	3.89	273.4	2.74	0.30	NM	Clear
MW-25R	4	10/7/2020	8.55	34.60	27.10	8:00	25.25	3.7	100	23.3	183	3.83	9.98	1.2	7.48	0.41	NM	Hazy Tan/Turbid
MW-26	4	10/7/2020	13.31	35.14	30.14	17:10	13.55	2.0	100	21.3	1,122	0.13	5.24	317.9	8.00	NM	NM	Clear
MW-27	2	10/7/2020	11.15	30.14	25.14	16:19	11.16	1.3	100	30.3	1,345	0.16	5.13	200.7	3.03	0.46	NM	Clear
MW-28	2	10/8/2020	6.62	27.45	19.95	10:15	7.44	3.0	100	24.4	268	0.20	6.16	56.0	3.57	0.41	NM	Clear
MW-29	2	10/6/2020	11.05	30.32	22.82	15:40	11.20	4.1	100	23.7	542	0.25	4.75	247.2	1.29	0.01	NM	Clear
MW-37	2	10/8/2020	9.40	29.06	21.50	15:05	9.43	5.0	100	26.0	2,190	0.06	5.73	68.5	2.27	0.07	NM	Clear
MW-38	2	10/7/2020	10.45	29.83	22.33	14:03	10.62	5.5	100	25.0	1,115	0.03	6.04	5.6	2.10	0.00	5.0	Clear
MW-39R	2	10/6/2020	10.42	29.69	27.19	11:40	10.98	2.5	100	19.2	1,309	0.22	4.97	147.4	1.82	0.56	NM	Clear
MW-40R	2	10/6/2020	8.85	28.30	23.30	14:00	8.89	3.0	150	21.4	702	0.16	5.09	169.7	1.99	1.26	NM	Clear
MW-46R	2	10/8/2020	1.82	21.51	19.01	12:42	2.04	0.8	100	23.1	723	0.30	4.71	237.5	7.92	0.00	NM	Clear
MW-50R	2	10/5/2020	3.24	18.24	13.24	16:35	8.09	4.0	100	21.8	1,222	0.12	6.25	29.3	10.15	0.58	NM	Clear
MW-55R	2	10/6/2020	1.12	20.96	19.96	15:26	3.70	3.3	100	20.4	1,025	0.45	5.78	68.3	2.41	0.19	NM	Clear
MW-56R	2	10/6/2020	1.00	19.79	18.79	17:10	3.42	5.0	100	19.5	647	0.10	5.60	146.4	1.44	0.62	NM	Clear
MW-57R	2	10/7/2020	1.00	19.35	17.00	11:30	1.96	3.0	100	23.1	818	0.10	5.35	5.7	1.60	2.54	NM	Clear
MW-58R	2	10/7/2020	2.19	21.88	19.38	12:37	3.61	4.0	100	22.0	853	0.19	4.22	151.7	3.12	0.30	NM	Clear
MW-60R	2	10/6/2020	1.34	14.86	12.30	9:50	5.12	2.5	100	21.3	1,294	5.37	6.77	158.7	6.41	0.00	NM	Clear
MW-61R	2	10/6/2020	4.28	15.28	13.00	9:53	6.86	4.0	100	22.7	816	0.06	6.49	-70.2	3.41	4.20	NM	Clear
MW-62R	2	10/6/2020	3.24	20.01	17.50	15:30	4.55	2.0	100	21.2	720	0.53	5.62	216.0	10.60	0.17	NM	Clear
MW-63R	2	10/6/2020	2.86	19.72	17.20	11:25	7.66	2.5	125	19.1	580	0.19	5.57	221.1	11.04	0.00	NM	Clear
MW-68	2	10/6/2020	5.32	20.35	15.30	16:45	5.56	3.5	125	20.8	926	2.03	4.37	214.0	1.75	1.27	NM	Clear/Murky
RW-69	4	10/6/2020	6.90	28.71	23.70	16:27	6.93	1.5	100	21,1	943	0.23	5.16	199.6	1.21	0.51	NM	Clear
MW-82	2	10/7/2020	9.35	25.98	23.40	13:55	9.34	2.3	100	22.2	1,299	0.14	4.83	47.3	6.07	0.01	NM	Clear
MW-83	2	10/7/2020	11.29	26.77	24.27	14:36	11.25	3.0	100	28.0	2,677	0.43	7.30	91.0	5.38	0.20	70	Clear
MW-84	2	10/6/2020	11.38	25.19	22.69	17:12	11.45	4.6	100	25.0	5,094	0.18	6.98	173.6	5.96	0.00	700	Clear
MW-85R	2	10/8/2020	8.37	29.38	26.88	12:10	8.37	2.0	100	22.2	1,518	0.09	6.21	175.1	5.16	0.14	NM	Clear
MW-87	2	10/8/2020	12.31	26.84	21.84	12:05	12.44	2.5	100	25.1	545	0.09	5.63	92.7	13.90	0.13	NM	Clear
MW-89	2	10/8/2020	10.05	25.08	20.00	14:40	12.92	1.8	100	25.1	1,124	0.08	5.12	63.6	1.80	0.04	NM	Clear
MW-91	2	10/6/2020	12.20	25.70	20.70	14:20	19.58	3.5	100	24,4	2,236	0.10	6.85	-136.3	28.30	2.70	NM	Clear
MW-93	2	10/8/2020	13.80	34.21	29.21	16:09	13.95	4.1	100	21.2	1,555	0.27	5.01	231.3	2.42	0.10	0.0	Clear
MW-95	2	10/8/2020	13.93	34.14	29.14	13:58	14.13	4.1	100	21.4	1,423	0.10	5.20	216.0	1.49	0.07	<50	Clear
MW-96	2	10/8/2020	8.33	14.53	12.03	17:05	9.28	2.5	150	25.8	211	0.84	5.11	96.4	5.55	0.32	NM	brown tint
MW-97	2	10/8/2020	8.79	15.20	13.00	17:28	12.40	3.0	250	23.9	253	1.58	5.18	14.0	58.90	2.37	NM	Clear
MW-98	2	10/7/2020	11.59	19.65	17.00	17:28	16.20	2.5	100	23.3	200	0.56	5.55	71.2	15.40	0.05	NM	Clear
MW-99	2	10/6/2020	10.00	22.74	20.24	8:00	14.10	2.0	200	20.9	8,328	0.12	7.05	-164.3	19.00	8.20	NM	Clear
IW-77	2	10/8/2020	8.77	28.70	23.70	14:12	8.77	1.3	100	23.0	1,592	0.22	7.20	95.0	9.45	0.12	NM	Clear
IW-78	2	10/7/2020	9.19	10.30	5.30	16:00	9.40	3.5	100	24.7	4,419	0.98	6.84	-21.3	7.76	0.00	NM	Clear
IW-73	2	10/7/2020	7.25	26.82	21.82	13:45	7.26	3.7	100	20.4	779	0.32	5.26	166.0	2.10	0.19	NM	Clear
IW-132	2	10/8/2020	11.48	28.00	25.50	14:55	11.47	4.0	100	24.0	1,702	0.17	6.51	52.1	7.48	0.01	NM	Clear

TABLE 4
SUMMARY OF FINAL WELL GROUNDWATER FIELD PARAMETER MEASUREMENTS (OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Well Casing Diameter (inches)	Date Sampled	Water Level prior to Purging (ft btoc)	Total Depth of Well Casing (feet)	Set Tubing Depth (feet)	Time Sampled	Water Level after Purging (ft btoc)	Purge Volume (Gallons)	Purge Rate (ml/min)	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTUs)	Ferrous Iron (mg/L)	Persulfate (mg/L)	Color
IW-134	2	10/8/2020	10.04	28.00	25.50	16:46	10.17	1.6	100	28.3	2,454	6.63	10.88	69.4	16.90	0.00	0	Clear
IW-147	2	10/7/2020	9.00	25.00	22.50	16:00	9.01	3.7	100	24.7	2,626	0.04	6.38	73.6	3.57	0.02	25.0	Clear
MW-175	2	10/6/2020	1.04	14.51	14.00	12:05	10.22	1.5	140	22.2	1,313	1.46	8.05	-86.7	1.47	0.12	NM	Clear
MW-176	2	10/6/2020	1.32	14.00	13.50	10:14	3.57	2.0	140	20.7	1,013	0.35	7.13	-6.3	0.4	0.63	NM	Clear
MW-178	2	10/7/2020	4.66	7.97	7.47	16:49	DRY	0.5	100	29.8	77	0.92	6.57	740.0	10.13	NM	NM	Clear
MW-179	2	10/8/2020	8.74	12.79	12.29	17:11	DRY	0.3	100	28.6	164	3.88	5.40	207.0	5.14	0.00	NM	very turbid
MW-182	2	10/7/2020	14.00	31.09	26.09	8:51	14.05	3.6	100	17.2	560	0.07	5.44	166.8	2.5	0.15	NM	Clear
MW-183R	2	10/7/2020	12.60	17.91	15.41	11:15	15.01	2.5	100	24.8	349	0.22	5.81	73.7	3.69	0.11	NM	Clear
MW-184	2	10/7/2020	9.30	23.55	18.55	16:25	10.92	3.0	100	20.9	134	0.90	5.57	141.0	8.6	0.14	NM	Clear with white flakes
MW-185	2	10/7/2020	14.23	29.28	24.28	12:55	14.24	3.0	150	25.5	316	0.79	5.75	81.9	3.82	0.00	NM	Clear
MW-186	2	10/8/2020	12.50	27.80	22.00	9:55	17.98	2.0	100	18.3	2,449	0.20	7.27	-147.5	43.60	4.50	NM	Light yellow
MW-187	2	10/6/2020	18.85	30.25	25.25	9:25	18.72	3.0	100	17.8	660	0.15	5.95	240.1	2.48	0.11	NM	Slightly cloudy
MW-188	2	10/6/2020	20.73	34.58	29.58	10:50	21.20	5.0	100	18.9	299.7	0.11	6.34	-63.2	11.55	4.50	NM	Clear
MW-189	2	10/6/2020	25.03	40.85	38.85	10:15	25.10	6.5	100	19.5	159	1.72	5.91	174.2	0.50	0.02	NM	Clear
MW-190	2	10/7/2020	20.99	36.10	31.10	9:08	21.86	4.5	100	21.8	715	2.22	10.69	78.6	8.86	0.23	NM	Cloudy with slight yellow tint
MW-191	2	10/7/2020	16.53	33.20	30.70	8:50	16.55	2.5	100	22.2	204	0.40	5.25	139.7	2.62	0.00	NM	Clear
MW-192	2	10/7/2020	15.28	30.19	27.69	10:00	15.30	2.5	125	23.0	141	0.59	5.00	141.5	4.78	0.03	NM	Clear
MW-194	2	10/7/2020	2.73	21.30	16.00	9:15	3.02	3.5	125	20.7	1,071	0.07	6.20	-55.6	4.73	3.30	NM	Clear
MW-195	2	10/6/2020	0.91	17.20	14.70	14:15	9.51	3.2	100	23.9	911	0.19	6.36	53.1	1.60	0.40	NM	Clear
MW-196	2	10/6/2020	2.82	17.20	15.70	13:41	9.92	3.0	100	27.1	1,796	2.75	6.57	157.5	8.22	0.08	NM	Clear
MW-197	2	10/6/2020	11.20	25.00	20.00	10:42	11.26	4.0	150	20.3	793	0.12	6.36	-68.4	0.52	4.50	NM	Clear
MW-198	2	10/8/2020	8.95	29.00	24.00	15:05	9.05	2.0	100	25.0	1,842	0.15	5.91	212.7	7.47	0.01	NM	Clear
MW-199	2	10/6/2020	9.13	22.00	17.00	12:45	9.89	5.0	100	20.6	871	0.12	6.23	66.5	12.00	0.70	NM	Clear
MW-200	2	10/8/2020	10.41	25.20	20.20	11:08	10.49	1.0	100	22.2	234	0.33	6.25	34.1	134.00	0.22	NM	Hazy/tan
MW-201	2	10/7/2020	20.47	36.00	31.00	16:09	20.50	4.75	100	20.7	422	0.28	5.48	42.0	5.52	0.11	NM	Cloudy
MW-202	2	10/8/2020	9.79	24.20	19.20	9:46	9.83	1.19	100	21.1	420	0.51	6.24	152.5	191.00	0.17	NM	Tan
MW-204	2	10/8/2020	20.36	37.00	32.00	10:16	20.88	8.6	100	18.6	933	0.18	5.89	101.5	6.97	0.05	NM	Clear
TMW-10	2	10/5/2020	2.31	15.19	12.70	17:16	6.07	4.0	250	20.8	1,971	0.09	6.85	-136.3	3.25	2.03	NM	Clear with black haze
TMW-11	2	10/5/2020	1.64	15.13	12.75	17:15	5.15	4.4	100	21.6	1,369	0.02	6.84	-64.9	7.69	3.80	NM	Clear
TMW-12	2	10/7/2020	3.11	20.00	15.00	12:48	3.18	1.3	100	24.8	552	0.20	5.15	174.7	2.25	0.02	NM	Clear
TMW-14	2	10/7/2020	1.05	21.00	15.00	11:37	1.81	1.5	100	25.2	371	0.11	5.83	-68.8	8.65	4.00	NM	Slight yellow hue
TMW-16	2	10/8/2020	11.28	28.00	23.00	15:20	20.20	5.0	200	19.0	3,160	0.87	7.11	-164.2	14.3	7.90	NM	Light gray tint
TMW-19	2	10/5/2020	24.59	43.00	38.00	16:21	25.83	2.5	100	19.7	426	0.38	6.06	100.5	6.10	0.00	NM	Clear
TMW-20	2	10/6/2020	1.65	17.90	14.50	15:10	2.89	3.5	150	24.6	1,650	0.40	6.45	-11.1	0.48	0.08	NM	Clear
TMW-21	2	10/6/2020	<1	19.70	14.00	17:00	6.10	4.0	200	21.0	1,350	0.03	6.23	-133.7	5.75	5.00	NM	Clear with black particles
TMW-22R	2	10/6/2020	0.95	17.80	15.00	12:06	8.37	3.2	100	22.3	1,660	0.05	6.68	-70.9	9.50	5.00	NM	Clear
TMW-23	2	10/7/2020	2.30	20.00	17.50	10:41	7.78	4.0	100	21.7	1,058	0.34	6.47	46.7	4.48	0.19	NM	Clear
TMW-24	2	10/6/2020	1.00	19.50	17.00	17:31	1.30	4.8	100	20.8	821	0.41	5.44	38.9	2.67	0.01	NM	Clear
TMW-25	2	10/7/2020	13.87	30.50	25.50	17:50	17.38	2.0	100	19.2	1,220	0.04	6.82	-146.3	11.6	4.60	NM	Clear
TMW-26	2	10/7/2020	15.45	28.60	23.60	11:10	20.26	3.5	100	18.5	3,227	0.07	7.00	-171.9	22.10	2.14	NM	Clear
TMW-27	2	10/7/2020	9.73	26.40	21.40	10:00	10.00	2.8	100	18.6	292	0.11	5.49	142.2	37.60	0.30	NM	Clear
TMW-29	2	10/5/2020	9.25	27.50	22.50	16:40	13.70	2.5	100	22.6	1,148	0.14	5.17	96.1	62.00	0.39	NM	Very Turbid/Brown
TMW-30	2	10/7/2020	11.78	28.80	23.80	10:25	18.65	1.6	100	19.0	4,290	0.01	7.24	-223.1	2000	0.62	NM	Dark Black
TMW-32	2	10/8/2020	10.63	26.50	21.50	12:50	10.69	6.0	400	20.1	897	0.48	6.43	-51.3	20.40	7.00	NM	Clear
TMW-34	2	10/7/2020	12.10	24.78	22.28	14:45	12.24	4.0	100	25.9	414	0.06	6.43	-29.7	2.12	2.00	NM	Clear
TMW-35	2	10/6/2020	9.00	23.00	20.50	12:45	9.45	2.5	100	20.7	293	0.18	5.41	281.2	2.36	0.04	NM	Clear
TMW-36	2	10/5/2020	24.89	41.00	38.50	16:20	24.90	3.0	100	21.0	847	0.15	5.74	219.0	0.66	0.02	NM	Clear
TMW-36B	2	10/5/2020	25.18	31.00	28.50	17:50	25.10	2.0	100	20.6	1,819	0.16	6.38	-115.7	8.74	5.00	NM	Clear

Notes:

ft btoc = Feet below top of casing
ORP = Oxidation reduction potential
DO = Dissolved oxygen
(°C) #NAME?

mL/min = Milliliters per minute
mg/L = Milligrams per liter
NTUs = Nephelometric turbidity units
NM = Not measured

mV = Millivolts
NS = Well not sampled
(µS/cm) = Microsiemens per centimeter
NR = Due to the recording of erroneous field data, this value is not reported

All wells gauged using electronic water level meter and purged using peristaltic pumps.
Tubing inlet depths based on estimated distance from total depth.

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TABLE 5
SUMMARY OF VERTICAL HYDRAULIC GRADIENT
Whirlpool Facility - Fort Smith, Arkansas

Location/ Well Pairs	Middle of Screen Elevation[1] (feet)	Static Water Level Elevation (feet)													
		4/13/2015	7/20/2015	10/5/2015	1/6/2016	5/2/2016	11/7/2016	4/25/2017	10/23/2017	4/17/2018	11/13/2018	4/23/2019	10/22/2019	5/11/2020	10/5/2020
Shallow Well MW-177 and MW-70															
MW-177	462.00	466.94	469.09	465.34	469.97	469.00	465.19	461.78	NM	467.56	467.47	467.69	467.31	468.55	468.41
MW-70	451.53	464.17	465.33	465.15	464.77	464.59	462.70	462.38	462.93	462.85	463.26	463.48	464.06	463.54	464.34
MW-177/MW-70															
Shallow Well MW-176 and MW-46R[4]															
MW-176	451.74	463.81	464.66	464.49	464.38	464.18	462.30	461.99	462.93	462.49	462.86	463.22	463.82	463.35	463.89
MW-46R	446.69	462.85	464.88	464.67	464.40	464.21	462.34	462.03	462.55	462.53	462.87	463.16	463.74	463.31	463.91
MW-176/MW-46R															
Shallow Well MW-175															
MW-175	450.17	460.25	463.71	463.47	463.37	463.42	462.22	460.74	456.06	461.71	462.08	462.44	464.17	462.90	463.14
Ave. of MW-46R & MW-56/56R	446.46	461.54	463.68	463.15	463.26	463.21	460.68	461.38	461.24	461.37	461.78	462.28	462.75	462.51	462.98
MW-175/Ave. of MW-46R & MW-56/56R															
Shallow Wells MW-173 and MW-174															
MW-174	451.95	457.67	459.92	461.75	459.71	460.01	459.77	457.87	453.10	458.04	458.69	460.45	460.32	461.85	460.52
MW-63/MW-63R	445.37	459.36	462.29	462.08	460.93	460.79	460.05	458.56	459.92	458.22	459.35	458.94	460.96	459.57	461.06
MW-174/MW-63															
Shallow Wells MW-178, MW-179 and MW-180															
MW-178	467.90	472.29	471.94	471.48	471.93	472.05	470.38	471.50	471.31	471.54	471.37	471.62	470.99	471.38	471.08
MW-83	450.98	464.02	465.25	465.01	464.72	464.47	462.64	462.32	462.86	462.69	463.10	463.33	463.88	463.37	463.99
MW-178/MW-83															

Notes:

[1] MW-56R and MW-63R were installed in June 2015

[2] Negative gradient indicates downward gradient

[3] Reference elevations used in vertical gradient calculations were changed from ground surface to top of casing for the First Quarter 2016 Annual Groundwater Monitoring Report.

NM = Measurement not completed

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TABLE 5
SUMMARY OF VERTICAL HYDRAULIC GRADIENT
Whirlpool Facility - Fort Smith, Arkansas

Location/ Well Pairs	Middle of Screen Elevation[1] (feet)	Vertical Hydraulic Gradient[2,3] (feet/feet)													
		4/13/2015	7/20/2015	10/5/2015	1/6/2016	5/2/2016	11/7/2016	4/25/2017	10/23/2017	4/17/2018	11/13/2018	4/23/2019	10/22/2019	5/11/2020	10/5/2020
Shallow Well MW-177 and MW-70															
MW-177	462.00														
MW-70	451.53														
MW-177/MW-70		-0.26	-0.36	-0.02	-0.50	-0.42	-0.24	0.06	NM	-0.45	-0.40	-0.40	-0.31	-0.48	-0.39
Shallow Well MW-176 and MW-46R[4]															
MW-176	451.74														
MW-46R	446.69														
MW-176/MW-46R		-0.19	0.04	0.04	0.004	0.005	0.01	0.01	-0.08	0.01	0.001	-0.01	-0.02	-0.01	0.00
Shallow Well MW-175															
MW-175	450.17														
Ave. of MW-46R & MW-56/56R	446.46														
MW-175/Ave. of MW-46R & MW-56/56R		0.35	-0.007	-0.07	-0.02	-0.04	-0.32	0.14	1.09	-0.07	-0.06	-0.03	-0.30	-0.08	-0.03
Shallow Wells MW-173 and MW-174															
MW-174	451.95														
MW-63/MW-63R	445.37														
MW-174/MW-63		0.26	0.43	0.06	0.22	0.14	0.05	0.13	1.24	0.03	0.12	-0.27	0.12	-0.41	0.10
Shallow Wells MW-178, MW-179 and MW															
MW-178	467.90														
MW-83	450.98														
MW-178/MW-83		-0.49	-0.40	-0.38	-0.43	-0.45	-0.46	-0.54	-0.50	-0.52	-0.49	-0.49	-0.42	-0.47	-0.42

Notes:

[1] MW-56R and MW-63R were installed in June 2015

[2] Negative gradient indicates downward gradient

[3] Reference elevations used in vertical gradient calculations were changed from ground surface to top of casing for the First Quarter 2016 Annual Groundwater Monitoring Report.

NM = Measurement not completed

RAMBOLL

TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		ITMW-1R	ITMW-5	ITMW-6	ITMW-7	ITMW-9	ITMW-10	ITMW-11	ITMW-12R	ITMW-18	ITMW-19	ITMW-21	MW-25R	MW-25R	MW-37	MW-38	MW-83	MW-83
Field Sample ID		ITMW-1R-202010	ITMW-5-202010	ITMW-6-202010	ITMW-7-202010	ITMW-9-202010	ITMW-10-202010	ITMW-11-202010	ITMW-12R-202010	ITMW-18-202010	ITMW-19-202010	ITMW-21-202010	MW-25R-202010	MW-25R-202010	MW-37-202010	MW-38-202010	MW-83-202010	DUP-01-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350822005	60350822025	60350822024	60350822038	60350858008; 60350715015; 029RJ-2	60350822021	60350822023	60350822030	60350822035	60350822028	60350822019	COMBINE ME	60350822007	60350822033	60350858005; 60350715023; 029RJ-5	60350715021	60350715022
Sample Date		10/08/2020	10/08/2020	10/08/2020	10/08/2020	10/07/2020	10/08/2020	10/08/2020	10/08/2020	10/08/2020	10/08/2020	10/08/2020	10/07/2020	10/08/2020	10/08/2020	10/07/2020	10/07/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments																		Field Duplicate
Volatile Organic Compounds																		
Acetone	12000	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	6.4 J (4.7)	U (4.7)	NM	9.6 J (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	5.0	0.25 J (0.088)	U (0.088)	U (0.088)	0.17 J (0.088)	0.81 J (0.088)	U (0.088)	U (0.088)	0.26 J (0.088)	U (0.088)	U (0.088)	U (0.088)	NM	0.23 J (0.088)	U (0.088)	0.21 J (0.088)	U (0.088)	U (0.088)
Bromodichloromethane	80	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.71 J (0.12)	U (0.12)	NM	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Bromoform	80	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	3.3 (0.38)	U (0.38)	U (0.38)	7.7 (0.38)	U (0.38)	NM	U (0.38)	0.88 J (0.38)	U (0.38)	1.9 (0.38)	1.7 (0.38)
Bromomethane	7.0	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	NM	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	U (2.4)	U (2.4)	U (2.4)	UJ (2.4)	U (2.4)	U (2.4)	UJ (2.4)	U (2.4)	U (2.4)	U (2.4)	NM	UJ (2.4)	UJ (2.4)	UJ (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	NM	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	NM	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	U (0.23)	U (0.23)	6.6 (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	NM	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	NM	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Chloroform	80	U (0.17)	0.70 J (0.17)	0.57 J (0.17)	U (0.17)	0.60 J (0.17)	U (0.17)	U (0.17)	1.7 (0.17)	0.59 J (0.17)	1.9 (0.17)	U (0.17)	NM	2.3 (0.17)	0.76 J (0.17)	0.20 J (0.17)	U (0.17)	U (0.17)
Chloromethane	190	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	0.76 J (0.44)	U (0.44)	NM	U (0.44)	0.50 J (0.44)	U (0.44)	U (0.44)	U (0.44)
Dibromochloromethane	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	0.26 J (0.17)	U (0.17)	U (0.17)	1.1 (0.17)	U (0.17)	NM	U (0.17)	U (0.17)	U (0.17)	0.28 J (0.17)	0.24 J (0.17)
1,1-Dichloroethane	2.4	9.1 (0.098)	0.87 J (0.098)	0.36 J (0.098)	U (0.098)	2.5 (0.098)	0.38 J (0.098)	UJ (0.098)	0.93 J (0.098)	0.45 J (0.098)	U (0.098)	U (0.098)	NM	U (0.098)	0.57 J (0.098)	U (0.098)	U (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	NM	0.84 J (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	0.53 J (0.21)	5.4 (0.21)	3.9 (0.21)	U (0.21)	7.2 (0.21)	0.97 J (0.21)	U (0.21)	11.7 (0.21)	2.2 (0.21)	U (0.21)	U (0.21)	NM	4.7 (0.21)	1.9 (0.21)	3.4 (0.21)	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	70	45.9 (0.15)	29.5 (0.15)	20.6 (0.15)	6.4 (0.15)	67.6 (0.15)	6.5 (0.15)	18.7 (0.15)	284 (15.0)	94.5 (0.15)	4.8 (0.15)	0.32 J (0.15)	NM	1050 (7.5)	648 (15.0)	353 (15.0)	0.81 J (0.15)	0.82 J (0.15)
trans-1,2-Dichloroethene	100	0.32 J (0.15)	0.30 J (0.15)	0.25 J (0.15)	U (0.15)	2.3 (0.15)	U (0.15)	3.1 (0.15)	3.1 (0.15)	9.1 (0.15)	1.1 (0.15)	U (0.15)	NM	46.0 (0.15)	33.8 (0.15)	2.6 (0.15)	0.19 J (0.15)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	NM	U (0.18)	0.54 J (0.18)	U (0.18)	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	NM	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	NM	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	NM	1.1 (0.81)	1.4 (0.81)	U (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	0.40 J (0.28)	U (0.28)	0.74 J (0.28)	U (0.28)	NM	1.0 (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	0.38 J (0.15)	1.5 (0.15)	1.0 (0.15)	U (0.15)	1.6 (0.15)	0.38 J (0.15)	0.69 J (0.15)	4.7 (0.15)	0.47 J (0.15)	0.60 J (0.15)	U (0.15)	NM	0.85 J (0.15)	2.7 (0.15)	U (0.15)	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	0.32 J (0.18)	U (0.18)	0.19 J (0.18)	U (0.18)	U (0.18)	U (0.18)	NM	0.29 J (0.18)	4.1 (0.18)	U (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	NM	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	0.88 J (0.28)	U (0.28)	U (0.28)	NM	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	28.4 (0.25)	2560 (5.0)	2110 (5.0)	16.4 (0.25)	1770 (12.5)	286 (2.5)	894 (12.5)	11400 (25.0)	1210 (2.5)	435 (2.5)	5.4 (0.25)	NM	3130 (12.5)	3990 (25.0)	1110 (25.0)	40.5 (0.25)	40.9 (0.25)
Vinyl Chloride	2.0	U (0.25)	1.4 (0.25)	1.4 (0.25)	U (0.25)	1.2 (0.25)	0.36 J (0.25)	U (0.25)	7.0 (0.25)	0.43 J (0.25)	U (0.25)	U (0.25)	NM	21.4 (0.25)	186 (0.25)	237 (25.0)	U (0.25)	U (0.25)
Metals																		
Iron		NM	NM	NM	NM	U (50.0)	NM	NM	NM	NM	NM	NM	2590 (50.0)	NM	NM	5710 (50.0)	NM	NM
Iron, Ferric		NM	NM	NM	NM	0	NM	NM	NM	NM	NM	NM	2180	NM	NM	5710	NM	NM
Iron, Ferrous		240	20	150	30	80	(-99990)	70	50	40	90	70	410	NM	70	(-99990)	200	NM
Monitored Natural Attenuation Parameters (Laboratory)																		
Acetic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Butyric acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Organic Carbon (total)		NM	NM	NM	NM	850 J (1000)	NM	NM	NM	NM	NM	NM	NM	1000 (1000)	NM	620 J (1000)	NM	NM
Organic Carbon (dissolved)		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Chloride		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Lactic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Nitrogen		NM	NM	NM	NM	9200 (500)	NM	NM	NM	NM	NM	NM	NM	480 (100)	NM	150 (100)	NM	NM
Nitrogen, Nitrate (As N)		NM	NM	NM	NM	9200 (500)	NM	NM	NM	NM	NM	NM	NM	480 (100)	NM	150 (100)	NM	NM
Propionic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Pyruvic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Formic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
1-Butanecarboxylic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3-methyl-Butanoic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
n-Hexanoic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfide (total)		NM	NM	NM	NM	U (50)	NM	NM	NM	NM	NM	NM	NM	U (50)	NM	U (50)	NM	NM
Sulfate		NM	NM	NM	NM	26100 (2000)	NM	NM	NM	NM	NM	NM	NM	316000 (20000)	NM	250000 (20000)	NM	NM
Gases																		
Methane		NM	NM	NM	NM	25 (5.0)	NM	NM	NM	NM	NM	NM	NM	26 (5.0)	NM	9.8 J (5.0)	NM	NM
Ethane		NM	NM	NM	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	U (1.0)	NM	0.26 J (1.0)	NM	NM
Ethene		NM	NM	NM	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	0.40 J (1.0)	NM	14 (1.0)	NM	NM
HYDROGEN (H2) [nM]		NM	NM	NM	NM	0.88 J (1.9)	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.71 J (1.9)	NM	NM
Molecular Analyses																		
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	7 (0.5)	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	41.3 (0.5)	NM	NM
tceA Reductase [cells/mL]		NM	NM	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.5 U (0.5)	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.5 U (0.5)	NM	NM
Field Params																		
Specific Conductivity (Field Analysis) [uS/cm]		835	908	1209	784	627	2.2	2014	1418	681	5376	2659	183.1	NM	2190	1115	2677	NM
Depth to Water [ft BTOC]		11.79	18.34	22.29	19.3	21.61	20.19	9.96	10.44	9.76	12.65	12.3	8.55	NM	9.4	10.45	11.29	NM
Dissolved Oxygen		2260	190	190	460	650	1410	90	60	3330	2100	110	3830	NM	60	30	430	NM
Oxidation reduction potential [mV]		55.3	130.3	271.5	135.5	228.4	211.1	74	68.9	214	292.7	351.1	1.2	NM	68.5	5.6	91	NM
pH (Field Analysis) [SU]		6.41	5.71	5.89	5.01	5.68	5.71	5.75	5.95	6.98	5.9	4.62	9.98	NM	5.73	6.04	7.3	NM
Temperature (Field) [C]		21.8	21.8	18.7	22.9	23.7	21.1	25	24.2	22.6	22.1	20.9	23.3	NM	26	25	28	NM
Turbidity (Field Parameters) [NTU]		779	1.6	1.04	1.27	5.12	1.17	5.85	0.98	6.93	7.73	5.66	7.48	NM	2.27	2.1	5.38	NM
Sodium Persulfate		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	5000	70000	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued
µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAl = Remedial action decision document
ADl = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

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TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-84	MW-84	MW-85R	MW-87	MW-89	MW-91	MW-93	MW-95	MW-182	ITMW-2R	ITMW-2R	ITMW-16	ITMW-20	MW-22	MW-22	MW-26	MW-27
Field Sample ID		MW-84-202010	MW-84-20201020	MW-85R-202010	MW-87-202010	MW-89-202010	MW-91-202010	MW-93-202010	MW-95-202010	MW-182-202010	ITMW-2R-202010	DUP-09-202010	ITMW-16-202010	ITMW-20-202010	MW-22-202010	DUP-07-202010	MW-26-202010	MW-27-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350519027	60352070001	60350822022	60350858011; 60350822026; 029RJ-12	60350858012; 60350822031; 029RJ-11	60350519008	60350822037	60350858010; 60350822029; 029RJ-9	60350715003	60350822017	60350822018	60350822012	60350519018	60350822008	60350822009	60350715034	60350715029
Sample Date		10/06/2020	10/20/2020	10/08/2020	10/08/2020	10/08/2020	10/06/2020	10/08/2020	10/08/2020	10/07/2020	10/08/2020	10/08/2020	10/08/2020	10/06/2020	10/08/2020	10/08/2020	10/07/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments												Field Duplicate				Field Duplicate		
Volatile Organic Compounds																		
Acetone	12000	7.7 J (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	77.5 (4.7)	U (4.7)	U (4.7)	U (4.7)	5.4 J (4.7)	6.0 J (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	5.0	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	0.19 J (0.088)	U (0.088)	0.13 J (0.088)	0.16 J (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)
Bromodichloromethane	80	0.13 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.23 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Bromoform	80	6.6 (0.38)	2.5 (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	0.78 J (0.38)	0.80 J (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Bromomethane	7.0	1.7 J (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	131 (2.4)	UJ (2.4)	UJ (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	1.3 J (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	0.38 J (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	7.3 (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Chloroform	80	U (0.17)	U (0.17)	1.2 (0.17)	U (0.17)	U (0.17)	U (0.17)	2.2 (0.17)	5.3 (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
Chloromethane	190	2.5 (0.44)	2.0 (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	0.44 J (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
Dibromochloromethane	80	0.45 J (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	1.7 J- (0.098)	1.1 (0.098)	U (0.098)	0.21 J (0.098)	0.19 J (0.098)	0.50 J (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	0.38 J (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	U (0.21)	U (0.21)	7.1 (0.21)	3.2 (0.21)	U (0.21)	0.76 J (0.21)	8.6 (0.21)	16.8 (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	70	U (0.15)	U (0.15)	76.0 (0.15)	22.3 (0.15)	0.48 J (0.15)	136 (0.15)	64.5 (0.15)	315 (30.0)	1.7 (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	0.42 J (0.15)	
trans-1,2-Dichloroethene	100	U (0.15)	U (0.15)	3.0 (0.15)	0.45 J (0.15)	U (0.15)	0.41 J (0.15)	7.3 (0.15)	36.8 (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	8.5 J (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	2.4 (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	0.41 J (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	0.60 J (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	U (0.15)	1.6 (0.15)	3.4 (0.15)	U (0.15)	0.37 J (0.15)	2.9 (0.15)	6.2 (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	0.43 J (0.18)	U (0.18)	U (0.18)	2.2 (0.18)	U (0.18)	0.24 J (0.18)	0.20 J (0.18)	0.18 J (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	11.9 (0.13)	U (0.13)	U (0.13)	U (0.13)	0.24 J (0.13)	2.3 (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	0.48 J (0.28)	1.5 (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	1.6 (0.25)	1.7 (0.25)	4860 (25.0)	320 (2.5)	6.4 (0.25)	51.9 (0.25)	9130 (50.0)	21100 (50.0)	24.9 (0.25)	U (0.25)	0.32 J (0.25)	U (0.25)	U (0.25)	U (0.25)	0.59 J (0.25)	U (0.25)	10.2 (0.25)
Vinyl Chloride	2.0	U (0.25)	U (0.25)	1.7 (0.25)	U (0.25)	U (0.25)	0.67 J (0.25)	1.0 (0.25)	10.4 (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)
Metals																		
Iron		NM	NM	NM	1140 (50.0)	50.4 (50.0)	24200 (50.0)	NM	U (50.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Iron, Ferric		NM	NM	NM	1010	10.4	21500	NM	()	NM	NM	NM	NM	NM	NM	NM	NM	NM
Iron, Ferrous		(-99990)	NM	140	130	40	2700	100	70	150	190	NM	50	(-99990)	50	NM	NM	460
Monitored Natural Attenuation Parameters (Laboratory)																		
Acetic acid		NM	NM	NM	NM	NM	24000 (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Butyric acid		NM	NM	NM	NM	NM	1800 J (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Organic Carbon (total)		NM	NM	NM	380 J (1000)	700 J (1000)	68500 (10000)	NM	U (1000)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Organic Carbon (dissolved)		NM	NM	NM	NM	NM	52900 (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Chloride		NM	NM	NM	NM	NM	127000 (20000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Lactic Acid		NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Nitrogen		NM	NM	NM	1900 (100)	96200 (2000)	U (100)	NM	950 (100)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Nitrogen, Nitrate (As N)		NM	NM	NM	1900 (100)	96200 (2000)	U (100)	NM	950 (100)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Propionic Acid		NM	NM	NM	NM	NM	32000 (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Pyruvic Acid		NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Formic acid		NM	NM	NM	NM	NM	45000 (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
1-Butanecarboxylic Acid		NM	NM	NM	NM	NM	870 J (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3-methyl-Butanoic acid		NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
n-Hexanoic acid		NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfide (total)		NM	NM	NM	U (50)	U (50)	NM	NM	U (50)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfate		NM	NM	NM	11800 (1000)	2700 (1000)	1300 (1000)	NM	93100 (20000)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Gases																		
Methane		NM	NM	NM	43 (5.0)	91 (5.0)	6900 (5.0)	NM	11 (5.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Ethane		NM	NM	NM	0.64 J (1.0)	U (1.0)	0.80 J (1.0)	NM	0.50 J (1.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Ethene		NM	NM	NM	U (1.0)	U (1.0)	2.6 (1.0)	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM
HYDROGEN (H2) [nM]		NM	NM	NM	0.98 J (1.9)	1.2 J (1.9)	NM	NM	3.8 (1.9)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Molecular Analyses																		
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	NM	2 U (2)	1 U (1)	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	NM	2 U (2)	1.5 (1)	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]		NM	NM	NM	2 U (2)	1 U (1)	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	NM	2 U (2)	1 U (1)	NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Field Params																		
Specific Conductivity (Field Analysis) [uS/cm]		5094	NM	1518	545	1124	2236	1555	1423	560.2	1036	NM	183.7	695	125.9	NM	1122	1345
Depth to Water [ft BTOC]		11.38	NM	8.37	12.31	10.05	12.2	13.8	13.93	14	11.36	NM	14.69	13.5	11.74	NM	13.31	11.15
Dissolved Oxygen		180	NM	90	90	80	100	270	100	70	760	NM	160	640	160	NM	130	160
Oxidation reduction potential [mV]		173.6	NM	175.1	92.7	63.6	-136.3	231.3	216	166.8	24.2	NM	125.7	133.3	320.2	NM	317.9	200.7
pH (Field Analysis) [SU]		6.98	NM	6.21	5.63	5.12	6.85	5.01	5.2	5.44	11.52	NM	6.33	5.15	5.4	NM	5.24	5.13
Temperature (Field) [C]		25	NM	22.2	25.1	25.1	24.4	21.2	21.4	17.2	24.2	NM	22.4	21.5	22.3	NM	21.3	30.3
Turbidity (Field Parameters) [NTU]		5.96	NM	5.16	13.9	1.8	28.3	2.42	1.49	2.51	24.1	NM	4.4	0.43	6.66	NM	8	3.03
Sodium Persulfate		700000	NM	NM	NM	NM	NM	U	U (50000)	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued

µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAl = Remedial action decision document
ADl = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

RAMBOLL

TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-28	MW-29	MW-39R	MW-40R	MW-50R	MW-60R	MW-61R	MW-62R	MW-63R	MW-68	MW-96	MW-97	MW-97	MW-98	MW-99	MW-99	MW-183R
Field Sample ID		MW-28-202010	MW-29-202010	MW-39R-202010	MW-40R-202010	MW-50R-202010	MW-60R-202010	MW-61R-202010	MW-62R-202010	MW-63R-202010	MW-68-202010	MW-96-202010	MW-97-202010	DUP-10-202010	MW-98-202010	MW-99-202010	MW-99-202010	MW-183R-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350822015	60350519012	60350519016	60350519007	60350858001; 60350359003; 029RJ-8	60350519004	60350519002	60350519010	60350519014	60350519024	60350822040	60350822041	60350822042	60350715038	COMBINE ME	60350715001	60350715013
Sample Date		10/08/2020	10/06/2020	10/06/2020	10/06/2020	10/05/2020	10/06/2020	10/06/2020	10/06/2020	10/06/2020	10/06/2020	10/08/2020	10/08/2020	10/08/2020	10/07/2020	10/06/2020	10/07/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments														Field Duplicate				
Volatile Organic Compounds																		
Acetone	12000	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	NM	330 J+ (4.7)	U (4.7)
Benzene	5.0	U (0.088)	0.17 J (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	NM	0.16 J (0.088)	U (0.088)
Bromodichloromethane	80	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	NM	U (0.12)	U (0.12)
Bromoform	80	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	NM	U (0.38)	U (0.38)
Bromomethane	7.0	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	NM	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	NM	1360 (24.0)	U (2.4)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	0.26 J (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	NM	1.1 J (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	NM	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	9.0 (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	NM	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	NM	U (0.38)	U (0.38)
Chloroform	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	NM	U (0.17)	U (0.17)
Chloromethane	190	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	0.62 J (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	NM	U (0.44)	U (0.44)
Dibromochloromethane	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	NM	U (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	NM	U (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	NM	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	NM	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	70	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	1.1 (0.15)	U (0.15)	0.81 J (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	NM	5.0 (0.15)	U (0.15)
trans-1,2-Dichloroethene	100	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	0.18 J (0.15)	U (0.15)	NM	U (0.15)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	NM	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	NM	32.5 (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	NM	1.6 J (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	NM	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	NM	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	NM	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	NM	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	NM	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	NM	U (0.28)	U (0.28)
Trichloroethene	5.0	U (0.25)	U (0.25)	U (0.25)	U (0.25)	0.98 J (0.25)	U (0.25)	15.8 (0.25)	U (0.25)	7.1 (0.25)	0.57 J (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	NM	0.85 J (0.25)	0.82 J (0.25)
Vinyl Chloride	2.0	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	NM	U (0.25)	U (0.25)
Metals																		
Iron		NM	NM	NM	NM	1360 (50.0)	NM	11000 (50.0)	NM	NM	NM	NM	NM	NM	NM	NM	130000 M1 (500)	NM
Iron, Ferric		NM	NM	NM	NM	780	NM	6800	NM	NM	NM	NM	NM	NM	NM	121800	NM	NM
Iron, Ferrous		410	10	560	1260	580	(-99990)	4200	170	(-99990)	1270	320	2370	NM	50	8200	NM	110
Monitored Natural Attenuation Parameters (Laboratory)																		
Acetic acid		NM	NM	NM	NM	NM	NM	14000 (5000)	NM	NM	NM	NM	NM	NM	NM	NM	940000 (50000)	NM
Butyric acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	450000 (50000)	NM
Organic Carbon (total)		NM	NM	NM	NM	360 J (1000)	NM	500 J (1000)	NM	NM	NM	NM	NM	NM	NM	NM	2850000 J (500000)	NM
Organic Carbon (dissolved)		NM	NM	NM	NM	NM	NM	600 J (1000)	NM	NM	NM	NM	NM	NM	NM	NM	2920000 J (500000)	NM
Chloride		NM	NM	NM	NM	NM	NM	112000 (20000)	NM	NM	NM	NM	NM	NM	NM	NM	137000 (20000)	NM
Lactic Acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	U (50000)	NM
Nitrogen		NM	NM	NM	NM	U (100)	NM	UJ (100)	NM	NM	NM	NM	NM	NM	NM	NM	U (100)	NM
Nitrogen, Nitrate (As N)		NM	NM	NM	NM	U (100)	NM	UJ (100)	NM	NM	NM	NM	NM	NM	NM	NM	U (100)	NM
Propionic Acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	3300000 (250000)	NM
Pyruvic Acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	21000 (10000)	NM
Formic acid		NM	NM	NM	NM	NM	NM	45000 (5000)	NM	NM	NM	NM	NM	NM	NM	NM	110000 (50000)	NM
1-Butanecarboxylic Acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	250000 (50000)	NM
3-methyl-Butanoic acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	23000 (10000)	NM
n-Hexanoic acid		NM	NM	NM	NM	NM	NM	U (5000)	NM	NM	NM	NM	NM	NM	NM	NM	37000 (10000)	NM
Sulfide (total)		NM	NM	NM	NM	280 (50)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfate		NM	NM	NM	NM	11800 (1000)	NM	10800 (1000)	NM	NM	NM	NM	NM	NM	NM	NM	24700 (2000)	NM
Gases																		
Methane		NM	NM	NM	NM	4600 (5.0)	NM	1900 (5.0)	NM	NM	NM	NM	NM	NM	NM	NM	12000 (5.0)	NM
Ethane		NM	NM	NM	NM	7.4 (1.0)	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	NM	1.2 (1.0)	NM
Ethene		NM	NM	NM	NM	1.1 (1.0)	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	NM	2.5 (1.0)	NM
HYDROGEN (H2) [nM]		NM	NM	NM	NM	0.70 J (1.9)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Molecular Analyses																		
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	NM	NM	2.5 U (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	NM	NM	2.5 U (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]		NM	NM	NM	NM	2.5 U (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	NM	NM	2.5 U (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Field Params																		
Specific Conductivity (Field Analysis) [uS/cm]		267.7	542	1309	702	1222	1294	816	720	580	926	210.7	253	NM	199.5	8328	NM	349.2
Depth to Water [ft BTOC]		6.62	11.05	10.42	8.85	3.24	1.34	4.28	3.24	2.86	5.32	8.33	8.79	NM	11.59	10	NM	12.6
Dissolved Oxygen		200	250	220	160	120	5370	60	530	190	2030	840	1580	NM	560	120	NM	220
Oxidation reduction potential [mV]		56	247.2	147.4	169.7	29.3	158.7	-70.2	216	221.1	214	96.4	14	NM	71.2	-164.3	NM	73.7
pH (Field Analysis) [SU]		6.16	4.75	4.97	5.09	6.25	6.77	6.49	5.62	5.57	4.37	5.11	5.18	NM	5.55	7.05	NM	5.81
Temperature (Field) [C]		24.4	23.7	19.2	21.4	21.8	21.3	22.7	21.2	19.1	20.8	25.8	23.9	NM	23.3	20.9	NM	24.8
Turbidity (Field Parameters) [NTU]		3.57	1.29	1.82	1.99	10.15	6.41	3.41	10.6	11.04	1.75	5.55	58.9	NM	15.4	19	NM	3.69
Sodium Persulfate		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued

µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAl = Remedial action decision document
ADl = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

RAMBOLL

TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-184	MW-184	MW-185	MW-186	MW-187	MW-188	MW-189	MW-190	MW-191	MW-192	MW-192	MW-194	MW-195	MW-196	MW-46R	MW-55R	MW-56R
Field Sample ID		MW-184-202010	DUP-05-202010	MW-185-202010	MW-186-202010	MW-187-202010	MW-188-202010	MW-189-202010	MW-190-202010	MW-191-202010	MW-192-202010	DUP-04-202010	MW-194-202010	MW-195-202010	MW-196-202010	MW-46R-202010	MW-55R-202010	MW-56R-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350715031	60350715032	60350715025	60350822016	60350519001	60350519006	60350519005	60350715004	60350715002	60350715008	60350715018	60350715006	60350519009	60350519022	60350822027	60350519013	60350519026
Sample Date		10/07/2020	10/07/2020	10/07/2020	10/08/2020	10/06/2020	10/06/2020	10/06/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/06/2020	10/06/2020	10/08/2020	10/06/2020	10/06/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments			Field Duplicate									Field Duplicate						
Volatile Organic Compounds																		
Acetone	12000	U (4.7)	U (4.7)	U (4.7)	5.0 J (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	5.0	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)
Bromodichloromethane	80	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Bromoform	80	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Bromomethane	7.0	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Chloroform	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	0.32 J (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
Chloromethane	190	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
Dibromochloromethane	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	0.63 J (0.098)	U (0.098)	0.67 J (0.098)	U (0.098)	0.69 J (0.098)	0.21 J (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	U (0.21)	U (0.21)	1.4 (0.21)	U (0.21)	0.50 J (0.21)	U (0.21)	0.85 J (0.21)	0.49 J (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	1.6 (0.21)	0.32 J (0.21)	2.0 (0.21)
cis-1,2-Dichloroethene	70	U (0.15)	U (0.15)	10.6 (0.15)	0.40 J (0.15)	3.7 (0.15)	1.3 (0.15)	7.2 (0.15)	3.0 (0.15)	U (0.15)	U (0.15)	U (0.15)	0.78 J (0.15)	U (0.15)	U (0.15)	14.6 (0.15)	1.0 (0.15)	16.8 (0.15)
trans-1,2-Dichloroethene	100	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	0.35 J (0.15)	U (0.15)	0.28 J (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	0.40 J (0.25)	0.29 J (0.25)	176 (0.25)	0.43 J (0.25)	9.8 (0.25)	11.7 (0.25)	359 (2.5)	14.5 (0.25)	U (0.25)	U (0.25)	0.42 J (0.25)	5.6 (0.25)	0.35 J (0.25)	0.54 J (0.25)	460 (2.5)	29.9 (0.25)	706 (2.5)
Vinyl Chloride	2.0	U (0.25)	U (0.25)	U (0.25)	0.33 J (0.25)	U (0.25)	U (0.25)	0.44 J (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	2.1 (0.25)	U (0.25)	0.36 J (0.25)
Metals																		
Iron		NM	NM	NM	13700 (50.0)	NM	NM	28.2 J (50.0)	NM	NM	NM	NM	6200 (50.0)	NM	NM	NM	NM	NM
Iron, Ferric		NM	NM	NM	9200	NM	NM	8.2	NM	NM	NM	NM	2900	NM	NM	NM	NM	NM
Iron, Ferrous		140	NM	(-99990)	4500	110	4500	20	230	(-99990)	30	NM	3300	400	80	(-99990)	190	620
Monitored Natural Attenuation Parameters (Laboratory)																		
Acetic acid		NM	NM	NM	1900 J (2500)	NM	NM	10000 (5000)	NM	NM	NM	NM	2000 J (2500)	NM	NM	NM	NM	NM
Butyric acid		NM	NM	NM	U (2500)	NM	NM	U (5000)	NM	NM	NM	NM	U (2500)	NM	NM	NM	NM	NM
Organic Carbon (total)		NM	NM	NM	19500 (5000)	NM	NM	460 J (1000)	NM	NM	NM	NM	640 J (1000)	NM	NM	NM	NM	NM
Organic Carbon (dissolved)		NM	NM	NM	20300 (5000)	NM	NM	500 J (1000)	NM	NM	NM	NM	630 J (1000)	NM	NM	NM	NM	NM
Chloride		NM	NM	NM	138000 (10000)	NM	NM	192000 J+ (10000)	NM	NM	NM	NM	165000 J+ (20000)	NM	NM	NM	NM	NM
Lactic Acid		NM	NM	NM	U (2500)	NM	NM	U (5000)	NM	NM	NM	NM	U (2500)	NM	NM	NM	NM	NM
Nitrogen		NM	NM	NM	U (100)	NM	NM	24900 (1000)	NM	NM	NM	NM	U (100)	NM	NM	NM	NM	NM
Nitrogen, Nitrate (As N)		NM	NM	NM	U (100)	NM	NM	24900 (1000)	NM	NM	NM	NM	U (100)	NM	NM	NM	NM	NM
Propionic Acid		NM	NM	NM	290 J (2500)	NM	NM	U (5000)	NM	NM	NM	NM	300 J (2500)	NM	NM	NM	NM	NM
Pyruvic Acid		NM	NM	NM	U (2500)	NM	NM	U (5000)	NM	NM	NM	NM	U (2500)	NM	NM	NM	NM	NM
Formic acid		NM	NM	NM	23000 (2500)	NM	NM	50000 (5000)	NM	NM	NM	NM	23000 (2500)	NM	NM	NM	NM	NM
1-Butanecarboxylic Acid		NM	NM	NM	U (2500)	NM	NM	U (5000)	NM	NM	NM	NM	U (2500)	NM	NM	NM	NM	NM
3-methyl-Butanoic acid		NM	NM	NM	U (2500)	NM	NM	U (5000)	NM	NM	NM	NM	U (2500)	NM	NM	NM	NM	NM
n-Hexanoic acid		NM	NM	NM	U (2500)	NM	NM	U (5000)	NM	NM	NM	NM	U (2500)	NM	NM	NM	NM	NM
Sulfide (total)		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfate		NM	NM	NM	U (1000)	NM	NM	78000 (10000)	NM	NM	NM	NM	11400 (1000)	NM	NM	NM	NM	NM
Gases																		
Methane		NM	NM	NM	15000 (5.0)	NM	NM	5.1 J+ (5.0)	NM	NM	NM	NM	6400 (5.0)	NM	NM	NM	NM	NM
Ethane		NM	NM	NM	U (1.0)	NM	NM	U (1.0)	NM	NM	NM	NM	0.39 J (1.0)	NM	NM	NM	NM	NM
Ethene		NM	NM	NM	0.71 J (1.0)	NM	NM	U (1.0)	NM	NM	NM	NM	U (1.0)	NM	NM	NM	NM	NM
HYDROGEN (H2) [nM]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Molecular Analyses																		
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Field Params																		
Specific Conductivity (Field Analysis) [uS/cm]		134.4	NM	316.4	2449	660	299.7	159	715	203.6	141.1	NM	1071	911	1796	723	1025	647
Depth to Water [ft BTOC]		9.3	NM	14.23	12.5	18.85	20.73	25.03	20.99	16.53	15.28	NM	2.73	0.91	2.82	1.82	1.12	1
Dissolved Oxygen		900	NM	790	200	150	110	1720	2220	400	590	NM	70	190	2750	300	450	100
Oxidation reduction potential [mV]		141	NM	81.9	-147.5	240.1	-63.2	174.2	78.6	139.7	141.5	NM	-55.6	53.1	157.5	237.5	68.3	146.4
pH (Field Analysis) [SU]		5.57	NM	5.75	7.27	5.95	6.34	5.91	10.69	5.25	5	NM	6.2	6.36	6.57	4.71	5.78	5.6
Temperature (Field) [C]		20.9	NM	25.5	18.3	17.8	18.9	19.5	21.8	22.2	23	NM	20.7	23.9	27.1	23.1	20.38	19.5
Turbidity (Field Parameters) [NTU]		8.6	NM	3.82	43.6	2.48	11.55	0.5	8.86	2.62	4.78	NM	4.73	1.6	8.22	7.92	2.41	1.44
Sodium Persulfate		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued

µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAl = Remedial action decision document
ADl = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

RAMBOLL

TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-57R	MW-57R	MW-58R	MW-82	MW-197	MW-197	MW-198	MW-199	MW-199	MW-200	MW-201	MW-202	MW-204	MW-204	RW-69	IW-78	MW-24
Field Sample ID		MW-57R-202010	DUP-02-202010	MW-58R-202010	MW-82-202010	Groundwater	MW-197-202010	MW-198-202010	MW-199-WG-2020922	MW-199-202010	MW-200-202010	MW-201-202010	MW-202-202010	MW-204-WG-20200925	MW-204-202010	RW-69-202010	IW-78-202010	MW-24-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350715011	60350715012	60350858003; 60350715020; 029RJ-1	60350715027	MW-197-WG-2020922	60350519015	60350822032	60349069002	60350519020	60350822020	60350715028	60350822014	60349514005	60350822013	60350858009; 60350519023; 029RJ-6	60350715026	60350822010
Sample Date		10/07/2020	10/07/2020	10/07/2020	10/07/2020	09/22/2020	10/06/2020	10/08/2020	09/22/2020	10/06/2020	10/08/2020	10/07/2020	10/08/2020	09/25/2020	10/08/2020	10/06/2020	10/07/2020	10/08/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Grab	Low Flow	Low Flow	Grab	Low Flow	Low Flow	Low Flow	Low Flow	Grab	Low Flow	Low Flow	Low Flow	Low Flow
Comments			Field Duplicate															
Volatile Organic Compounds																		
Acetone	12000	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	8.3 J (4.7)	16.2 (4.7)
Benzene	5.0	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	0.23 J (0.088)	0.19 J (0.088)	0.15 J (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	0.13 J (0.088)
Bromodichloromethane	80	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.55 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	0.31 J (0.12)
Bromoform	80	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	1.5 (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	7.4 (0.38)	5.2 (0.38)
Bromomethane	7.0	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	0.28 J (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	0.46 J (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	U (0.23)	U (0.23)	U (0.23)	1.7 (0.23)	1.7 (0.23)	U (0.23)	0.48 J (0.23)	0.62 J (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	0.69 J (0.23)	U (0.23)	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Chloroform	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	8.0 (0.17)	0.19 J (0.17)	0.22 J (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	0.56 J (0.17)
Chloromethane	190	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	3.9 (0.44)
Dibromochloromethane	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	0.49 J (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	0.47 J (0.17)	0.77 J (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	1.4 (0.098)	0.19 J (0.098)	0.24 J (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	0.24 J (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	1.8 (0.21)	1.7 (0.21)	2.0 (0.21)	U (0.21)	U (0.21)	U (0.21)	28.9 (0.21)	0.41 J (0.21)	0.49 J (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	1.8 (0.21)	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	70	14.2 (0.15)	14.4 (0.15)	9.7 (0.15)	1.3 (0.15)	7.8 (0.15)	8.4 (0.15)	1550 (15.0)	5.1 (0.15)	6.7 (0.15)	U (0.15)	U (0.15)	1.1 (0.15)	3.0 (0.15)	4.1 (0.15)	4.6 (0.15)	0.66 J (0.15)	2.2 (0.15)
trans-1,2-Dichloroethene	100	0.22 J (0.15)	0.24 J (0.15)	0.22 J (0.15)	U (0.15)	U (0.15)	U (0.15)	71.9 (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	0.16 J (0.15)	U (0.15)	0.27 J (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	2.3 (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	14.9 (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	9.1 (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	UJ (0.15)	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	1.2 (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	25.1 (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	1.1 (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	327 (2.5)	326 (2.5)	298 (2.5)	55.1 (0.25)	17.0 (0.25)	20.1 (0.25)	20600 (125)	66.7 (0.25)	92.3 (0.25)	0.25 J (0.25)	U (0.25)	9.3 (0.25)	34.8 (0.25)	55.6 (0.25)	101 J- (0.25)	25.0 (0.25)	144 (0.25)
Vinyl Chloride	2.0	0.41 J (0.25)	0.37 J (0.25)	0.61 J (0.25)	U (0.25)	0.99 J (0.25)	0.96 J (0.25)	84.4 (0.25)	0.35 J (0.25)	0.35 J (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	0.60 J (0.25)	U (0.25)	U (0.25)
Metals																		
Iron		NM	NM	374 (50.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1280 (50.0)	NM	NM
Iron, Ferric		NM	NM	74	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	770	NM	NM
Iron, Ferrous		2540	NM	300	10	NM	4500	10	NM	700	220	110	170	NM	50	510	(-99990)	300
Monitored Natural Attenuation Parameters (Laboratory)																		
Acetic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Butyric acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Organic Carbon (total)		NM	NM	U (1000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	UJ (1000)	NM	NM
Organic Carbon (dissolved)		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Chloride		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Lactic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Nitrogen		NM	NM	U (100)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	U (100)	NM	NM
Nitrogen, Nitrate (As N)		NM	NM	U (100)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	U (100)	NM	NM
Propionic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Pyruvic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Formic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
1-Butanecarboxylic Acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3-methyl-Butanoic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
n-Hexanoic acid		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfide (total)		NM	NM	U (50)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	U (50)	NM	NM
Sulfate		NM	NM	2200 (1000)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1600 J+ (1000)	NM	NM
Gases																		
Methane		NM	NM	31 (5.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	67 (5.0)	NM	NM
Ethane		NM	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	U (1.0)	NM	NM
Ethene		NM	NM	U (1.0)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	U (1.0)	NM	NM
HYDROGEN (H2) [nM]		NM	NM	0.70 J (1.9)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.79 J (1.9)	NM	NM
Molecular Analyses																		
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.5 U (0.5)	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1.2 (0.5)	NM	NM
tceA Reductase [cells/mL]		NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.5 U (0.5)	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	0.5 U (0.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.5 U (0.5)	NM	NM
Field Params																		
Specific Conductivity (Field Analysis) [uS/cm]		818	NM	853	1299	NM	793	1842	NM	871	234.3	422.1	419.9	NM	933	943	4419	3685
Depth to Water [ft BTOC]		1	NM	2.19	9.35	NM	11.2	8.95	NM	9.13	10.41	20.47	9.79	NM	20.36	6.9	9.19	12.19
Dissolved Oxygen		100	NM	190	140	NM	120	150	NM	120	330	280	510	NM	180	230	980	160
Oxidation reduction potential [mV]		5.7	NM	151.7	47.3	NM	-68.4	212.7	NM	66.5	34.1	42	152.5	NM	101.5	199.6	-21.3	273.4
pH (Field Analysis) [SU]		5.35	NM	4.22	4.83	NM	6.36	5.91	NM	6.23	6.25	5.48	6.24	NM	5.89	5.16	6.84	3.89
Temperature (Field) [C]		23.1	NM	22	22.2	NM	20.3	25	NM	20.6	22.2	20.7	21.1	NM	18.6	21.1	24.7	21.8
Turbidity (Field Parameters) [NTU]		1.6	NM	3.12	6.07	NM	0.52	7.47	NM	12	134	5.52	191	NM	6.97	1.21	7.76	2.74
Sodium Persulfate		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued

µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAl = Remedial action decision document
ADl = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-24	MW-175	MW-176	MW-178	MW-179	MW-203	TMW-10	TMW-11	TMW-12	TMW-14	TMW-16	TMW-19	TMW-20	TMW-21	TMW-22R	TMW-23	TMW-23
Field Sample ID		DUP-08-202010	MW-175-202010	MW-176-202010	MW-178-202010	MW-179-202010	MW-203-WG-20200925	TMW-10-202010	TMW-11-202010	TMW-12-202010	TMW-14-202010	TMW-16-202010	TMW-19-202010	TMW-20-202010	TMW-21-202010	TMW-22R-202010	TMW-23-202010	DUP-03-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350822011	60350519019	60350519003	60350715033	60350822043	60349514004	60350858002; 60350359001; 029RJ-7	60350858007; 60350359002; 029RJ-10	60350715016	60350715017	60350822004	60350359005	60350519011	60350519025	60350519017	60350715007	60350715014
Sample Date		10/08/2020	10/06/2020	10/06/2020	10/07/2020	10/08/2020	09/25/2020	10/05/2020	10/05/2020	10/07/2020	10/07/2020	10/08/2020	10/05/2020	10/06/2020	10/06/2020	10/06/2020	10/07/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Grab	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments		Field Duplicate																Field Duplicate
Volatile Organic Compounds																		
Acetone	12000	10.9 (4.7)	U (4.7)	12.6 J+ (4.7)	U (4.7)	8.9 J (4.7)	4.9 J (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	5.0	0.14 J (0.088)	U (0.088)	0.13 J (0.088)	U (0.088)	U (0.088)	U (0.088)	0.16 J (0.088)	U (0.088)	U (0.088)	U (0.088)	0.14 J (0.088)	U (0.088)	U (0.088)	0.10 J (0.088)	0.17 J (0.088)	U (0.088)	U (0.088)
Bromodichloromethane	80	0.29 J (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Bromoform	80	4.3 (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Bromomethane	7.0	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	U (2.4)	3.2 J (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	UJ (2.4)	U (2.4)	U (2.4)	21.8 (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	1.1 J (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	3.3 (0.38)	U (0.38)	U (0.38)	U (0.38)
Chloroform	80	0.49 J (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
Chloromethane	190	3.3 (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	0.57 J (0.44)	U (0.44)	U (0.44)	U (0.44)
Dibromochloromethane	80	0.77 J (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	0.24 J (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	U (0.21)	0.26 J (0.21)	2.8 (0.21)	U (0.21)	0.36 J (0.21)	U (0.21)	U (0.21)	1.6 (0.21)	U (0.21)	U (0.21)	0.34 J (0.21)	U (0.21)	U (0.21)	U (0.21)	0.42 J (0.21)	0.41 J (0.21)	0.42 J (0.21)
cis-1,2-Dichloroethene	70	2.3 (0.15)	1.7 (0.15)	28.2 (0.15)	0.66 J (0.15)	1.0 (0.15)	U (0.15)	0.86 J (0.15)	0.66 J (0.15)	11.1 (0.15)	3.2 (0.15)	1.2 J+ (0.15)	1.7 (0.15)	U (0.15)	3.2 (0.15)	70.3 (0.15)	3.0 (0.15)	2.9 (0.15)
trans-1,2-Dichloroethene	100	0.36 J (0.15)	U (0.15)	0.90 J (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	1.2 (0.15)	U (0.15)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	0.33 J (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	0.34 J (0.18)	U (0.18)	U (0.18)	4.0 (0.18)	0.28 J (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	148 (0.25)	69.5 (0.25)	359 (2.5)	1.9 (0.25)	22.9 (0.25)	0.57 J (0.25)	4.8 (0.25)	0.70 J (0.25)	415 (2.5)	3.0 (0.25)	0.59 J (0.25)	16.0 (0.25)	U (0.25)	7.2 (0.25)	56.6 (0.25)	168 (1.2)	164 (1.2)
Vinyl Chloride	2.0	U (0.25)	U (0.25)	29.4 (0.25)	U (0.25)	U (0.25)	U (0.25)	3.8 (0.25)	0.34 J (0.25)	0.32 J (0.25)	U (0.25)	0.38 J (0.25)	U (0.25)	U (0.25)	1.9 (0.25)	15.4 (0.25)	U (0.25)	U (0.25)
Metals																		
Iron		NM	NM	NM	NM	NM	NM	492 (50.0)	6180 (50.0)	NM	NM	19000 (50.0)	337 (50.0)	NM	11100 (50.0)	13700 (50.0)	NM	NM
Iron, Ferric		NM	NM	NM	NM	NM	NM	U	2380	NM	NM	NM	337	NM	6100	8700	NM	NM
Iron, Ferrous		NM	120	630	NM	ND	NM	2030	3800	20	4000	NM	(-99990)	80	5000	5000	190	NM
Monitored Natural Attenuation Parameters (Laboratory)																		
Acetic acid		NM	NM	NM	NM	NM	NM	3900 J (5000)	850 J (1000)	NM	NM	5700 (5000)	400 J (500)	NM	13000 (5000)	11000 (5000)	NM	NM
Butyric acid		NM	NM	NM	NM	NM	NM	U (5000)	U (1000)	NM	NM	U (5000)	U (500)	NM	U (5000)	U (5000)	NM	NM
Organic Carbon (total)		NM	NM	NM	NM	NM	NM	5300 (2000)	2400 (1000)	NM	NM	38900 (10000)	1200 (1000)	NM	28200 (5000)	620 J (1000)	NM	NM
Organic Carbon (dissolved)		NM	NM	NM	NM	NM	NM	3500 (1000)	3200 (1000)	NM	NM	33000 (10000)	1300 (1000)	NM	21000 (2000)	1000 (1000)	NM	NM
Chloride		NM	NM	NM	NM	NM	NM	198000 (10000)	167000 J+ (10000)	NM	NM	382000 (50000)	74400 (10000)	NM	197000 B (50000)	199000 B (50000)	NM	NM
Lactic Acid		NM	NM	NM	NM	NM	NM	U (5000)	110 J (1000)	NM	NM	U (5000)	U (500)	NM	U (5000)	U (5000)	NM	NM
Nitrogen		NM	NM	NM	NM	NM	NM	U (100)	U (100)	NM	NM	U (100)	2000 (100)	NM	U (100)	U (100)	NM	NM
Nitrogen, Nitrate (As N)		NM	NM	NM	NM	NM	NM	U (100)	U (100)	NM	NM	U (100)	2000 (100)	NM	U (100)	U (100)	NM	NM
Propionic Acid		NM	NM	NM	NM	NM	NM	U (5000)	U (1000)	NM	NM	2400 J (5000)	U (500)	NM	20000 (5000)	U (5000)	NM	NM
Pyruvic Acid		NM	NM	NM	NM	NM	NM	U (5000)	U (1000)	NM	NM	U (5000)	U (500)	NM	U (5000)	U (5000)	NM	NM
Formic acid		NM	NM	NM	NM	NM	NM	46000 (5000)	10000 (1000)	NM	NM	48000 (5000)	4800 (500)	NM	46000 (5000)	43000 (5000)	NM	NM
1-Butanecarboxylic Acid		NM	NM	NM	NM	NM	NM	U (5000)	U (1000)	NM	NM	U (5000)	U (500)	NM	940 J (5000)	U (5000)	NM	NM
3-methyl-Butanoic acid		NM	NM	NM	NM	NM	NM	U (5000)	U (1000)	NM	NM	U (5000)	U (500)	NM	U (5000)	U (5000)	NM	NM
n-Hexanoic acid		NM	NM	NM	NM	NM	NM	U (5000)	180 J (1000)	NM	NM	U (5000)	U (500)	NM	U (5000)	U (5000)	NM	NM
Sulfide (total)		NM	NM	NM	NM	NM	NM	U (50)	U (50)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfate		NM	NM	NM	NM	NM	NM	1200 (1000)	99800 J- (10000)	NM	NM	770 J (1000)	14000 (1000)	NM	16000 (1000)	2100 (1000)	NM	NM
Gases																		
Methane		NM	NM	NM	NM	NM	NM	87 (5.0)	240 (5.0)	NM	NM	15000 (5.0)	440 (5.0)	NM	7600 (5.0)	5500 (5.0)	NM	NM
Ethane		NM	NM	NM	NM	NM	NM	0.94 J (1.0)	0.76 J (1.0)	NM	NM	2.7 (1.0)	4.6 (1.0)	NM	0.62 J (1.0)	4.8 (1.0)	NM	NM
Ethene		NM	NM	NM	NM	NM	NM	U (1.0)	0.48 J (1.0)	NM	NM	2.2 (1.0)	U (1.0)	NM	1.2 (1.0)	12 (1.0)	NM	NM
HYDROGEN (H2) [nM]		NM	NM	NM	NM	NM	NM	1.0 J (1.9)	1.0 J (1.9)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Molecular Analyses																		
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	NM	NM	NM	NM	2 U (2)	2.5 U (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	NM	NM	NM	NM	1120 (2)	341 (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]		NM	NM	NM	NM	NM	NM	1150 (2)	78.1 (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	NM	NM	NM	NM	776 (2)	66.5 (2.5)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Field Params																		
Specific Conductivity (Field Analysis) [uS/cm]		NM	1313	1013	77.2	164	NM	1971	1369	552	370.9	3160	426.1	1650	1350	1660	1058	NM
Depth to Water [ft BTOC]		NM	1.04	1.32	4.66	8.74	NM	2.31	1.64	3.11	1.05	11.28	24.59	1.65	0.1	0.95	2.3	NM
Dissolved Oxygen		NM	1460	350	920	3880	NM	90	20	200	110	870	380	400	30	50	340	NM
Oxidation reduction potential [mV]		NM	-86.7	-6.3	740	207	NM	-136.3	-64.9	174.7	-68.8	-164.2	100.5	-11.1	-133.7	-70.9	46.7	NM
pH (Field Analysis) [SU]		NM	8.05	7.13	6.57	5.4	NM	6.85	6.84	5.15	5.83	7.11	6.06	6.45	6.23	6.68	6.47	NM
Temperature (Field) [C]		NM	22.2	20.7	29.8	28.6	NM	20.8	21.6	24.8	25.2	19	19.7	24.6	21	22.3	21.7	NM
Turbidity (Field Parameters) [NTU]		NM	1.47	0.4	10.13	5.14	NM	3.25	7.69	2.25	8.65	14.32	6.1	0.48	5.75	9.5	4.48	NM
Sodium Persulfate		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued

µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAI = Remedial action decision document
ADI = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

RAMBOLL

TABLE 6A
SUMMARY OF MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		TMW-24	TMW-25	TMW-26	TMW-27	TMW-27	TMW-29	TMW-30	TMW-32	TMW-34	TMW-35	TMW-36	TMW-36B
Field Sample ID		TMW-24-202010	TMW-25-202010	TMW-26-202010	TMW-27-202010	DUP-06-202010	TMW-29-202010	TMW-30-202010	TMW-32-202010	TMW-34-202010	TMW-35-202010	TMW-36-202010	TMW-36B-202010
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350519028	60350822006; 60350715039	60350715010	60350715009	60350715043	60350359006	60350715005	60350822003	60350715024	60350519021	60350359004	60350359007
Sample Date		10/06/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/05/2020	10/07/2020	10/08/2020	10/07/2020	10/06/2020	10/05/2020	10/05/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments						Field Duplicate							
Volatile Organic Compounds													
Acetone	12000	U (4.7)	U (4.7)	7.5 J (4.7)	U (4.7)	U (4.7)	U (4.7)	U (94.0)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	5.0	U (0.088)	0.15 J (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (1.8)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	0.18 J (0.088)
Bromodichloromethane	80	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (2.4)	U (0.12)	U (0.12)	U (0.12)	U (0.12)	U (0.12)
Bromoform	80	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (7.6)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Bromomethane	7.0	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (19.8)	U (0.99)	U (0.99)	U (0.99)	U (0.99)	U (0.99)
2-Butanone	4900	U (2.4)	UJ (2.4)	U (2.4)	U (2.4)	UJ (2.4)	U (2.4)	U (48.0)	UJ (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	720	U (0.24)	0.54 J (0.24)	0.50 J (0.24)	U (0.24)	U (0.24)	U (0.24)	8.7 J (4.8)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (3.8)	U (0.19)	U (0.19)	U (0.19)	U (0.19)	U (0.19)
Chlorobenzene	100	U (0.23)	2.9 (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)	U (4.6)	1.9 (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
Chloroethane	12000	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (7.6)	U (0.38)	U (0.38)	U (0.38)	U (0.38)	U (0.38)
Chloroform	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (3.4)	U (0.17)	U (0.17)	U (0.17)	0.22 J (0.17)	U (0.17)
Chloromethane	190	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (8.8)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
Dibromochloromethane	80	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (3.4)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (0.098)	U (2.0)	U (0.098)	0.44 J (0.098)	U (0.098)	1.0 (0.098)	U (0.098)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.23)	U (0.23)	0.26 J (0.23)	U (0.23)	U (4.6)	0.27 J (0.23)	U (0.23)	U (0.23)	U (0.23)	U (0.23)
1,1-Dichloroethene	7.0	1.4 (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (4.2)	U (0.21)	1.3 (0.21)	U (0.21)	1.3 (0.21)	U (0.21)
cis-1,2-Dichloroethene	70	11.1 (0.15)	1.1 (0.15)	1.1 (0.15)	U (0.15)	U (0.15)	U (0.15)	U (3.0)	7.3 (0.15)	46.0 (0.15)	U (0.15)	8.7 (0.15)	U (0.15)
trans-1,2-Dichloroethene	100	U (0.15)	0.17 J (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (3.0)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (3.6)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
2-Hexanone	34	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (30.0)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (28.0)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (16.2)	U (0.81)	U (0.81)	U (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (5.6)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (3.0)	U (0.15)	0.15 J (0.15)	U (0.15)	0.20 J (0.15)	U (0.15)
Toluene	1000	U (0.18)	0.21 J (0.18)	8.2 (0.18)	U (0.18)	U (0.18)	U (0.18)	U (3.6)	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (2.6)	U (0.13)	U (0.13)	U (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (5.6)	U (0.28)	U (0.28)	U (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	495 (2.5)	3.1 (0.25)	3.7 (0.25)	U (0.25)	U (0.25)	U (0.25)	12.7 J (5.0)	27.6 (0.25)	84.4 (0.25)	U (0.25)	299 (2.5)	U (0.25)
Vinyl Chloride	2.0	U (0.25)	U (0.25)	0.99 J (0.25)	U (0.25)	U (0.25)	U (0.25)	U (5.0)	0.90 J (0.25)	U (0.25)	U (0.25)	0.40 J (0.25)	U (0.25)
Metals													
Iron		NM	25300 (50.0)	34800 (50.0)	NM	NM	NM	101000 (500)	6150 (50.0)	2260 (50.0)	NM	U (50.0)	NM
Iron, Ferric		NM	20700	32660	NM	NM	NM	100380	U	260	NM	()	NM
Iron, Ferrous		10	4600	2140	300	NM	390	620	7000	2000	40	20	5000
Monitored Natural Attenuation Parameters (Laboratory)													
Acetic acid		NM	3900 (2500)	12000 (10000)	NM	NM	NM	15000 (10000)	440 J (500)	380 J (500)	NM	390 J (500)	NM
Butyric acid		NM	U (2500)	U (10000)	NM	NM	NM	U (10000)	U (500)	U (500)	NM	U (500)	NM
Organic Carbon (total)		NM	12200 (5000)	58700 (50000)	NM	NM	NM	284000 (100000)	940 J (1000)	480 J (1000)	NM	370 J (1000)	NM
Organic Carbon (dissolved)		NM	8400 (5000)	58700 (10000)	NM	NM	NM	195000 (100000)	850 J (1000)	690 J (1000)	NM	460 J (1000)	NM
Chloride		NM	123000 (10000)	196000 (20000)	NM	NM	NM	188000 (20000)	118000 (20000)	35800 (5000)	NM	162000 (10000)	NM
Lactic Acid		NM	U (2500)	U (10000)	NM	NM	NM	U (10000)	U (500)	U (500)	NM	U (500)	NM
Nitrogen		NM	U (100)	160 (100)	NM	NM	NM	U (100)	U (100)	1500 (100)	NM	16700 (500)	NM
Nitrogen, Nitrate (As N)		NM	U (100)	160 (100)	NM	NM	NM	U (100)	U (100)	1500 (100)	NM	16700 (500)	NM
Propionic Acid		NM	320 J (2500)	U (10000)	NM	NM	NM	15000 (10000)	67 J (500)	U (500)	NM	U (500)	NM
Pyruvic Acid		NM	U (2500)	U (10000)	NM	NM	NM	U (10000)	U (500)	U (500)	NM	U (500)	NM
Formic acid		NM	24000 (2500)	90000 (10000)	NM	NM	NM	93000 (10000)	4900 (500)	4700 (500)	NM	4500 (500)	NM
1-Butanecarboxylic Acid		NM	U (2500)	U (10000)	NM	NM	NM	U (10000)	U (500)	U (500)	NM	U (500)	NM
3-methyl-Butanoic acid		NM	U (2500)	U (10000)	NM	NM	NM	U (10000)	U (500)	U (500)	NM	U (500)	NM
n-Hexanoic acid		NM	U (2500)	U (10000)	NM	NM	NM	U (10000)	U (500)	U (500)	NM	U (500)	NM
Sulfide (total)		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Sulfate		NM	11000 (1000)	5300 (1000)	NM	NM	NM	14400 (1000)	38700 (5000)	8500 (1000)	NM	56800 (10000)	NM
Gases													
Methane		NM	14000 (5.0)	16000 (5.0)	NM	NM	NM	14000 (5.0)	6400 (5.0)	3900 J (5.0)	NM	3300 (5.0)	NM
Ethane		NM	1.1 (1.0)	0.58 J (1.0)	NM	NM	NM	1.1 (1.0)	U (1.0)	U (1.0)	NM	1.2 (1.0)	NM
Ethene		NM	2.1 (1.0)	1.0 (1.0)	NM	NM	NM	2.3 (1.0)	0.48 J (1.0)	U (1.0)	NM	U (1.0)	NM
HYDROGEN (H2) [nM]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Molecular Analyses													
BAV1 Vinyl Chloride Reductase [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Field Params													
Specific Conductivity (Field Analysis) [uS/cm]		821	1220	3227	291.8	NM	1148	4290	897	414.1	293.3	847	1819
Depth to Water [ft BTOC]		1	13.87	15.45	9.73	NM	9.25	11.78	10.63	12.1	9	24.89	25.18
Dissolved Oxygen		410	40	70	110	NM	140	10	480	60	180	150	160
Oxidation reduction potential [mV]		38.9	-146.3	-171.9	142.2	NM	96.1	-223.1	-51.3	-29.7	281.2	219	-115.7
pH (Field Analysis) [SU]		5.44	6.82	7	5.49	NM	5.17	7.24	6.43	6.43	5.41	5.74	6.38
Temperature (Field) [C]		20.8	19.2	18.5	18.6	NM	22.6	19	20.1	25.9	20.7	21	20.6
Turbidity (Field Parameters) [NTU]		2.67	11.6	22.1	37.6	NM	62	2000	20.4	2.12	2.36	0.66	8.74
Sodium Persulfate		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued
µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VO = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAl = Remedial action decision document
ADl = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter
NE = Not established
NM = Not measured

Color Key
Onsite Wells
Offsite Wells
Plume Boundary Wells

TABLE 6B
SUMMARY OF ANNUAL INJECTION WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS
(OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Remedial Action Levels per ADEQ RADD Issued Dec 2013	IW-132	IW-134	IW-147	IW-73	IW-77
Field Sample ID		IW-132-202010	IW-134-202010	IW-147-202010	IW-73-202010	IW-77-202010
Lab Sample ID(s)		60350822036	60350822045	60350858006; 60350715030; 029RJ-4	60350858004; 60350715019; 029RJ-3	60350822034
Sample Date		10/08/2020	10/08/2020	10/07/2020	10/07/2020	10/08/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments						
Volatile Organic Compounds						
Benzene	5.0	U (0.088)	U (0.088)	0.42 J (0.088)	U (0.088)	U (0.088)
Bromoform	80	U (0.38)	0.71 J (0.38)	2.8 (0.38)	U (0.38)	0.70 J (0.38)
Carbon Disulfide	720	U (0.24)	U (0.24)	0.73 J (0.24)	U (0.24)	U (0.24)
Carbon Tetrachloride	5	U (0.19)	U (0.19)	0.86 J (0.19)	U (0.19)	U (0.19)
Chloroform	80	0.18 J (0.17)	U (0.17)	20.4 (0.17)	U (0.17)	U (0.17)
Chloromethane	190	U (0.44)	U (0.44)	0.91 J (0.44)	U (0.44)	U (0.44)
Dibromochloromethane	80	U (0.17)	0.38 J (0.17)	0.41 J (0.17)	U (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	3.4 (0.098)	U (0.098)	U (0.098)
1,1-Dichloroethene	7.0	0.45 J (0.21)	1.5 (0.21)	72.7 (0.21)	0.89 J (0.21)	0.78 J (0.21)
cis-1,2-Dichloroethene	70	0.63 J (0.15)	10.6 (0.15)	8340 (150)	7.6 (0.15)	5.7 (0.15)
trans-1,2-Dichloroethene	100	U (0.15)	0.59 J (0.15)	189 (0.15)	0.16 J (0.15)	0.23 J (0.15)
Methylene Chloride	5.0	U (0.81)	U (0.81)	4.3 (0.81)	U (0.81)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.28)	U (0.28)	52.6 (0.28)	U (0.28)	U (0.28)
Tetrachloroethene	5.0	U (0.15)	0.34 J (0.15)	27.7 (0.15)	U (0.15)	U (0.15)
Toluene	1000	U (0.18)	U (0.18)	4.2 (0.18)	U (0.18)	U (0.18)
1,1,1-Trichloroethane	200	U (0.13)	U (0.13)	60.8 (0.13)	U (0.13)	U (0.13)
1,1,2-Trichloroethane	5.0	U (0.28)	U (0.28)	2.3 (0.28)	U (0.28)	U (0.28)
Trichloroethene	5.0	210 (2.5)	1110 (5.0)	76800 (250)	211 (2.5)	171 (1.2)
Vinyl Chloride	2.0	U (0.25)	0.38 J (0.25)	329 J (0.25)	0.27 J (0.25)	U (0.25)
Metals						
Iron	NE	NM	NM	173 (50.0)	389 (50.0)	NM
Iron, Ferric	NE	NM	NM	153	199	NM
Iron, Ferrous	NE	10	U	20	190	120
Monitored Natural Attenuation Parameters (Laboratory)						
Organic Carbon (total)	NE	NM	NM	1100 (1000)	380 J (1000)	NM
Nitrogen	NE	NM	NM	99 J (100)	230 (100)	NM
Nitrogen, Nitrate	NE	NM	NM	U (100)	230 (100)	NM
Sulfate	NE	NM	NM	501000 (50000)	4000 (1000)	NM
Gases						
Acetylene	NE	NM	NM	3.3 (0.74)	U (0.74)	NM
Methane	NE	NM	NM	38 J (5.0)	9.6 J+ (5.0)	NM
Ethane	NE	NM	NM	7.8 (1.0)	U (1.0)	NM
Ethene	NE	NM	NM	0.37 J (1.0)	U (1.0)	NM
Hydrogen (H2) [nM]	NE	NM	NM	2.6 (1.9)	0.78 J (1.9)	NM
Molecular Analyses						
BAV1 Vinyl Chloride Reductase [cells/mL]	NE	NM	NM	U (0.5)	U (0.5)	NM
Dehalococcoides (DHC) [cells/mL]	NE	NM	NM	0.6 (0.5)	17.9 (0.5)	NM
tceA Reductase [cells/mL]	NE	NM	NM	U (0.5)	U (0.5)	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]	NE	NM	NM	U (0.5)	U (0.5)	NM
Field Parameters						
Specific Conductivity (Field Analysis) [uS/cm]	NE	1702	2454	2626	779	1592
Depth to Water [ft BTOC]	NE	11.48	10.04	9	7.25	8.77
Dissolved Oxygen	NE	170	6630	40	320	220
Oxidation reduction potential [mV]	NE	52.1	69.4	73.6	166	95
pH (Field Analysis) [SU]	NE	6.51	10.88	6.38	5.26	7.2
Temperature (Field) [C]	NE	24	28.3	24.7	20.4	23
Turbidity (Field Parameters) [NTU]	NE	7.48	16.9	3.57	2.1	9.45
Sodium Persulfate	NE	NM	U	25000	NM	NM

Notes:
1 All concentrations are presented in µg/L (ppb) except where otherwise noted.
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued
µg/l = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VOC = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses.
RAD = Remedial action decision document
ADEQ = Arkansas Department of Environmental Quality
µg/L = Micrograms per Liter

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
DP-01	DP-01-20131219	12/19/2013	N	8.0	< 5.0 U	< 2.0 U
DP-02	DP-02-20131220	12/20/2013	N	270	8.2	0.33 J
DP-02	DP-02-20131220-FD	12/20/2013	FD	270	8.7	0.34 J
DP-03	DP-03-20131218	12/18/2013	N	120	5.1	0.14 J
DP-04	DP-04-20131218	12/18/2013	N	57	2.3 J	0.15 J
DP-05	DP-05-20131217	12/17/2013	N	2.2 J	< 5.0 U	< 2.0 U
DP-07	DP-07-20131217	12/17/2013	N	12000	97	21
DP-12	DP-12-20140111	1/11/2014	N	390	140	1.6 J
DP-12	DP-12-20140111-FD	1/11/2014	FD	490	140	1.3 J
DP-14	DP-14-20140109	1/9/2014	N	17000	150	16 J
DP-16	DP-16-20140110	1/10/2014	N	390	48	3.6
DP-18	DP-18-20140110	1/10/2014	N	2800	170	< 20 U
DP-22	DP-22-20140111	1/11/2014	N	170	3.0 J	< 2.0 U
DP-38	DP-38-082014	8/5/2014	N	1.5 J	2.9 J	< 2.0 U
DP-39	DP-39 - 082014	8/6/2014	N	18.1	0.78 J	< 2.0 U
DP-40	DP-40 - 082014	8/11/2014	N	3.2 J	0.55 J	< 2.0 U
DP-41	DP-41 - 082014	8/11/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-42	DP-42 - 082014	8/11/2014	N	6.4	< 5.0 U	< 2.0 U
DP-43	DP-43 - 082014	8/11/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-44	DP-44 - 082014	8/11/2014	N	< 25.0 U	< 25.0 U	< 10.0 U
DP-45	DP-45 - 082014	8/11/2014	N	6.8	1.3 J	< 2.0 U
DP-46	DP-46-082014	8/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-47	DP-47-082014	8/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-48	DP-48-082014	8/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-49	DP-49-GW-20140817	8/17/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-50	DP-50-082014	8/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-51	DP-51-GW-082014	8/20/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-52	DP-52-GW-082014	8/19/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-53	DP-53-GW-082014	8/20/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-57	DP-57-GW-20140825	8/25/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-58	DP-58-GW-082014	8/26/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-59	DP-59-GW-082014	8/26/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-60	DP-60-GW-082014	8/26/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-61	DP-61-GW-082014	8/26/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
DP-62	DP-62-GW-082014	8/27/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
HM-HP-01	HM-HP-01-WG-39.5	7/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
HM-HP-02	HM-HP-02-WG-31	7/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
HM-HP-03	HM-HP-03-WG-37	7/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
HM-HP-04	HM-HP-04-WG-38	7/15/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
HP-02	HP-02-20180404	4/4/2018	N	63.4	5.9	0.16 J
HP-03	HP-03-20180404	4/4/2018	N	244	7.9	0.29 J
HP-04	HP-04-20180404	4/4/2018	N	6.6	2.2	< 1.0 U
HP-05	HP-05-20180404	4/4/2018	N	10.9	5.8	< 1.0 U
HP-06	HP-06-20180404	4/4/2018	N	7.4	2.7	< 1.0 U
HP-07	HP-07-20180405	4/5/2018	N	4.6	3.2	0.14 J
HP-08	HP-08-20180405	4/5/2018	N	0.30 J	0.34 J	< 1.0 U
ITMW-1	ITMW-1-20010327	3/27/2001	N	30	6	< 10 U
ITMW-1	ITMW-1-20010911	9/11/2001	N	27	9	< 10 U
ITMW-1	ITMW-1-20020910	9/10/2002	N	35	9	< 10 U
ITMW-1	ITMW-1-20030227	2/27/2003	N	29.6	7.14	< 10 U
ITMW-1	ITMW-1-20030923	9/23/2003	N	25	12	< 10 U
ITMW-1	ITMW-1-20040413	4/13/2004	N	42.2	11.1	< 10 U
ITMW-1	ITMW-1-20040921	9/21/2004	N	26	16.7	< 10 U
ITMW-1	ITMW-1-20040921-FD	9/21/2004	FD	26.1	15.8	< 10 U
ITMW-1	ITMW-1-20050928	9/28/2005	N	34.7	11.3	< 10 U
ITMW-1	ITMW-1-20061014	10/14/2006	N	20	11	< 10 UJ
ITMW-1	ITMW-1-20070920	9/20/2007	N	18	13	< 10 U
ITMW-1	ITMW-1-20081209	12/9/2008	N	14	7.3	< 5 U
ITMW-1	ITMW-1-20111027	10/27/2011	N	17	8.2	< 5 U
ITMW-1	ITMW-1-20120418	4/18/2012	N	32	13	< 5 U
ITMW-1	ITMW-1-20121019	10/19/2012	N	10	8.3	< 2.0 U
ITMW-1	ITMW-1-20130424	4/24/2013	N	26	9.1	< 2.0 U
ITMW-1	ITMW-1-101513	10/15/2013	N	7.2	5.8	< 2.0 U
ITMW-1	ITMW-1-201403	3/8/2014	N	23.4	8.9	< 2.0 U
ITMW-1	ITMW-1-201405	5/13/2014	N	21.3	8.7	< 2.0 U
ITMW-1	DUP-5-201407	7/30/2014	FD	9.2	5.7	< 2.0 U
ITMW-1	ITMW-1-201407	7/30/2014	N	8.9	5.4	< 2.0 U
ITMW-1	ITMW-1-201410	10/15/2014	N	6.1	4.5 J	< 2.0 U
ITMW-1	ITMW-1-201501	1/14/2015	N	22.7	9.7	< 1.0 U
ITMW-1	ITMW-1-201504	4/15/2015	N	19.2	9.7	< 1.0 U
ITMW-1	ITMW-1-201507	7/22/2015	N	10.5	5.3	< 1.0 U
ITMW-1	ITMW-1-201510	10/7/2015	N	7.8	4.4	< 1.0 U
ITMW-1	ITMW-1-201601	1/13/2016	N	19.9	8.9	< 1.0 U
ITMW-1	DUP-05-201605	5/5/2016	FD	17.6	8.1	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-1	ITMW-1-201605	5/5/2016	N	17.2	8.0	< 1.0 U
ITMW-1	DUP-04-201611	11/10/2016	FD	7.0	3.4	< 1.0 U
ITMW-1	ITMW-1-201611	11/10/2016	N	7.6	3.1	< 1.0 U
ITMW-1	ITMW-1-201710	10/25/2017	N	8.9	3.8	< 1.0 U
ITMW-1	ITMW-1-201811	11/15/2018	N	12.7	5.4	< 1.0 U
ITMW-1R	ITMW-1R-201910	10/23/2019	N	11.4	8.9	0.14 J
ITMW-1R	ITMW-1R-202010	10/8/2020	N	28.4	45.9	< 1.0 U
ITMW-2	ITMW-2-20010327	3/27/2001	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20010913	9/13/2001	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20020911	9/11/2002	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20030923	9/23/2003	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20040413	4/13/2004	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20040413-FD	4/13/2004	FD	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20040921	9/21/2004	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20040921-FD	9/21/2004	FD	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20050929	9/29/2005	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20061014	10/14/2006	N	4 J	< 5 U	< 10 U
ITMW-2	ITMW-2-20070920	9/20/2007	N	< 5 U	< 5 U	< 10 U
ITMW-2	ITMW-2-20081209	12/9/2008	N	< 5 U	< 5 U	< 5 U
ITMW-2	ITMW-2-20101103	11/3/2010	N	< 5 U	< 5 U	< 5 U
ITMW-2	ITMW-2-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
ITMW-2	ITMW-2-20120417	4/17/2012	N	< 5 U	< 5 U	< 5 U
ITMW-2	ITMW-2-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-2	ITMW-2-20130424	4/24/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-2	ITMW-2-101413	10/14/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-2	ITMW-2-201403	3/6/2014	N	0.23 J	0.40 J	< 2.0 U
ITMW-2	ITMW-2-201403-FD	3/6/2014	FD	0.28 J	0.51 J	< 2.0 U
ITMW-2	ITMW-2-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-2	ITMW-2-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-2	ITMW-2-201410	10/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-2	ITMW-2-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-2	ITMW-2-201504	4/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-2	ITMW-2-201507	7/22/2015	N	0.24 J	0.26 J	< 1.0 U
ITMW-2	ITMW-2-201510	10/6/2015	N	0.22 J	0.21 J	< 1.0 U
ITMW-2	ITMW-2-201601	1/12/2016	N	0.21 J	0.42 J	< 1.0 U
ITMW-2	ITMW-2-201605	5/5/2016	N	0.25 J	0.29 J	< 1.0 U
ITMW-2	ITMW-2-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-2	ITMW-2-201710	10/25/2017	N	0.34 U	0.29 J	< 1.0 U
ITMW-2	ITMW-2-201811	11/13/2018	N	0.71 J	0.57 J	< 1.0 U
ITMW-3	ITMW-3-20010327	3/27/2001	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20010911	9/11/2001	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20020910	9/10/2002	N	15	< 5 U	< 10 U
ITMW-3	ITMW-3-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20030923	9/23/2003	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20040413	4/13/2004	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20040921	9/21/2004	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20050928	9/28/2005	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20061014	10/14/2006	N	< 5 U	< 5 U	< 10 UJ
ITMW-3	ITMW-3-20070920	9/20/2007	N	< 5 U	< 5 U	< 10 U
ITMW-3	ITMW-3-20081209	12/9/2008	N	< 5 U	< 5 U	< 5 U
ITMW-3	ITMW-3-20101104	11/4/2010	N	190	3.9 J	< 5 U
ITMW-3	ITMW-3-20111027	10/27/2011	N	4.1 J	< 5 U	< 5 U
ITMW-3	ITMW-3-20120417	4/17/2012	N	< 5 U	< 5 U	< 5 U
ITMW-3	ITMW-3-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-3	ITMW-3-20130423	4/23/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-3	ITMW-3-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-4	ITMW-4-20010328	3/28/2001	N	9	< 5 U	< 10 U
ITMW-4	ITMW-4-20010913	9/13/2001	N	6	8	< 10 U
ITMW-4	ITMW-4-20020910	9/10/2002	N	9	< 5 U	< 10 U
ITMW-4	ITMW-4-20030228	2/28/2003	N	< 5 U	< 5 U	< 10 U
ITMW-4	ITMW-4-20030923	9/23/2003	N	< 5 U	< 5 U	< 10 U
ITMW-4	ITMW-4-20040414	4/14/2004	N	< 5 U	< 5 U	< 10 U
ITMW-4	ITMW-4-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
ITMW-4	ITMW-4-20050927	9/27/2005	N	< 5 U	< 5 U	< 10 U
ITMW-4	ITMW-4-20061011	10/11/2006	N	6	8	< 10 U
ITMW-4	ITMW-4-20070920	9/20/2007	N	5 J	5 J	< 10 U
ITMW-4	ITMW-4-20081209	12/9/2008	N	< 5 U	3.2 J	< 5 U
ITMW-4	ITMW-4-20111025	10/25/2011	N	4.8 J	5.1	< 5 U
ITMW-4	ITMW-4-20121017	10/17/2012	N	3.3 J	4.5 J	7.9
ITMW-4	ITMW-4-101413	10/14/2013	N	3.7 J	6.1	< 2.0 U
ITMW-4	ITMW-4-201403	3/6/2014	N	1.4 J	2.0 J	0.19 J
ITMW-4	ITMW-4-201405	5/13/2014	N	2.0 J	2.1 J	0.18 J
ITMW-4	ITMW-4-201407	7/30/2014	N	2.8 J	4.6 J	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-4	ITMW-4-201410	10/16/2014	N	3.4 J	4.9 J	< 2.0 U
ITMW-4	ITMW-4-201501	1/13/2015	N	1.7	2.3	< 1.0 U
ITMW-4	ITMW-4-201504	4/14/2015	N	1.6	2.6	0.84 J
ITMW-4	ITMW-4-201507	7/22/2015	N	2.0	2.6	0.17 J
ITMW-4	ITMW-4-201510	10/7/2015	N	2.3	2.8	0.23 J
ITMW-4	ITMW-4-201601	1/12/2016	N	1.5	2.5	< 1.0 U
ITMW-4	ITMW-4-201605	5/5/2016	N	1.3	< 1.0 U	0.15 J
ITMW-4	ITMW-4-202005	5/13/2020	N	12.4	< 1.0 U	< 1.0 U
ITMW-5	ITMW-5-20010328	3/28/2001	N	100	46	< 10 U
ITMW-5	ITMW-5-20010913	9/13/2001	N	72	64	< 10 U
ITMW-5	ITMW-5-20020910	9/10/2002	N	108	72	< 10 U
ITMW-5	ITMW-5-20030228	2/28/2003	N	90.4	68.7	< 10 U
ITMW-5	ITMW-5-20030924	9/24/2003	N	97.3	73.7	< 10 U
ITMW-5	ITMW-5-20040414	4/14/2004	N	83.9	55.4	< 10 U
ITMW-5	ITMW-5-20040922	9/22/2004	N	105	75.8	< 10 U
ITMW-5	ITMW-5-20050406	4/6/2005	N	93.2	72.6	< 10 U
ITMW-5	ITMW-5-20050406-FD	4/6/2005	FD	87	71	< 10 U
ITMW-5	ITMW-5-20050928	9/28/2005	N	79	53.5	< 10 U
ITMW-5	ITMW-5-20050928-FD	9/28/2005	FD	82.1	54.4	< 10 U
ITMW-5	ITMW-5-20060314	3/14/2006	N	92	66.1	< 10 U
ITMW-5	ITMW-5-20060314-FD	3/14/2006	FD	98.4	66.1	< 10 U
ITMW-5	ITMW-5-20061010	10/10/2006	N	110	51	4 J
ITMW-5	ITMW-5-20070418	4/18/2007	N	115	39.3	< 10 U
ITMW-5	ITMW-5-20070920	9/20/2007	N	120	49	4 J
ITMW-5	ITMW-5-20080429	4/29/2008	N	120 0	43 0	< 10 U
ITMW-5	ITMW-5-20081209	12/9/2008	N	200 E	42	< 5 U
ITMW-5	ITMW-5-20090427	4/27/2009	N	160	34	< 5 U
ITMW-5	ITMW-5-20100511	5/11/2010	N	190 EF	40	< 5 U
ITMW-5	ITMW-5-20101106	11/6/2010	N	350	50	< 5 U
ITMW-5	ITMW-5-20110322	3/22/2011	N	370	39	< 5 U
ITMW-5	ITMW-5-20111025	10/25/2011	N	150	35	< 5 U
ITMW-5	ITMW-5-20120417	4/17/2012	N	290	26	< 5 U
ITMW-5	ITMW-5-20121018	10/18/2012	N	260	33	0.64 J
ITMW-5	ITMW-5-20130425	4/25/2013	N	220	20	0.50 J
ITMW-5	ITMW-5-101613	10/16/2013	N	260	27	0.55 J
ITMW-5	DUP-06-201611	11/10/2016	FD	441	33.5	1.5 J
ITMW-5	ITMW-5-201611	11/10/2016	N	507	38.9	2.8 J
ITMW-5	DUP-06-201704	4/28/2017	FD	664	27.8	0.82 J
ITMW-5	ITMW-5-201704	4/28/2017	N	608	30.7	0.93 J
ITMW-5	ITMW-5-201710	10/25/2017	N	1470	38.2	1.6
ITMW-5	ITMW-5-201804	4/19/2018	N	1590	34.2	1.4
ITMW-5	ITMW-5-201811	11/15/2018	N	2250	36.9	2.0
ITMW-5	ITMW-5-201904	4/24/2019	N	3660	37.0	1.6
ITMW-5	ITMW-5-201910	10/24/2019	N	3700	42.1	2.0
ITMW-5	ITMW-5-202005	5/13/2020	N	3050	30.3	1.3
ITMW-5	ITMW-5-202010	10/8/2020	N	2560	29.5	1.4
ITMW-6	ITMW-6-20010328	3/28/2001	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20010913	9/13/2001	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20020910	9/10/2002	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20020910-FD	9/10/2002	FD	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20030924	9/24/2003	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20040414	4/14/2004	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20050928	9/28/2005	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20061011	10/11/2006	N	< 5 U	4 J	< 10 U
ITMW-6	ITMW-6-20070920	9/20/2007	N	< 5 U	< 5 U	< 10 U
ITMW-6	ITMW-6-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
ITMW-6	ITMW-6-20091028	10/28/2009	N	< 5 U	2.1 J	< 5 U
ITMW-6	ITMW-6-20100510	5/10/2010	N	< 5 U	1.9 J	< 5 U
ITMW-6	ITMW-6-20111025-FD	10/25/2011	FD	< 5 U	2.7 J	< 5 U
ITMW-6	ITMW-6-20111025	10/25/2011	N	< 5 U	2.4 J	< 5 U
ITMW-6	ITMW-6-20120417	4/17/2012	N	< 5 U	2.9 J	< 5 U
ITMW-6	ITMW-6-20121017	10/17/2012	N	< 5.0 U	3.1 J	< 2.0 U
ITMW-6	ITMW-6-20130422	4/22/2013	N	< 5.0 U	2.1 J	0.33 J
ITMW-6	ITMW-6-101413	10/14/2013	N	3.4 J	5.5	0.18 J
ITMW-6	ITMW-6-201403	3/6/2014	N	2.7 J	4.9 J	0.18 J
ITMW-6	ITMW-6-201405	5/13/2014	N	3.6 J	5.3	0.17 J
ITMW-6	ITMW-6-201407	7/30/2014	N	4.4 J	6.7	< 2.0 U
ITMW-6	ITMW-6-201410	10/15/2014	N	3.1 J	5.2	< 2.0 U
ITMW-6	ITMW-6-201501	1/13/2015	N	3.7	5.7	< 1.0 U
ITMW-6	ITMW-6-201504	4/14/2015	N	3.7	5.3 J	< 1.0 U
ITMW-6	ITMW-6-201507	7/22/2015	N	4.7	6.3	0.31 J
ITMW-6	ITMW-6-201510	10/7/2015	N	3.1	5.5	0.21 J

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-6	ITMW-6-201601	1/12/2016	N	4.2	6.2	0.32 J
ITMW-6	ITMW-6-201605	5/5/2016	N	4.4	5.3	0.22 J
ITMW-6	ITMW-6-202005	5/13/2020	N	2070	19.5	0.99 J
ITMW-6	ITMW-6-202010	10/8/2020	N	2110	20.6	1.4
ITMW-7	ITMW-7-20010328	3/28/2001	N	161	66	< 10 U
ITMW-7	ITMW-7-20010913	9/13/2001	N	139	68	< 10 U
ITMW-7	ITMW-7-20020910	9/10/2002	N	137	56	< 10 U
ITMW-7	ITMW-7-20020910-FD	9/10/2002	FD	128	54	< 10 U
ITMW-7	ITMW-7-20030227	2/27/2003	N	172	92.5	< 10 U
ITMW-7	ITMW-7-20030924	9/24/2003	N	125	57.3	< 10 U
ITMW-7	ITMW-7-20040414	4/14/2004	N	201	80.7	< 10 U
ITMW-7	ITMW-7-20040922	9/22/2004	N	132	48.4	< 10 U
ITMW-7	ITMW-7-20050407	4/7/2005	N	122	39	< 10 U
ITMW-7	ITMW-7-20050928	9/28/2005	N	100	30.5	< 10 U
ITMW-7	ITMW-7-20060314	3/14/2006	N	153	59.5	< 10 U
ITMW-7	ITMW-7-20061010	10/10/2006	N	140	44	1 J
ITMW-7	ITMW-7-20070417	4/17/2007	N	83	29.4	< 10 U
ITMW-7	ITMW-7-20070921	9/21/2007	N	72	22	< 10 U
ITMW-7	ITMW-7-20080430	4/30/2008	N	70 0	18 0	< 10 U
ITMW-7	ITMW-7-20081211	12/11/2008	N	66	19	< 5 U
ITMW-7	ITMW-7-20090427	4/27/2009	N	87	26	< 5 U
ITMW-7	ITMW-7-20091028	10/28/2009	N	60	20	< 5 U
ITMW-7	ITMW-7-20100510	5/10/2010	N	73	18	< 5 U
ITMW-7	ITMW-7-20110323	3/23/2011	N	225 EF	93.2	56.5
ITMW-7	ITMW-7-20111025	10/25/2011	N	99	26	< 5 U
ITMW-7	ITMW-7-20120418	4/18/2012	N	100	20	< 5 U
ITMW-7	ITMW-7-20121018	10/18/2012	N	63	17	< 2.0 U
ITMW-7	ITMW-7-20130425	4/25/2013	N	69	16	0.27 J
ITMW-7	ITMW-7-101713	10/17/2013	N	47	12	< 2.0 U
ITMW-7	ITMW-7-201403	3/8/2014	N	37.4	10	0.24 J
ITMW-7	ITMW-7-201405	5/14/2014	N	37.0	11.1	0.22 J
ITMW-7	ITMW-7-201407	7/30/2014	N	36.7	11.2	< 2.0 U
ITMW-7	ITMW-7-201410	10/15/2014	N	33.7	10.3	< 2.0 U
ITMW-7	ITMW-7-201501	1/14/2015	N	34.7	10.5	< 1.0 U
ITMW-7	ITMW-7-201504	4/14/2015	N	29.3	9.2	< 1.0 U
ITMW-7	ITMW-7-201507	7/22/2015	N	26.4	8.3	0.19 J
ITMW-7	ITMW-7-201510	10/8/2015	N	27.6	8.8	0.19 J
ITMW-7	ITMW-7-201601	1/13/2016	N	44.2	13.0	0.23 J
ITMW-7	DUP-06-201605	5/5/2016	FD	33.9	9.0	0.18 J
ITMW-7	ITMW-7-201605	5/5/2016	N	33.8	8.7	< 1.0 U
ITMW-7	ITMW-7-201611	11/10/2016	N	33.2	10	0.26 J
ITMW-7	ITMW-07-201704	4/27/2017	N	29.2	9.3	0.14 J
ITMW-7	ITMW-7-201710	10/25/2017	N	23.4	7.5	0.20 J
ITMW-7	ITMW-7-201804	4/19/2018	N	24.2	8.3	0.13 J
ITMW-7	ITMW-7-201811	11/15/2018	N	22.8	7.3	< 1.0 U
ITMW-7	ITMW-7-201904	4/24/2019	N	19.4	6.5	< 1.0 U
ITMW-7	ITMW-7-201910	10/22/2019	N	20.5	6.7	0.13 J
ITMW-7	ITMW-7-202005	5/13/2020	N	14.1	6.3	< 1.0 U
ITMW-7	ITMW-7-202010	10/8/2020	N	16.4	6.4	< 1.0 U
ITMW-9	ITMW-9-20010328	3/28/2001	N	40	12	< 10 U
ITMW-9	ITMW-9-20010913	9/13/2001	N	40	12	< 10 U
ITMW-9	ITMW-9-20020910	9/10/2002	N	61	21	< 10 U
ITMW-9	ITMW-9-20030228	2/28/2003	N	54.2	37.2	< 10 U
ITMW-9	ITMW-9-20030923	9/23/2003	N	91	49.5	< 10 U
ITMW-9	ITMW-9-20030923-FD	9/23/2003	FD	97.6	53.9	< 10 U
ITMW-9	ITMW-9-20040414	4/14/2004	N	71.8	38.8	< 10 U
ITMW-9	ITMW-9-20040922	9/22/2004	N	80.7	21.1	< 10 U
ITMW-9	ITMW-9-20050406	4/6/2005	N	79	30.4	< 10 U
ITMW-9	ITMW-9-20050927	9/27/2005	N	98.8	54.6	< 10 U
ITMW-9	ITMW-9-20060314	3/14/2006	N	101	78.7	< 10 U
ITMW-9	ITMW-9-20061011	10/11/2006	N	110	77	6 J
ITMW-9	ITMW-9-20070417	4/17/2007	N	79	39.6	< 10 U
ITMW-9	ITMW-9-20070920	9/20/2007	N	76	26	< 10 U
ITMW-9	ITMW-9-20080428	4/28/2008	N	82 0	37 0	< 10 U
ITMW-9	ITMW-9-20081209	12/9/2008	N	90	62	< 5 U
ITMW-9	ITMW-9-20090427	4/27/2009	N	110	51	< 5 U
ITMW-9	ITMW-9-20091027	10/27/2009	N	120	67	5.7
ITMW-9	ITMW-9-20091027-FD	10/27/2009	FD	120	71	6.1
ITMW-9	ITMW-9-20100511	5/11/2010	N	130	38	< 5 U
ITMW-9	ITMW-9-20110322	3/22/2011	N	120	48	2.4 J
ITMW-9	ITMW-9-20111025	10/25/2011	N	90	57	< 5 U
ITMW-9	ITMW-9-20120417	4/17/2012	N	150	50	2.5 J
ITMW-9	ITMW-9-20121018	10/18/2012	N	120	53	5.2
ITMW-9	ITMW-9-20130424	4/24/2013	N	140	44	1.6 J

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-9	ITMW-9-101713	10/17/2013	N	83	42	16
ITMW-9	ITMW-9-201403	3/8/2014	N	112	40.4	0.41 J
ITMW-9	ITMW-9-201405	5/14/2014	N	113	42.2	0.64 J
ITMW-9	DUP-6-201407	7/30/2014	FD	143	43.9	0.54 J
ITMW-9	ITMW-9-201407	7/30/2014	N	141	44.4	0.53 J
ITMW-9	DUP-02-201410	10/15/2014	FD	75.3	38.8	1.7 J
ITMW-9	ITMW-9-201410	10/15/2014	N	76.9	39.1	1.8 J
ITMW-9	DUP-02-201501	1/13/2015	FD	89.4	39.1	1.4
ITMW-9	ITMW-9-201501	1/13/2015	N	89.6	39.1	1.4
ITMW-9	ITMW-9-201504	4/15/2015	N	100	35.4	< 1.0 U
ITMW-9	ITMW-9-201507	7/21/2015	N	142	35.5	0.40 J
ITMW-9	DUP-09-201510	10/7/2015	FD	55.2	26.8	1.1
ITMW-9	ITMW-9-201510	10/7/2015	N	55.6	26.6	1.0
ITMW-9	DUP-04-201601	1/13/2016	FD	91.3	34.1	1.1
ITMW-9	ITMW-9-201601	1/13/2016	N	92.4	35.3	1.1
ITMW-9	ITMW-9-201605	5/5/2016	N	97.3	31.6	0.48 J
ITMW-9	ITMW-9-201611	11/8/2016	N	2550	73.0 J	0.17 J
ITMW-9	ITMW-9-201612	12/14/2016	N	193	40.1	1
ITMW-9	ITMW-9-201710	10/25/2017	N	797	60.8	1.7
ITMW-9	ITMW-9-201811	11/15/2018	N	1390	77.1	2.0
ITMW-9	DUP-07-201910	10/23/2019	FD	2810	95.0	2.0
ITMW-9	ITMW-9-201910	10/23/2019	N	2720	96.3	2.0
ITMW-9	ITMW-9-202005	5/13/2020	N	1900	72.5	1.4
ITMW-9	ITMW-9-202010	10/7/2020	N	1770	67.6	1.2
ITMW-10	ITMW-10-20010328	3/28/2001	N	40	21	< 10 U
ITMW-10	ITMW-10-20010913	9/13/2001	N	29	28	< 10 U
ITMW-10	ITMW-10-20010913-FD	9/13/2001	FD	30	27	< 10 U
ITMW-10	ITMW-10-20020910	9/10/2002	N	55	38	< 10 U
ITMW-10	ITMW-10-20030228	2/28/2003	N	57.6	50.9	< 10 U
ITMW-10	ITMW-10-20030716	7/16/2003	N	55.3	49.2	< 10 U
ITMW-10	ITMW-10-20030923	9/23/2003	N	65.9	56.5	< 10 U
ITMW-10	ITMW-10-20040414	4/14/2004	N	80	57.4	< 10 U
ITMW-10	ITMW-10-20040922	9/22/2004	N	59.6	50	< 10 U
ITMW-10	ITMW-10-20050406	4/6/2005	N	72.1	57.7	< 10 U
ITMW-10	ITMW-10-20050928	9/28/2005	N	57.6	41.6	< 10 U
ITMW-10	ITMW-10-20060314	3/14/2006	N	82	67.2	< 10 U
ITMW-10	ITMW-10-20061010	10/10/2006	N	88	54	5 J
ITMW-10	ITMW-10-20070417	4/17/2007	N	76	52.4	< 10 U
ITMW-10	ITMW-10-20070920	9/20/2007	N	67	48	5 J
ITMW-10	ITMW-10-20080428	4/28/2008	N	61 0	46 0	< 10 U
ITMW-10	ITMW-10-20081209	12/9/2008	N	78	50	< 5 U
ITMW-10	ITMW-10-20090427	4/27/2009	N	87	52	4.4 J
ITMW-10	ITMW-10-20091027	10/27/2009	N	110	50	4.2 J
ITMW-10	ITMW-10-20100511	5/11/2010	N	85	46	2.4 J
ITMW-10	ITMW-10-20110322	3/22/2011	N	92	42	2.7 J
ITMW-10	ITMW-10-20111025	10/25/2011	N	94	39	2.5 J
ITMW-10	ITMW-10-20121018	10/18/2012	N	100	37	2.5
ITMW-10	ITMW-10-101513	10/15/2013	N	100	32	3.1
ITMW-10	ITMW-10-201403	3/6/2014	N	166	32.3	1.2 J
ITMW-10	ITMW-10-201405	5/14/2014	N	184	32.4	1.4 J
ITMW-10	ITMW-10-201407	7/30/2014	N	273	38.3	1.8 J
ITMW-10	ITMW-10-201410	10/15/2014	N	243	32.3	1.7 J
ITMW-10	ITMW-10-201501	1/14/2015	N	403	38.9	1.4
ITMW-10	ITMW-10-201504	4/15/2015	N	258	34.8	0.98 J
ITMW-10	DUP-08-201504	4/16/2015	FD	303	36.1	1.2
ITMW-10	DUP-01-201507	7/22/2015	FD	501	36.7	1.5
ITMW-10	ITMW-10-201507	7/22/2015	N	504	36.2	1.3
ITMW-10	DUP-04-201510	10/7/2015	FD	445	37.9	1.6
ITMW-10	ITMW-10-201510	10/7/2015	N	437	37.5	1.5
ITMW-10	DUP-01-201601	1/13/2016	FD	735	45.5	1.7
ITMW-10	ITMW-10-201601	1/13/2016	N	761	44.4	1.6
ITMW-10	DUP-01-201605	5/5/2016	FD	673	34.0	1.1
ITMW-10	ITMW-10-201605	5/5/2016	N	743	36.6	1.1
ITMW-10	ITMW-10-201611	11/10/2016	N	113	12.5	0.52 J
ITMW-10	ITMW-10-201704	4/28/2017	N	132	18.3	0.71 J
ITMW-10	ITMW-10-201710	10/25/2017	N	72.9	13.3	0.82 J
ITMW-10	ITMW-10-201804	4/19/2018	N	65.4	12.2	0.65 J
ITMW-10	ITMW-10-201811	11/14/2018	N	45.0	10.9	0.77 J
ITMW-10	DUP-07-201904	4/25/2019	FD	59.4	7.9	0.32 J
ITMW-10	ITMW-10-201904	4/25/2019	N	60.5	8.1	0.39 J
ITMW-10	ITMW-10-201910	10/24/2019	N	127	6.3	0.40 J
ITMW-10	ITMW-10-202005	5/13/2020	N	246	6.4	0.33 J
ITMW-10	ITMW-10-202010	10/8/2020	N	286	6.5	0.36 J
ITMW-11	ITMW-11-20010327	3/27/2001	N	7000	200	< 10 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-11	ITMW-11-20010913	9/13/2001	N	6000	183	< 10 U
ITMW-11	ITMW-11-20011120	11/20/2001	N	< 5 U	< 5 U	< 10 U
ITMW-11	ITMW-11L-20020909	9/9/2002	N	7100	206	10
ITMW-11	ITMW-11T-20020909	9/9/2002	N	800	72	< 10 U
ITMW-11	ITMW-11-20030226	2/26/2003	N	4110	346	58.8
ITMW-11	ITMW-11-20030226-FD	2/26/2003	FD	3630	306	60.7
ITMW-11	ITMW-11-20030924	9/24/2003	N	3990	269	11.8
ITMW-11	ITMW-11-20040413	4/13/2004	N	3160	240	37.8
ITMW-11	ITMW-11-20040921	9/21/2004	N	3450	204	< 10 U
ITMW-11	ITMW-11-20050407	4/7/2005	N	4210	282	66.7
ITMW-11	ITMW-11-20050929	9/29/2005	N	3910	199	18
ITMW-11	ITMW-11-20060316	3/16/2006	N	14600	1290	482
ITMW-11	ITMW-11-20060316-FD	3/16/2006	FD	12800	1210	381
ITMW-11	ITMW-11-20061013	10/13/2006	N	8000	340	47
ITMW-11	ITMW-11-20070419	4/19/2007	N	3970	199	< 200 U
ITMW-11	ITMW-11-20070921	9/21/2007	N	7600	180	21
ITMW-11	ITMW-11-20080430	4/30/2008	N	4500 0	210 0	58 0
ITMW-11	ITMW-11-20081210	12/10/2008	N	5800	190	27
ITMW-11	ITMW-11-20090427	4/27/2009	N	2500	200	24
ITMW-11	ITMW-11-20100511-FD	5/11/2010	FD	6200	290	28
ITMW-11	ITMW-11-20100511	5/11/2010	N	6200	290	45
ITMW-11	ITMW-11-20110323	3/23/2011	N	9700	520	130
ITMW-11	ITMW-11-20111026	10/26/2011	N	8800	310	16
ITMW-11	ITMW-11-20121019	10/19/2012	N	1400	34	2.4
ITMW-11	ITMW-11-101713	10/17/2013	N	180	8.7	2.9
ITMW-11	ITMW-11-201403	3/8/2014	N	2980	187 M1	22.5
ITMW-11	DUP-4-201405	5/15/2014	FD	1470	107	4.9
ITMW-11	ITMW-11-201405	5/15/2014	N	1590	99.5	5.5
ITMW-11	ITMW-11-201407	7/31/2014	N	7380	156	6.9
ITMW-11	ITMW-11-201410	10/15/2014	N	2050	70.4	3.5
ITMW-11	ITMW-11-20141204	12/4/2014	N	1530	55.0	6.4
ITMW-11	ITMW-11-201501	1/15/2015	N	68.3	9.8	1.9
ITMW-11	ITMW-11-201504	4/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-11	ITMW-11-201507	7/22/2015	N	33.2	5.9	< 1.0 U
ITMW-11	ITMW-11-201510	10/7/2015	N	721	57.9	0.96 J
ITMW-11	DUP-03-201601	1/13/2016	FD	2100	199	65.3
ITMW-11	ITMW-11-201601	1/13/2016	N	605	100	13.1
ITMW-11	ITMW-11-201605	5/5/2016	N	4630	173	11.2
ITMW-11	DUP-05-201904	4/25/2019	FD	4060	93.2	2.0
ITMW-11	ITMW-11-201904	4/25/2019	N	3670	89.9	0.19 J
ITMW-11	ITMW-11-201910	10/24/2019	N	9.9	0.39 J	< 1.0 U
ITMW-11	ITMW-11-202005	5/13/2020	N	3460	134	< 1.0 U
ITMW-11	ITMW-11-202010	10/8/2020	N	894	18.7	< 1.0 U
ITMW-12	ITMW-12-20010327	3/27/2001	N	3900	200	20
ITMW-12	ITMW-12-20010913	9/13/2001	N	3100	159	< 10 U
ITMW-12	ITMW-12-20011120	11/20/2001	N	2400	300	20
ITMW-12	ITMW-12-20020911	9/11/2002	N	4200	300	< 10 U
ITMW-12	ITMW-12-20030226	2/26/2003	N	3460	287	< 10 U
ITMW-12	ITMW-12-20030226-FD	2/26/2003	FD	3940	308	< 10 U
ITMW-12	ITMW-12-20030924	9/24/2003	N	2920	242	< 10 U
ITMW-12	ITMW-12-20040413	4/13/2004	N	2410	245	< 10 U
ITMW-12	ITMW-12-20040921	9/21/2004	N	1780	238	< 10 U
ITMW-12	ITMW-12-20050929	9/29/2005	N	2120	273	< 10 U
ITMW-12	ITMW-12-20061013	10/13/2006	N	3500	310	9 J
ITMW-12	ITMW-12-20070921	9/21/2007	N	2100	220	< 10 U
ITMW-12	ITMW-12-20081209	12/9/2008	N	1500	180	< 5 U
ITMW-12	ITMW-12-20111026	10/26/2011	N	1600	230	1.8 J
ITMW-12	ITMW-12-20121019	10/19/2012	N	2500	200	3.6
ITMW-12	ITMW-12-101713	10/17/2013	N	2300	190	3.2
ITMW-12	ITMW-12-20131017-FD	10/17/2013	FD	2300	160	4.1
ITMW-12	ITMW-12-201403	3/8/2014	N	1910	148	3.4
ITMW-12	ITMW-12-201403-FD	3/8/2014	FD	2400	207	3.4
ITMW-12	ITMW-12-201405	5/14/2014	N	2740	164	14.0
ITMW-12	ITMW-12-201407	7/31/2014	N	2710	173	13.6
ITMW-12	DUP-04-201410	10/15/2014	FD	2950	192	3.7
ITMW-12	ITMW-12-201410	10/15/2014	N	2570	188	3.5
ITMW-12	ITMW-12-20141204	12/4/2014	N	468	51.1	0.88 J
ITMW-12	DUP-04-201501	1/15/2015	FD	59.3	4.8	< 1.0 U
ITMW-12	ITMW-12-201501	1/15/2015	N	57.1	4.2	< 1.0 U
ITMW-12	ITMW-12-201504	4/15/2015	N	2260	149	< 1.0 U
ITMW-12	ITMW-12-201507	7/23/2015	N	652	46.2	0.58 J
ITMW-12	ITMW-12-201510	10/7/2015	N	314	34.6	0.42 J
ITMW-12	ITMW-12-201601	1/13/2016	N	465	70.5	< 1.0 U
ITMW-12	ITMW-12-201605	5/5/2016	N	675	78.9	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-12R	ITMW-12R-201910	10/24/2019	N	11800	275	7.1
ITMW-12R	ITMW-12R-202010	10/8/2020	N	11400	284	7.0
ITMW-13	ITMW-13-20010328	3/28/2001	N	44	92	40
ITMW-13	ITMW-13-20010913	9/13/2001	N	35	111	80
ITMW-13	ITMW-13L-20020909	9/9/2002	N	99	110	10
ITMW-13	ITMW-13T-20020909	9/9/2002	N	81	86	20
ITMW-13	ITMW-13-20030226	2/26/2003	N	70.2	85.5	< 10 U
ITMW-13	ITMW-13-20030924	9/24/2003	N	159	130	< 10 U
ITMW-13	ITMW-13-20040413	4/13/2004	N	48.4	87.2	< 10 U
ITMW-13	ITMW-13-20040921	9/21/2004	N	25.5	71.6	< 10 U
ITMW-13	ITMW-13-20050407	4/7/2005	N	71.8	103	< 10 U
ITMW-13	ITMW-13-20050930	9/30/2005	N	72.7	114	17.9
ITMW-13	ITMW-13-20060316	3/16/2006	N	141	187	< 10 U
ITMW-13	ITMW-13-20061014	10/14/2006	N	100	150	17
ITMW-13	ITMW-13-20070418	4/18/2007	N	83.1	78	4.3 J
ITMW-13	ITMW-13-20070920	9/20/2007	N	28	40	< 10 U
ITMW-13	ITMW-13-20080429	4/29/2008	N	69 0	72 0	< 10 U
ITMW-13	ITMW-13-20081210	12/10/2008	N	26	23	< 5 U
ITMW-13	ITMW-13-20090427	4/27/2009	N	79	78	< 5 U
ITMW-13	ITMW-13-20091027	10/27/2009	N	18	22	< 5 U
ITMW-13	ITMW-13-20100512	5/12/2010	N	97	72	< 5 U
ITMW-13	ITMW-13-20110323	3/23/2011	N	130	83	< 5 U
ITMW-13	ITMW-13-20111027-FD	10/27/2011	FD	64	40	< 5 U
ITMW-13	ITMW-13-20111027	10/27/2011	N	65	41	< 5 U
ITMW-13	ITMW-13-20120419	4/19/2012	N	97	63	< 5 U
ITMW-13	ITMW-13-20121018	10/18/2012	N	400	260	1.0 J
ITMW-13	ITMW-13-20130425	4/25/2013	N	86	52	0.14 J
ITMW-13	ITMW-13-101613	10/16/2013	N	150	74	< 2.0 U
ITMW-13	ITMW-13-201403	3/8/2014	N	69.3	45.3	< 2.0 U
ITMW-13	ITMW-13-201405	5/14/2014	N	54.0	34.7	0.17 J
ITMW-13	ITMW-13-201407	7/30/2014	N	36.5	27.5	< 2.0 U
ITMW-13	ITMW-13-201410	10/15/2014	N	40.8	25.9	< 2.0 U
ITMW-13	ITMW-13-201501	1/14/2015	N	45.8	28.5	< 1.0 U
ITMW-13	ITMW-13-201504	4/15/2015	N	43.1	26.5	< 1.0 U
ITMW-13	DUP-03-201504	4/15/2015	FD	47.7	26.7	< 1.0 U
ITMW-13	DUP-02-201507	7/22/2015	FD	36.1	20.8	0.17 J
ITMW-13	ITMW-13-201507	7/22/2015	N	37.3	20.1	0.18 J
ITMW-13	DUP-01-201510	10/7/2015	FD	25.5	17.6	0.18 J
ITMW-13	ITMW-13-201510	10/7/2015	N	29.9	17.8	0.20 J
ITMW-13	ITMW-13-201601	1/13/2016	N	47.6	26.7	0.17 J
ITMW-13	DUP-02-201601	1/13/2016	FD	51.6	26.1	< 1.0 U
ITMW-13	ITMW-13-201605	5/5/2016	N	41.9	20.8	0.17 J
ITMW-14	ITMW-14-20010327	3/27/2001	N	< 5 U	24	10
ITMW-14	ITMW-14-20010913	9/13/2001	N	< 5 U	5	< 10 U
ITMW-14	ITMW-14-20020911	9/11/2002	N	41	6	< 10 U
ITMW-14	ITMW-14-20030226	2/26/2003	N	< 5 U	< 5 U	< 10 U
ITMW-14	ITMW-14-20030924	9/24/2003	N	< 5 U	< 5 U	< 10 U
ITMW-14	ITMW-14-20040413	4/13/2004	N	< 5 U	< 5 U	< 10 U
ITMW-14	ITMW-14-20040921	9/21/2004	N	< 5 U	< 5 U	< 10 U
ITMW-14	ITMW-14-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
ITMW-14	ITMW-14-20061014	10/14/2006	N	4 J	8	< 10 UJ
ITMW-14	ITMW-14-20070921	9/21/2007	N	5 J	9	< 10 U
ITMW-14	ITMW-14-20081210	12/10/2008	N	5.7	9.3	< 5 U
ITMW-14	ITMW-14-20101104	11/4/2010	N	110	14	< 5 U
ITMW-14	ITMW-14-20111027	10/27/2011	N	6.3	11	< 5 U
ITMW-14	ITMW-14-20120419	4/19/2012	N	7.6	16	< 5 U
ITMW-14	ITMW-14-20121019	10/19/2012	N	5.4	11	< 2.0 U
ITMW-14	ITMW-14-20130425	4/25/2013	N	6.8	14	< 2.0 U
ITMW-14	ITMW-14-101613	10/16/2013	N	2.9 J	4.9 J	< 2.0 U
ITMW-14	ITMW-14-201403	3/8/2014	N	6.1	11.9	< 2.0 U
ITMW-14	ITMW-14-201405	5/14/2014	N	5.3	11.3	< 2.0 U
ITMW-14	ITMW-14-201407	7/30/2014	N	4.0 J	9.2	< 2.0 U
ITMW-14	ITMW-14-201410	10/15/2014	N	4.1 J	9.4	< 2.0 U
ITMW-14	ITMW-14-201501	1/14/2015	N	4.9	11.5	< 1.0 U
ITMW-14	ITMW-14-201504	4/15/2015	N	5.0	10.7	< 1.0 U
ITMW-14	ITMW-14-201507	7/22/2015	N	4.3	9.6	< 1.0 U
ITMW-14	ITMW-14-201510	10/7/2015	N	4.6	9.8	< 1.0 U
ITMW-14	ITMW-14-201601	1/12/2016	N	4.3	10	< 1.0 U
ITMW-14	ITMW-14-201605	5/5/2016	N	3.9	8.6	< 1.0 U
ITMW-15	ITMW-15-20010328	3/28/2001	N	290	57	< 10 U
ITMW-15	ITMW-15-20010913	9/13/2001	N	380	87	< 10 U
ITMW-15	ITMW-15-20010913-FD	9/13/2001	FD	370	80	< 10 U
ITMW-15	ITMW-15-20011120	11/20/2001	N	157	30	< 10 U
ITMW-15	ITMW-15-20020911	9/11/2002	N	320	75	< 10 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-15	ITMW-15-20030226	2/26/2003	N	301	98.7	< 10 U
ITMW-15	ITMW-15-20030925	9/25/2003	N	490	91.9	< 10 U
ITMW-15	ITMW-15-20040414	4/14/2004	N	334	126	< 10 U
ITMW-15	ITMW-15-20040921	9/21/2004	N	774	118	< 10 U
ITMW-15	ITMW-15-20050407	4/7/2005	N	685	133	< 10 U
ITMW-15	ITMW-15-20050929	9/29/2005	N	862	189	< 10 U
ITMW-15	ITMW-15-20060316	3/16/2006	N	908	183	12
ITMW-15	ITMW-15-20061013	10/13/2006	N	680	140	7 J
ITMW-15	ITMW-15-20070419	4/19/2007	N	591	110	8.5 J
ITMW-15	ITMW-15-20070921	9/21/2007	N	1000	190	27
ITMW-15	ITMW-15-20080429	4/29/2008	N	100 0	18 0	< 10 U
ITMW-15	ITMW-15-20081210	12/10/2008	N	1100	150	< 5 U
ITMW-15	ITMW-15-20090427	4/27/2009	N	2800	130	17
ITMW-15	ITMW-15-20100511	5/11/2010	N	2800	160	11
ITMW-15	ITMW-15-20111026	10/26/2011	N	1100	74	< 5 U
ITMW-15	ITMW-15-20121019	10/19/2012	N	240	14	1.1 J
ITMW-15	ITMW-15-101613	10/16/2013	N	2800	170	14
ITMW-15	ITMW-15-201403	3/8/2014	N	1630	152	11.6
ITMW-15	DUP2-201405	5/14/2014	FD	899	61.7	4.4
ITMW-15	ITMW-15-201405	5/14/2014	N	729	60.7	4.1
ITMW-15	DUP-4-201407	7/30/2014	FD	1850	82.8	3.0
ITMW-15	ITMW-15-201407	7/30/2014	N	1820	82.5	3.1
ITMW-15	DUP-05-201410	10/16/2014	FD	1660	66.4	1.8 J
ITMW-15	ITMW-15-201410	10/16/2014	N	1490	63.0	2.0
ITMW-15	ITMW-15-20141205	12/5/2014	N	63.0	< 5.0 U	< 2.0 U
ITMW-15	DUP-05-201501	1/15/2015	FD	61.7	3.8	< 1.0 U
ITMW-15	ITMW-15-201501	1/15/2015	N	56.5	2.9	< 1.0 U
ITMW-15	ITMW-15-201504	4/15/2015	N	101	7.5	< 1.0 U
ITMW-15	ITMW-15-201507	7/22/2015	N	110	22.4	1.3
ITMW-15	ITMW-15-201510	10/8/2015	N	38.9	2.4	< 1.0 U
ITMW-15	ITMW-15-201601	1/13/2016	N	797	67.0	4.9
ITMW-15	ITMW-15-201605	5/5/2016	N	659	48.8	5.8
ITMW-16	ITMW-16-20010326	3/26/2001	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20010913	9/13/2001	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20020911	9/11/2002	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20040923	9/23/2004	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20050929	9/29/2005	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20050929-FD	9/29/2005	FD	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20061014	10/14/2006	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20070920	9/20/2007	N	< 5 U	< 5 U	< 10 U
ITMW-16	ITMW-16-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
ITMW-16	ITMW-16-20101106	11/6/2010	N	17	< 5 U	< 5 U
ITMW-16	ITMW-16-20111027	10/27/2011	N	< 5 U	< 5 U	< 5 U
ITMW-16	ITMW-16-20120418	4/18/2012	N	< 5 U	< 5 U	< 5 U
ITMW-16	ITMW-16-20121018	10/18/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-20130424	4/24/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-101613	10/16/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-201403	3/7/2014	N	0.30 J	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-201410	10/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-16	ITMW-16-201501	1/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201507	7/22/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201601	1/13/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201605	5/5/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	DUP-10-201910	10/24/2019	FD	< 1.0 U	0.31 J	< 1.0 U
ITMW-16	ITMW-16-201910	10/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-16	ITMW-16-202010	10/8/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-17	ITMW-17-20010105	1/5/2001	N	8310	179	< 10 U
ITMW-17	ITMW-17-20010328	3/28/2001	N	6700	134	< 10 U
ITMW-17	ITMW-17-20010913	9/13/2001	N	6300	158	< 10 U
ITMW-17	ITMW-17-20020911	9/11/2002	N	6500	153	< 10 U
ITMW-17	ITMW-17-20030226	2/26/2003	N	4380	134	< 10 U
ITMW-17	ITMW-17-20030925	9/25/2003	N	6090	136	< 10 U
ITMW-17	ITMW-17-20040414	4/14/2004	N	5050	184	< 10 U
ITMW-17	ITMW-17-20040414-FD	4/14/2004	FD	4920	182	< 10 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-17	ITMW-17-20040921	9/21/2004	N	5760	156	< 10 U
ITMW-17	ITMW-17-20050407	4/7/2005	N	5750	156	< 10 U
ITMW-17	ITMW-17-20050929	9/29/2005	N	5460	111	< 10 U
ITMW-17	ITMW-17-20060315	3/15/2006	N	15900	211 E	26.3
ITMW-17	ITMW-17-20061012	10/12/2006	N	19000	220	21
ITMW-17	ITMW-17-20070418	4/18/2007	N	13000	298	< 10 U
ITMW-17	ITMW-17-20070921	9/21/2007	N	11000	210	3 J
ITMW-17	ITMW-17-20080429	4/29/2008	N	6200 0	140 0	< 10 U
ITMW-17	ITMW-17-20081210	12/10/2008	N	5600	130	< 5 U
ITMW-17	ITMW-17-20090427	4/27/2009	N	5200	130	< 5 U
ITMW-17	ITMW-17-20100511	5/11/2010	N	4500	85	< 5 U
ITMW-17	ITMW-17-20101104	11/4/2010	N	5400	110	< 5 U
ITMW-17	ITMW-17-20110322	3/22/2011	N	5300	100	< 5 U
ITMW-17	ITMW-17-20111026	10/26/2011	N	4500	98	< 5 U
ITMW-17	ITMW-17-20120419	4/19/2012	N	4700	110	< 5 U
ITMW-17	ITMW-17-20121019	10/19/2012	N	3500	100	0.48 J
ITMW-17	ITMW-17-20130425	4/25/2013	N	5600	130	0.90 J
ITMW-17	ITMW-17-101713	10/17/2013	N	4800	79	< 2.0 U
ITMW-17	ITMW-17-201403	3/8/2014	N	3770	86.1	0.57 J
ITMW-17	ITMW-17-201403-FD	3/8/2014	FD	4040	87.3	0.74 J
ITMW-17	DUP-3-201405	5/15/2014	FD	3370	88.5	1.1 J
ITMW-17	ITMW-17-201405	5/15/2014	N	3630	82.9	1.3 J
ITMW-17	ITMW-17-201407	7/30/2014	N	2260	64.7	< 2.0 U
ITMW-17	ITMW-17-201410	10/16/2014	N	3510	70.5	3.2
ITMW-17	ITMW-17-20141205	12/5/2014	N	4630	210 J	7.7
ITMW-17	ITMW-17-201501	1/15/2015	N	3840	110	1.5
ITMW-17	ITMW-17-201504	4/15/2015	N	3920	142	< 1.0 U
ITMW-17	ITMW-17-201507	7/22/2015	N	5350	116	0.51 J
ITMW-17	ITMW-17-201510	10/8/2015	N	3970	77.2	2.5
ITMW-17	ITMW-17-201601	1/13/2016	N	2600	44.7	2.2
ITMW-17	ITMW-17-201605	5/5/2016	N	2720	77.7	< 50.0 U
ITMW-18	ITMW-18-20010327	3/27/2001	N	4000	400	< 10 U
ITMW-18	ITMW-18-20010327-FD	3/27/2001	FD	4200	370	< 100 U
ITMW-18	ITMW-18-20010911	9/11/2001	N	4100	300	< 10 U
ITMW-18	ITMW-18-20020911	9/11/2002	N	6700	300	< 10 U
ITMW-18	ITMW-18-20030226	2/26/2003	N	5110	290	< 10 U
ITMW-18	ITMW-18-20030924	9/24/2003	N	7700	415	< 10 U
ITMW-18	ITMW-18-20040413	4/13/2004	N	7740	410	< 10 U
ITMW-18	ITMW-18-20040921	9/21/2004	N	7050	380	< 10 U
ITMW-18	ITMW-18-20050408	4/8/2005	N	7080	389	< 10 U
ITMW-18	ITMW-18-20050929	9/29/2005	N	4660	241	< 10 U
ITMW-18	ITMW-18-20060315	3/15/2006	N	5750	373	< 50 U
ITMW-18	ITMW-18-20061013	10/13/2006	N	6600	300	< 10 U
ITMW-18	ITMW-18-20070418	4/18/2007	N	15000	387	< 10 U
ITMW-18	ITMW-18-20070921	9/21/2007	N	8300	310	< 100 U
ITMW-18	ITMW-18-20080430	4/30/2008	N	9000 0	350 0	< 10 U
ITMW-18	ITMW-18-20081209	12/9/2008	N	7200	320	< 5 U
ITMW-18	ITMW-18-20090427	4/27/2009	N	7100	320	< 5 U
ITMW-18	ITMW-18-20091027	10/27/2009	N	7800	360	< 5 U
ITMW-18	ITMW-18-20100511	5/11/2010	N	11000	360	< 5 U
ITMW-18	ITMW-18-20111026	10/26/2011	N	8500	290	< 5 U
ITMW-18	ITMW-18-20120419	4/19/2012	N	9800	360	2.9 J
ITMW-18	ITMW-18-20121019	10/19/2012	N	7600	260	1.2 J
ITMW-18	ITMW-18-20130425	4/25/2013	N	7200	270	0.90 J
ITMW-18	ITMW-18-101713	10/17/2013	N	7000	280	0.64 J
ITMW-18	ITMW-18-201403	3/8/2014	N	9380	285	< 100 U
ITMW-18	ITMW-18-201403-FD	3/8/2014	FD	8550	242 J	1.7 J
ITMW-18	DUP-5-201405	5/15/2014	FD	2500	108	< 2.0 U
ITMW-18	ITMW-18-201405	5/15/2014	N	2940	101	< 2.0 U
ITMW-18	ITMW-18-201407	7/31/2014	N	5360	139	1.6 J
ITMW-18	ITMW-18-201410	10/15/2014	N	3540	68.5	< 2.0 U
ITMW-18	ITMW-18-20141204	12/4/2014	N	3690	74.3	< 2.0 U
ITMW-18	ITMW-18-201501	1/15/2015	N	488	26.5	< 1.0 U
ITMW-18	DUP-04-201504	4/16/2015	FD	42.8	1.7	< 1.0 U
ITMW-18	ITMW-18-201504	4/16/2015	N	43.5	1.6	< 1.0 U
ITMW-18	DUP-07-201507	7/23/2015	FD	24.7	0.81 J	< 1.0 U
ITMW-18	ITMW-18-201507	7/23/2015	N	22.9	0.69 J	< 1.0 U
ITMW-18	DUP-06-201510	10/8/2015	FD	12.4	0.41 J	< 1.0 U
ITMW-18	ITMW-18-201510	10/8/2015	N	12.9	0.40 J	< 1.0 U
ITMW-18	ITMW-18-201601	1/13/2016	N	48.8	4.6	< 1.0 U
ITMW-18	ITMW-18-201605	5/5/2016	N	13.9	0.49 J	< 1.0 U
ITMW-18	ITMW-18-201611	11/9/2016	N	10.1	< 1.0 U	< 1.0 U
ITMW-18	ITMW-18-201710	10/26/2017	N	15.0	0.47 J	< 1.0 U
ITMW-18	FD-07-201710	10/26/2017	FD	16.0	0.50 J	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-18	ITMW-18-201811	11/14/2018	N	641	55.3	< 1.0 U
ITMW-18	ITMW-18-201910	10/24/2019	N	769	68.4	< 1.0 U
ITMW-18	ITMW-18-202010	10/8/2020	N	1210	94.5	0.43 J
ITMW-19	ITMW-19-20010105	1/5/2001	N	34000	166	< 10 U
ITMW-19	ITMW-19-20010328	3/28/2001	N	38000	119	< 10 U
ITMW-19	ITMW-19-20010913	9/13/2001	N	19000	132	< 10 U
ITMW-19	ITMW-19-20020911	9/11/2002	N	27000	167	< 10 U
ITMW-19	ITMW-19-20030226	2/26/2003	N	16200	126	< 10 U
ITMW-19	ITMW-19-20030924	9/24/2003	N	27300	186	< 10 U
ITMW-19	ITMW-19-20040413	4/13/2004	N	19400	186	< 10 U
ITMW-19	ITMW-19-20040921	9/21/2004	N	20000	148	< 10 U
ITMW-19	ITMW-19-20050407	4/7/2005	N	18300	146	< 10 U
ITMW-19	ITMW-19-20050407-FD	4/7/2005	FD	16200	145	< 10 U
ITMW-19	ITMW-19-20050929	9/29/2005	N	25700	144	< 10 U
ITMW-19	ITMW-19-20060315	3/15/2006	N	21300	177	< 100 U
ITMW-19	ITMW-19-20061012	10/12/2006	N	16000	150	2 J
ITMW-19	ITMW-19-20070418	4/18/2007	N	20000	131	< 10 U
ITMW-19	ITMW-19-20070921	9/21/2007	N	19000	110	< 200 U
ITMW-19	ITMW-19-20080429	4/29/2008	N	17000 0	98 0	< 100 U
ITMW-19	ITMW-19-20081210	12/10/2008	N	11000	93	< 5 U
ITMW-19	ITMW-19-20090427	4/27/2009	N	13000	100	< 5 U
ITMW-19	ITMW-19-20100511	5/11/2010	N	19000	130	< 5 U
ITMW-19	ITMW-19-20101104-FD	11/4/2010	FD	19000	150	< 5 U
ITMW-19	ITMW-19-20101104	11/4/2010	N	18000	140	< 5 U
ITMW-19	ITMW-19-20110322	3/22/2011	N	16000	110	1 J
ITMW-19	ITMW-19-20111026	10/26/2011	N	17000	120	< 5 U
ITMW-19	ITMW-19-20120419-FD	4/19/2012	FD	15000	110	< 5 U
ITMW-19	ITMW-19-20120419	4/19/2012	N	18000	110	< 5 U
ITMW-19	ITMW-19-20121019	10/19/2012	N	15000	110	0.89 J
ITMW-19	ITMW-19-20130425	4/25/2013	N	13000	110	0.57 J
ITMW-19	ITMW-19-101813	10/18/2013	N	16000	91 J	< 2.0 U
ITMW-19	ITMW-19-10182013-FD	10/18/2013	FD	14000	100 J	< 2.0 U
ITMW-19	ITMW-19-201403	3/8/2014	N	8850	66.7	0.57 J
ITMW-19	ITMW-19-201403-FD	3/8/2014	FD	8270	60.8 J	< 100 U
ITMW-19	DUP-6-201405	5/15/2014	FD	15300 J	67.2	0.87 J
ITMW-19	ITMW-19-201405	5/15/2014	N	9780 J	65.8	0.85 J
ITMW-19	ITMW-19-201407	7/31/2014	N	13300	85.5	0.96 J
ITMW-19	ITMW-19-201410	10/16/2014	N	12800	76.7	1.9 J
ITMW-19	ITMW-19-20141205	12/5/2014	N	33.5	< 5.0 U	< 2.0 U
ITMW-19	ITMW-19-201501	1/15/2015	N	17.4	< 1.0 U	< 1.0 U
ITMW-19	ITMW-19-201504	4/15/2015	N	594	2.2	< 1.0 U
ITMW-19	ITMW-19-201507	7/23/2015	N	15.2	< 1.0 U	< 1.0 U
ITMW-19	ITMW-19-201510	10/8/2015	N	87.1	0.41 J	< 1.0 U
ITMW-19	ITMW-19-201601	1/13/2016	N	336	1.2	< 1.0 U
ITMW-19	ITMW-19-201605	5/5/2016	N	105	0.28 J	< 1.0 U
ITMW-19	ITMW-19-201611	11/9/2016	N	137	< 1.0 U	< 1.0 U
ITMW-19	ITMW-19-201710	10/26/2017	N	165	0.52 J	< 1.0 U
ITMW-19	ITMW-19-201811	11/15/2018	N	204	1.3	< 1.0 U
ITMW-19	ITMW-19-201910	10/24/2019	N	240 J	1.8	< 1.0 U
ITMW-19	ITMW-19-202010	10/8/2020	N	435	4.8	< 1.0 U
ITMW-20	MW-20-20010327-FS	3/27/2001	N	< 5 U	< 5 U	< 10 U
ITMW-20	MW-20-20010911-FS	9/11/2001	N	21	< 5 U	< 10 U
ITMW-20	ITMW-20-20020910	9/10/2002	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20030924	9/24/2003	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20040414	4/14/2004	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20050929	9/29/2005	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
ITMW-20	ITMW-20-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
ITMW-20	ITMW-20-20091029	10/29/2009	N	< 5 U	< 5 U	< 5 U
ITMW-20	ITMW-20-20100512	5/12/2010	N	< 5 U	< 5 U	< 5 U
ITMW-20	ITMW-20-20101105	11/5/2010	N	15	< 5 U	< 5 U
ITMW-20	ITMW-20-20111026-FD	10/26/2011	FD	< 5 U	< 5 U	< 5 U
ITMW-20	ITMW-20-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
ITMW-20	ITMW-20-20120418	4/18/2012	N	< 5 U	< 5 U	< 5 U
ITMW-20	ITMW-20-20121018	10/18/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-20	ITMW-20-20130423	4/23/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-20	ITMW-20-101413	10/14/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-20	ITMW-20-201403	3/5/2014	N	< 5.0 U	< 5.0 U	0.15 J
ITMW-20	ITMW-20-201405	5/12/2014	N	0.21 J	< 5.0 U	< 2.0 U
ITMW-20	ITMW-20-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
ITMW-20	ITMW-20-201410	10/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
ITMW-20	ITMW-20-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0
ITMW-20	ITMW-20-201504	4/13/2015	N	< 1.0 U	< 1.0 U	< 1.0
ITMW-20	ITMW-20-201507	7/22/2015	N	0.20 J	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201605	5/2/2016	N	< 1.0	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201811	11/14/2018	N	< 1.0	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	DUP-05-201910	10/23/2019	FD	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-202005	5/13/2020	N	0.68 J	< 1.0 U	< 1.0 U
ITMW-20	ITMW-20-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-21	ITMW-21-20010328	3/28/2001	N	123	< 5 U	< 10 U
ITMW-21	ITMW-21-20010913	9/13/2001	N	116	< 5 U	< 10 U
ITMW-21	ITMW-21-20020910	9/10/2002	N	13	< 5 U	< 10 U
ITMW-21	ITMW-21-20030226	2/26/2003	N	39.5	< 5 U	< 10 U
ITMW-21	ITMW-21-20030923	9/23/2003	N	9.09	< 5 U	< 10 U
ITMW-21	ITMW-21-20040414	4/14/2004	N	52.9	< 5 U	< 10 U
ITMW-21	ITMW-21-20040922	9/22/2004	N	7.8	< 5 U	< 10 U
ITMW-21	ITMW-21-20050928	9/28/2005	N	6.45	< 5 U	< 10 U
ITMW-21	ITMW-21-20061012	10/12/2006	N	9	< 5 U	< 10 U
ITMW-21	ITMW-21-20070921	9/21/2007	N	10	< 5 U	< 10 U
ITMW-21	ITMW-21-20081209	12/9/2008	N	15	< 5 U	< 5 U
ITMW-21	ITMW-21-20091027	10/27/2009	N	14	< 5 U	< 5 U
ITMW-21	ITMW-21-20101104	11/4/2010	N	1100	4.4 J	< 5 U
ITMW-21	ITMW-21-20110322	3/22/2011	N	24	< 5 U	< 5 U
ITMW-21	ITMW-21-20111025	10/25/2011	N	11	< 5 U	< 5 U
ITMW-21	ITMW-21-20120417	4/17/2012	N	30	< 5 U	< 5 U
ITMW-21	ITMW-21-20121019	10/19/2012	N	7.7	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-20130424	4/24/2013	N	18	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-101513	10/15/2013	N	20	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-201403	3/6/2014	N	14.8	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-201405	5/14/2014	N	17.6	< 5.0 U	< 2.0 U
ITMW-21	DUP-3-201407	7/30/2014	FD	9.3	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-201407	7/30/2014	N	9.4	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-201410	10/15/2014	N	6.0	< 5.0 U	< 2.0 U
ITMW-21	ITMW-21-201501	1/14/2015	N	10.8	< 1.0 U	< 1.0 U
ITMW-21	ITMW-21-201504	4/14/2015	N	12.7	< 1.0 U	< 1.0 U
ITMW-21	ITMW-21-201507	7/22/2015	N	7.6	0.20 J	< 1.0 U
ITMW-21	ITMW-21-201510	10/8/2015	N	7.2	0.29 J	< 1.0 U
ITMW-21	ITMW-21-201601	1/13/2016	N	9.8	0.27 J	< 1.0 U
ITMW-21	ITMW-21-201605	5/5/2016	N	11.1	0.30 J	< 1.0 U
ITMW-21	ITMW-21-201611	11/9/2016	N	8.1	< 1.0 U	< 1.0 U
ITMW-21	ITMW-21-201704	4/28/2017	N	11.9	0.31 J	< 1.0 U
ITMW-21	ITMW-21-201710	10/25/2017	N	7.9	0.25 J	< 1.0 U
ITMW-21	ITMW-21-201804	4/19/2018	N	13.2	0.38 J	< 1.0 U
ITMW-21	ITMW-21-201811	11/15/2018	N	8.0	< 1.0 U	< 1.0 U
ITMW-21	ITMW-21-201904	4/24/2019	N	12.3	0.36 J	< 1.0 U
ITMW-21	ITMW-21-201910	10/24/2019	N	6.0	0.30 J	< 1.0 U
ITMW-21	ITMW-21-202005	5/13/2020	N	7.8	0.42 J	< 1.0 U
ITMW-21	ITMW-21-202010	10/8/2020	N	5.4	0.32 J	< 1.0 U
ITMW-2R	ITMW-2R-201910	10/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
ITMW-2R	DUP-09-202010	10/8/2020	FD	0.32 J	< 1.0 U	< 1.0 U
ITMW-2R	ITMW-2R-202010	10/8/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MCP-HP-01	MCP-HP-01-WG-29.5	7/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MCP-HP-02	MCP-HP-02-WG-31	7/13/2020	N	1.2	0.60 J	< 1.0 U
MCP-HP-03	MCP-HP-03-WG-28	7/13/2020	N	52.8	4.4	0.11 J
MCP-HP-04	MCP-HP-04-WG-27	7/13/2020	N	3.5 J	< 5.0 U	< 5.0 U
MCP-HP-05	MCP-HP-05	7/14/2020	N	6.4	0.91 J	< 1.0 U
MCP-HP-07	MCP-HP-07-WG-23	7/16/2020	N	14.9	1.1	< 1.0 U
MCP-HP-08	MCP-HP-08-WG-20200923	9/23/2020	N	< 5.0 U	< 5.0 U	< 5.0 U
MCP-HP-09	MCP-HP-09-WG-20200923	9/23/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MCP-HP-10	MCP-HP-10-WG-20200923	9/23/2020	N	30.2	2.8 J	< 5.0 U
MCP-HP-11	MCP-HP-11-WG-20200924	9/24/2020	N	18.1	2.9 J	< 5.0 U
MCP-HP-12	MCP-HP-12-WG-20200925	9/25/2020	N	3.9	0.45 J	< 1.0 U
MCP-HP-13	MCP-HP-13-WG-20200925	9/25/2020	N	55.7	6.5	0.31 J
MW-22	MW-22-20010327	3/27/2001	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20010913	9/13/2001	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20020910	9/10/2002	N	9	< 5 U	< 10 U
MW-22	MW-22-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-22	MW-22-20030923	9/23/2003	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20030923-FD	9/23/2003	FD	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20040413	4/13/2004	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20040921	9/21/2004	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20061014	10/14/2006	N	< 5 U	< 5 U	< 10 UJ
MW-22	MW-22-20070920	9/20/2007	N	< 5 U	< 5 U	< 10 U
MW-22	MW-22-20081209	12/9/2008	N	< 5 U	< 5 U	< 5 U
MW-22	MW-22-20091027	10/27/2009	N	< 5 U	< 5 U	< 5 U
MW-22	MW-22-20101103	11/3/2010	N	< 5 U	< 5 U	< 5 U
MW-22	MW-22-20111027	10/27/2011	N	2.1 J	< 5 U	< 5 U
MW-22	MW-22-20120418	4/18/2012	N	< 5 U	< 5 U	< 5 U
MW-22	MW-22-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-20130423	4/23/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-101413	10/14/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-201403	3/5/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-201405	5/12/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-201410	10/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-22	MW-22-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201504	4/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201507	7/22/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	MW-22-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-22	DUP-07-202010	10/8/2020	FD	0.59 J	< 1.0 U	< 1.0 U
MW-22	MW-22-202010	10/8/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-23	ITMW-23-20010105	1/5/2001	N	137	< 5 U	< 10 U
MW-23	ITMW-23-20010326	3/26/2001	N	87	< 5 U	< 10 U
MW-23	ITMW-23-20010911	9/11/2001	N	23	< 5 U	< 10 U
MW-23	ITMW-23-20020911	9/11/2002	N	111	< 5 U	< 10 U
MW-23	MW-23-20020911-FD	9/11/2002	FD	105	< 5 U	< 10 U
MW-23	ITMW-23-20030227	2/27/2003	N	54	< 5 U	< 10 U
MW-23	ITMW-23-20030925	9/25/2003	N	83.9	< 5 U	< 10 U
MW-23	ITMW-23-20040415	4/15/2004	N	70.3	< 5 U	< 10 U
MW-23	ITMW-23-20040922	9/22/2004	N	73.4	< 5 U	< 10 U
MW-23	ITMW-23-20050405	4/5/2005	N	55.5	< 5 U	< 10 U
MW-23	ITMW-23-20050929	9/29/2005	N	65.8	< 5 U	< 10 U
MW-23	ITMW-23-20060317	3/17/2006	N	47.1	< 5 U	< 10 U
MW-23	ITMW-23-20061014	10/14/2006	N	59	< 5 U	< 10 UJ
MW-23	ITMW-23-20070419	4/19/2007	N	39.9	9.79	< 10 U
MW-23	ITMW-23-20070919	9/19/2007	N	47	< 5 U	< 10 U
MW-23	ITMW-23-20080429	4/29/2008	N	29 0	< 5 U	< 10 U
MW-23	ITMW-23-20081210	12/10/2008	N	69	< 5 U	< 5 U
MW-23	ITMW-23-20090427	4/27/2009	N	32	< 5 U	< 5 U
MW-23	ITMW-23-20091029	10/29/2009	N	45	< 5 U	< 5 U
MW-23	MW-23-20100512-FD	5/12/2010	FD	55	< 5 U	< 5 U
MW-23	ITMW-23-20100512	5/12/2010	N	52	< 5 U	< 5 U
MW-23	ITMW-23-20101105	11/5/2010	N	76	< 5 U	< 5 U
MW-23	ITMW-23-20110323	3/23/2011	N	46	< 5 U	< 5 U
MW-23	ITMW-23-20111027	10/27/2011	N	41	< 5 U	< 5 U
MW-23	ITMW-23-20120418	4/18/2012	N	36	< 5 U	< 5 U
MW-23	ITMW-23-20121019	10/19/2012	N	43	< 5.0 U	< 2.0 U
MW-23	ITMW-23-20130425	4/25/2013	N	20	< 5.0 U	< 2.0 U
MW-23	MW-23-101613	10/16/2013	N	54	< 5.0 U	< 2.0 U
MW-23	MW-23-20140522	5/22/2014	N	22.8	< 5.0 U	< 2.0 U
MW-23	20140708-GW-MW-23	7/8/2014	N	27.8	0.68 J	< 2.0 U
MW-23	MW-23-201409	9/12/2014	N	62.1	1.8 J	< 2.0 U
MW-23	MW-23-20141023	10/23/2014	N	189	3.5 J	< 2.0 U
MW-23	MW-23-201501	1/15/2015	N	115	2.2	< 1.0 U
MW-23	MW-23-201504	4/14/2015	N	57.5	1.1	< 1.0 U
MW-23	MW-23-201507	7/23/2015	N	37.8	0.95 J	< 1.0 U
MW-23	MW-23-201510	10/8/2015	N	0.65 J	< 1.0 U	< 1.0 U
MW-23	MW-23-201511	11/5/2015	N	0.40 J	< 1.0 U	< 1.0 U
MW-23	MW-23-201512	12/1/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-23	MW-23-201601	1/7/2016	N	0.48 J	< 1.0 U	< 1.0 U
MW-23	MW-23-201605	5/5/2016	N	0.90 J	< 1.0 U	< 1.0 U
MW-24	MW-24-20010105	1/5/2001	N	247	12	< 10 U
MW-24	MW-24-20010326	3/26/2001	N	330	11	< 10 U
MW-24	MW-24-20010911	9/11/2001	N	124	6	< 10 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-24	MW-24-20020911	9/11/2002	N	199	6	< 10 U
MW-24	MW-24-20030227	2/27/2003	N	253	7.01	< 10 U
MW-24	MW-24-20030925	9/25/2003	N	155	< 5 U	< 10 U
MW-24	MW-24-20040415	4/15/2004	N	181	5.12	< 10 U
MW-24	MW-24-20040923	9/23/2004	N	116	< 5 U	< 10 U
MW-24	MW-24-20050406	4/6/2005	N	152	6.04	< 10 U
MW-24	MW-24-20050929	9/29/2005	N	161	< 5 U	< 10 U
MW-24	MW-24-20060316	3/16/2006	N	347	7.57	< 10 U
MW-24	MW-24-20061014	10/14/2006	N	620	11	2 J
MW-24	MW-24-20070419	4/19/2007	N	196	11.6	< 10 U
MW-24	MW-24-20070920	9/20/2007	N	140	< 5 U	< 10 U
MW-24	MW-24-20070920-FD	9/20/2007	FD	150	< 5 U	< 10 U
MW-24	MW-24-20080429	4/29/2008	N	150 0	3 J	< 10 U
MW-24	MW-24-20081210	12/10/2008	N	150	3.4 J	< 5 U
MW-24	MW-24-20081210-FD	12/10/2008	FD	130	3.4 J	< 5 U
MW-24	MW-24-20090427	4/27/2009	N	120	< 5 U	< 5 U
MW-24	MW-24-20091029	10/29/2009	N	110	2.6 J	< 5 U
MW-24	MW-24-20100512	5/12/2010	N	150	4.3 J	< 5 U
MW-24	MW-24-20110323	3/23/2011	N	170	3.6 J	< 5 U
MW-24	MW-24-20111027	10/27/2011	N	170	1.9 J	< 5 U
MW-24	MW-24-20111027-FD	10/27/2011	FD	170	1.4 J	< 5 U
MW-24	MW-24-20120418	4/18/2012	N	150	2.9 J	< 5 U
MW-24	MW-24-20121019	10/19/2012	N	190	3.7 J	< 2.0 U
MW-24	MW-24-20130425	4/25/2013	N	110	3.5 J	0.23 J
MW-24	MW-24-20140522	5/22/2014	N	79.7	1.2 J	< 2.0 U
MW-24	20140708-GW-MW-24	7/8/2014	N	102	1.4 J	< 2.0 U
MW-24	MW-24-201409	9/12/2014	N	55.7	0.66 J	< 2.0 U
MW-24	MW-24-20141023	10/23/2014	N	33.1	< 5.0 U	< 2.0 U
MW-24	MW-24-201501	1/15/2015	N	26.9	< 1.0 U	< 1.0 U
MW-24	MW-24-201504	4/16/2015	N	18.8	< 1.0 U	< 1.0 U
MW-24	MW-24-201507	7/23/2015	N	178	3.1	< 1.0 U
MW-24	MW-24-201510	10/8/2015	N	44.1	0.83 J	< 1.0 U
MW-24	MW-24-201511	11/5/2015	N	75.8	0.20 J	< 1.0 U
MW-24	MW-24-201512	12/2/2015	N	84.1	0.59 J	< 1.0 U
MW-24	MW-24-201601	1/7/2016	N	49.3	0.48 J	< 1.0 U
MW-24	MW-24-201605	5/4/2016	N	23.8 J	0.27 J	< 1.0 U
MW-24	MW-24-201611	11/8/2016	N	4.2	< 1.0 U	< 1.0 U
MW-24	MW-24-201710	10/25/2017	N	20.9	< 1.0 U	< 1.0 U
MW-24	DUP-02-201811	11/15/2018	FD	12.5	< 1.0 U	< 1.0 U
MW-24	MW-24-201811	11/15/2018	N	12.6	< 1.0 U	< 1.0 U
MW-24	MW-24-2019110	10/23/2019	N	19.0	0.24 J	< 1.0 U
MW-24	DUP-08-202010	10/8/2020	FD	148	2.3	< 1.0 U
MW-24	MW-24-202010	10/8/2020	N	144	2.2	< 1.0 U
MW-25	MW-25-20010328	3/28/2001	N	34000	117	60
MW-25	MW-25-20010913	9/13/2001	N	60000	300	< 200 U
MW-25	MW-25L-20020909	9/9/2002	N	157000	440	180
MW-25	MW-25T-20020909	9/9/2002	N	56000	370	200
MW-25	MW-25-20030226	2/26/2003	N	45900	557	75.7
MW-25	MW-25-20030717	7/17/2003	N	62200	621	243
MW-25	MW-25-20030924	9/24/2003	N	103000	775	< 500 U
MW-25	MW-25-20040414	4/14/2004	N	25600	255	31.8
MW-25	MW-25-20040921	9/21/2004	N	85200	819	422
MW-25	MW-25-20050407	4/7/2005	N	21100	353	61.1
MW-25	MW-25-20050928	9/28/2005	N	136000	837	< 500 U
MW-25	MW-25-20060315	3/15/2006	N	36300	774	< 200 U
MW-25	MW-25-20061012	10/12/2006	N	64000	1300	610
MW-25	MW-25-20061012-FD	10/12/2006	FD	65000	1400	600
MW-25	MW-25-20070418	4/18/2007	N	19000	321	20
MW-25	MW-25-20070418-FD	4/18/2007	FD	18000	319	20
MW-25	MW-25-20070921	9/21/2007	N	54000	1200	800
MW-25	MW-25-20070921-FD	9/21/2007	FD	55000	1200	780
MW-25	MW-25-20080429	4/29/2008	N	23000 0	470 0	10 J
MW-25	MW-25-20080429-FD	4/29/2008	FD	25000 0	510 0	10 J
MW-25	MW-25-20081210	12/10/2008	N	100000	1200	430
MW-25	MW-25-20090427	4/27/2009	N	36000	2100	140
MW-25	MW-25-20090427-FD	4/27/2009	FD	39000	2000	190
MW-25	MW-25-20091027	10/27/2009	N	140000	1500	570
MW-25	MW-25-20100511	5/11/2010	N	81000	1400	11
MW-25	MW-25-20101104	11/4/2010	N	270000	1500	400
MW-25	MW-25-20110322	3/22/2011	N	57000	2400	34
MW-25	MW-25-20111026	10/26/2011	N	120000	2100	< 250 U
MW-25	MW-25-20120417	4/17/2012	N	18000	690	18
MW-25	MW-25-20121019	10/19/2012	N	56000	4200	1500
MW-25	MW-25-20121019-FD	10/19/2012	FD	49000	3600	1500

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-25	MW-25-20130425	4/25/2013	N	9100	330	7.9
MW-25	MW-25-20130425-FD	4/25/2013	FD	9500	380	11
MW-25	MW-25-101813	10/18/2013	N	43000	2900	1300
MW-25	MW-25-201403	3/8/2014	N	14500	625	33.6 J
MW-25	MW-25-201405	5/15/2014	N	18500	600 J	30.3
MW-25	20140709-GW-MW-25	7/9/2014	N	49900	1750	< 2.0 U
MW-25	MW-25-201407	7/31/2014	N	71700	2310 J	< 2000 U
MW-25	MW-25-201410	10/16/2014	N	42500	2870 J	540 J
MW-25	MW-25-20141024	10/24/2014	N	59800	2650 J	0.66 J
MW-25	MW-25-20141205	12/5/2014	N	2620 J	31.5	2.1
MW-25	MW-25-201501	1/15/2015	N	2510	126	1.6
MW-25	MW-25-201504	4/16/2015	N	4650	204	6.4
MW-25	MW-25-201507	7/23/2015	N	39800	580 J	66.4
MW-25	MW-25-201510	10/8/2015	N	68700	957 J	< 1.0 U
MW-25	MW-25-201601	1/13/2016	N	43400	608 J	55.0
MW-25	MW-25-201605	5/5/2016	N	53000	83.6	< 1.0 U
MW-25	MW-25-201611	11/9/2016	N	36900	509 J	< 1000 U
MW-25	FD-08-201710	10/26/2017	FD	95900	20900	< 1.0 U
MW-25	MW-25-201710	10/26/2017	N	97400	22900	< 1.0 U
MW-25	MW-25-201811	11/16/2018	N	94300	18200	762 J
MW-25R	MW-25R-201910	10/25/2019	N	5410	1880	113
MW-25R	MW-25R-202010	10/8/2020	N	3130	1050	21.4
MW-26	MW-26-20010326	3/26/2001	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20010911	9/11/2001	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20010911-FD	9/11/2001	FD	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20020910	9/10/2002	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20030924	9/24/2003	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20040414	4/14/2004	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20050929	9/29/2005	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-26	MW-26-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-26	MW-26-20091029	10/29/2009	N	< 5 U	< 5 U	< 5 U
MW-26	MW-26-20100512	5/12/2010	N	< 5 U	< 5 U	< 5 U
MW-26	MW-26-20101105	11/5/2010	N	22	< 5 U	< 5 U
MW-26	MW-26-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-26	MW-26-20120418	4/18/2012	N	< 5 U	< 5 U	< 5 U
MW-26	MW-26-20121018	10/18/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-26	MW-26-20130423	4/23/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-26	MW-26-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-26	MW-26-201403	3/5/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-26	MW-26-201405	5/12/2014	N	0.25 J	< 5.0 U	< 2.0 U
MW-26	MW-26-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-26	MW-26-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-26	MW-26-201501	1/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201504	4/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201507	7/22/2015	N	0.18 J	< 1.0 U	< 1.0 U
MW-26	MW-26-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201601	1/13/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201704	4/28/2017	N	0.28 J	< 1.0 U	< 1.0 U
MW-26	MW-26-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201804	4/18/2018	N	1.0	< 1.0 U	< 1.0 U
MW-26	DUP-09-201811	11/14/2018	FD	0.46 J	< 1.0 U	< 1.0 U
MW-26	MW-26-201811	11/14/2018	N	< 1.0	< 1.0 U	< 1.0 U
MW-26	MW-26-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-26	MW-26-202005	5/13/2020	N	0.65 J	< 1.0 U	< 1.0 U
MW-26	MW-26-202010	10/7/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-27	MW-27-20010105	1/5/2001	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20010105-FD	1/5/2001	FD	5.55	< 5 U	< 10 U
MW-27	MW-27-20010326	3/26/2001	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20010911	9/11/2001	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20020911	9/11/2002	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20020911-FD	9/11/2002	FD	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20050929	9/29/2005	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20061014	10/14/2006	N	2 J	< 5 U	< 10 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-27	MW-27-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-27	MW-27-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-27	MW-27-20100512	5/12/2010	N	3.1 J	< 5 U	< 5 U
MW-27	MW-27-20101105	11/5/2010	N	42	< 5 U	< 5 U
MW-27	MW-27-20111027	10/27/2011	N	< 5 U	< 5 U	< 5 U
MW-27	MW-27-20120418	4/18/2012	N	2.6 J	< 5 U	< 5 U
MW-27	MW-27-20121018	10/18/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-27	MW-27-20130424	4/24/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-27	MW-27-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-27	MW-27-201403	3/7/2014	N	0.31 J	< 5.0 U	< 2.0 U
MW-27	MW-27-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-27	MW-27-201407	7/30/2014	N	0.63 J	< 5.0 U	< 2.0 U
MW-27	MW-27-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-27	MW-27-201501	1/14/2015	N	0.84 J	0.59 J	< 1.0 U
MW-27	MW-27-201504	4/13/2015	N	0.59 J	< 1.0 U	< 1.0 U
MW-27	MW-27-201507	7/22/2015	N	0.18 J	< 1.0 U	< 1.0 U
MW-27	MW-27-201510	10/7/2015	N	0.55 J	0.33 J	< 1.0 U
MW-27	MW-27-201601	1/12/2016	N	0.61 J	0.42 J	< 1.0 U
MW-27	MW-27-201605	5/4/2016	N	0.35 J	0.18 J	< 1.0 U
MW-27	MW-27-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-27	MW-27-201710	10/25/2017	N	0.41 U	< 1.0 U	< 1.0 U
MW-27	MW-27-201811	11/13/2018	N	0.92 J	0.27 J	< 1.0 U
MW-27	MW-27-201910	10/24/2019	N	1.9	0.40 J	< 1.0 U
MW-27	MW-27-202010	10/7/2020	N	10.2	0.42 J	< 1.0 U
MW-28	MW-28-20010327	3/27/2001	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20010327-FD	3/27/2001	FD	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20010911	9/11/2001	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20020911	9/11/2002	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20061014	10/14/2006	N	< 5 U	< 5 U	< 10 UJ
MW-28	MW-28-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-28	MW-28-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-28	MW-28-20091029	10/29/2009	N	< 5 U	< 5 U	< 5 U
MW-28	MW-28-20100512	5/12/2010	N	2.6 J	< 5 U	< 5 U
MW-28	MW-28-20101105	11/5/2010	N	54	< 5 U	< 5 U
MW-28	MW-28-20110323	3/23/2011	N	1.6 J	< 5 U	< 5 U
MW-28	MW-28-20111027	10/27/2011	N	< 5 U	< 5 U	< 5 U
MW-28	MW-28-20120419	4/19/2012	N	< 5 U	< 5 U	< 5 U
MW-28	MW-28-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-28	MW-28-20130424	4/24/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-28	MW-28-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-28	MW-28-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-28	MW-28-201405	5/13/2014	N	0.30 J	< 5.0 U	< 2.0 U
MW-28	MW-28-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-28	MW-28-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-28	MW-28-201501	1/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201504	4/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201507	7/22/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-28	MW-28-202010	10/8/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-20010327	3/27/2001	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20010911	9/11/2001	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20020910	9/10/2002	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20030227	2/27/2003	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20030924	9/24/2003	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20040414	4/14/2004	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20040922	9/22/2004	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20050928	9/28/2005	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-29	MW-29-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-29	MW-29-20081210-FD	12/10/2008	FD	< 5 U	< 5 U	< 5 U
MW-29	MW-29-20091029	10/29/2009	N	< 5 U	< 5 U	< 5 U
MW-29	MW-29-20111025	10/25/2011	N	< 5 U	< 5 U	< 5 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-29	MW-29-20120418	4/18/2012	N	< 5 U	< 5 U	< 5 U
MW-29	MW-29-20121018	10/18/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-29	MW-29-20130423	4/23/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-29	MW-29-101413	10/14/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-29	MW-29-201403	3/5/2014	N	0.52 J	< 5.0 U	< 2.0 U
MW-29	MW-29-201405	5/13/2014	N	0.18 J	< 5.0 U	< 2.0 U
MW-29	MW-29-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-29	MW-29-201410	10/15/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-29	MW-29-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201507	7/22/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201601	1/13/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201710	10/25/2017	N	0.19 U	0.16 J	< 1.0 U
MW-29	MW-29-201804	4/19/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201811	11/15/2018	N	< 1.0	< 1.0 U	< 1.0 U
MW-29	MW-29-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-202005	5/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-29	MW-29-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-30	MW-30-20010327	3/27/2001	N	43	11	< 10 U
MW-30	MW-30-20010911	9/11/2001	N	63	18	< 10 U
MW-30	MW-30-20020910	9/10/2002	N	48	14	< 10 U
MW-30	MW-30-20030227	2/27/2003	N	60	20.3	< 10 U
MW-30	MW-30-20030924	9/24/2003	N	46.8	13.7	< 10 U
MW-30	MW-30-20040414	4/14/2004	N	36.6	11.8	< 10 U
MW-30	MW-30-20040922	9/22/2004	N	36.2	12.1	< 10 U
MW-30	MW-30-20050928	9/28/2005	N	59.6	15.6	< 10 U
MW-30	MW-30-20061012	10/12/2006	N	53	15	< 10 U
MW-30	MW-30-20070920	9/20/2007	N	39	11	< 10 U
MW-30	MW-30-20081210	12/10/2008	N	37	11	< 5 U
MW-30	MW-30-20101103	11/3/2010	N	50	15	< 5 U
MW-30	MW-30-20111026	10/26/2011	N	57	16	< 5 U
MW-30	MW-30-20120418	4/18/2012	N	150	32	< 5 U
MW-30	MW-30-20121018	10/18/2012	N	65	19	< 2.0 U
MW-30	MW-30-20130425	4/25/2013	N	49	18	0.49 J
MW-30	MW-30-101413	10/14/2013	N	40	16	< 2.0 U
MW-31	MW-31-20010105	1/5/2001	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20010326	3/26/2001	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20010913	9/13/2001	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20020911	9/11/2002	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20030228	2/28/2003	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20040923	9/23/2004	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20050405	4/5/2005	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20050927	9/27/2005	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20060315	3/15/2006	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20061011	10/11/2006	N	3 J	< 5 U	< 10 U
MW-31	MW-31-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20070918	9/18/2007	N	< 5 U	< 5 U	< 10 U
MW-31	MW-31-20080430	4/30/2008	N	2 J	< 5 U	< 10 U
MW-31	MW-31-20081211	12/11/2008	N	< 5 U	< 5 U	< 5 U
MW-31	MW-31-20090425	4/25/2009	N	< 5 U	< 5 U	< 5 U
MW-31	MW-31-20100512	5/12/2010	N	< 5 U	< 5 U	< 5 U
MW-31	MW-31-20101107	11/7/2010	N	48	< 5 U	< 5 U
MW-31	MW-31-20110323	3/23/2011	N	< 5 U	< 5 U	< 5 U
MW-31	MW-31-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-31	MW-31-20121019	10/19/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	MW-31-101813	10/18/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	MW-31-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	MW-31-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	DUP-1-201407	7/30/2014	FD	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	MW-31-201407	7/30/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	MW-31-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-31	MW-31-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-31R	MW-31R-GW-20150119	1/19/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-31R	MW-31R-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-31R	MW-31R-201507	7/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-31R	MW-31R-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-31R	MW-31R-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-31R	MW-31R-201604	4/18/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-32	MW-32-20010105	1/5/2001	N	108	< 5 U	< 10 U
MW-32	MW-32-20010327	3/27/2001	N	174	< 5 U	< 10 U
MW-32	MW-32-20010913	9/13/2001	N	95	< 5 U	< 10 U
MW-32	MW-32-20020911	9/11/2002	N	109	< 5 U	< 10 U
MW-32	MW-32-20030228	2/28/2003	N	133	< 5 U	< 10 U
MW-32	MW-32-20030925	9/25/2003	N	32.3	< 5 U	< 10 U
MW-32	MW-32-20040415	4/15/2004	N	76.9	< 5 U	< 10 U
MW-32	MW-32-20040923	9/23/2004	N	51.4	< 5 U	< 10 U
MW-32	MW-32-20050405	4/5/2005	N	158	< 5 U	< 10 U
MW-32	MW-32-20050927	9/27/2005	N	97.6	< 5 U	< 10 U
MW-32	MW-32-20060315	3/15/2006	N	111	< 5 U	< 10 U
MW-32	MW-32-20061012	10/12/2006	N	85	4 J	< 10 U
MW-32	MW-32-20070419	4/19/2007	N	66.3	10.1	< 10 U
MW-32	MW-32-20070918	9/18/2007	N	78	< 5 U	< 10 U
MW-32	MW-32-20080430	4/30/2008	N	70 0	2 J	< 10 U
MW-32	MW-32-20081211	12/11/2008	N	60	< 5 U	< 5 U
MW-32	MW-32-20090425	4/25/2009	N	47	< 5 U	< 5 U
MW-32	MW-32-20091028	10/28/2009	N	68	1.8 J	< 5 U
MW-32	MW-32-20100512	5/12/2010	N	58	< 5 U	< 5 U
MW-32	MW-32-20101106	11/6/2010	N	120	< 5 U	< 5 U
MW-32	MW-32-20110324	3/24/2011	N	66	1.4 J	< 5 U
MW-32	MW-32-20111026	10/26/2011	N	73	< 5 U	< 5 U
MW-32	MW-32-20121019	10/19/2012	N	61	1.2 J	< 2.0 U
MW-32	MW-32-101813	10/18/2013	N	48	1.4 J	< 2.0 U
MW-32	MW-32-201403	3/8/2014	N	36.8	1.1 J	< 2.0 U
MW-32	MW-32-201405	5/13/2014	N	33.1	0.19 J	< 2.0 U
MW-32	MW-32-201407	7/29/2014	N	37.2	1.0 J	< 2.0 U
MW-32	MW-32-201410	10/14/2014	N	29.7	0.80 J	< 2.0 U
MW-32	MW-32-201501	1/14/2015	N	20.2	0.55 J	< 1.0 U
MW-32R	MW-32R-GW-20150119	1/19/2015	N	12.9	< 1.0 U	< 1.0 U
MW-32R	MW-32R-201504	4/15/2015	N	11.2	< 1.0 U	< 1.0 U
MW-32R	MW-32R-201507	7/21/2015	N	7.4	0.29 J	< 1.0 U
MW-32R	MW-32R-201510	10/7/2015	N	8.2	0.37 J	< 1.0 U
MW-32R	MW-32R-201601	1/12/2016	N	13.1	0.45 J	< 1.0 U
MW-32R	MW-32R-201604	4/18/2016	N	8.8	< 1.0 U	< 1.0 U
MW-33	MW-33-20010105	1/5/2001	N	120	< 5 U	< 10 U
MW-33	MW-33-20010327	3/27/2001	N	260	7	< 10 U
MW-33	MW-33-20010913	9/13/2001	N	310	8	< 10 U
MW-33	MW-33-20020911	9/11/2002	N	450	8	< 10 U
MW-33	MW-33-20030228	2/28/2003	N	274	6.62	< 10 U
MW-33	MW-33-20030925	9/25/2003	N	198	5.95	< 10 U
MW-33	MW-33-20040415	4/15/2004	N	871	21.3	< 10 U
MW-33	MW-33-20040923	9/23/2004	N	798	15.3	< 10 U
MW-33	MW-33-20050405	4/5/2005	N	1430	24.5	< 10 U
MW-33	MW-33-20050927	9/27/2005	N	1030	15.2	< 10 U
MW-33	MW-33-20060315	3/15/2006	N	1610	20.5	< 10 U
MW-33	MW-33-20061012	10/12/2006	N	1300	19	< 10 U
MW-33	MW-33-20070419	4/19/2007	N	1430	9.2 J	< 50 U
MW-33	MW-33-20070918	9/18/2007	N	1700	25	< 10 U
MW-33	MW-33-20080430	4/30/2008	N	1100 0	16 0	< 10 U
MW-33	MW-33-20081211	12/11/2008	N	1200	18	< 5 U
MW-33	MW-33-20090425	4/25/2009	N	1200	19	< 5 U
MW-33	MW-33-20090527	5/27/2009	N	1000	19	< 5 U
MW-33	MW-33-20091028	10/28/2009	N	1200	20	< 5 U
MW-33	MW-33-20100512	5/12/2010	N	1100	21	< 5 U
MW-33	MW-33-20101106	11/6/2010	N	1200	17	< 5 U
MW-33	MW-33-20110304-FS	3/4/2011	N	500	14	< 5.0 U
MW-33	MW-33-20110523-FS	5/23/2011	N	1300	18	
MW-33	MW-33-20111026	10/26/2011	N	1000	16	< 5 U
MW-33	MW-33-20121019	10/19/2012	N	1300	18	0.56 J
MW-33	MW-33-101813	10/18/2013	N	1100	19	< 2.0 U
MW-33	MW-33-201403	3/8/2014	N	918	15.9	0.56 J
MW-33	MW-33-201405	5/14/2014	N	954	15.1	0.56 J
MW-33	MW-33-201407	7/29/2014	N	1600	20.8	0.59 J
MW-33	MW-33-201410	10/15/2014	N	1290	15.3	< 2.0 U
MW-33	MW-33-201501	1/14/2015	N	1080	13.9	< 1.0 U
MW-33R	MW-33R-GW-20150118	1/18/2015	N	799	9.9	< 1.0 U
MW-33R	DUP-01-201504	4/15/2015	FD	624	10.5	< 1.0 U
MW-33R	MW-33R-201504	4/15/2015	N	570	12.2	0.37 J
MW-33R	DUP-04-201507	7/22/2015	FD	447	6.1	< 1.0 U
MW-33R	MW-33R-201507	7/22/2015	N	488	6.8	< 1.0 U
MW-33R	DUP-05-201510	10/8/2015	FD	460	6.3	0.28 J
MW-33R	MW-33R-201510	10/8/2015	N	562	6.1	0.31 J

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-33R	MW-33R-201511	11/5/2015	N	752	8.0	0.39 J
MW-33R	MW-33R-201512	12/2/2015	N	675	6.5	0.30 J
MW-33R	MW-33R-201601	1/8/2016	N	724	7.6	< 1.0 U
MW-33R	MW-33R-201604	4/18/2016	N	776	6.7	0.23 J
MW-34	MW-34-20010328	3/28/2001	N	83	< 5 U	< 10 U
MW-34	MW-34-20010913	9/13/2001	N	61	< 5 U	< 10 U
MW-34	MW-34L-20020909	9/9/2002	N	84	< 5 U	< 10 U
MW-34	MW-34-20030228	2/28/2003	N	< 5 U	< 5 U	< 10 U
MW-34	MW-34-20030925	9/25/2003	N	28.4	< 5 U	< 10 U
MW-34	MW-34-20031114	11/14/2003	N	121	< 5 U	< 10 U
MW-34	MW-34-20040415	4/15/2004	N	119	< 5 U	< 10 U
MW-34	MW-34-20040923	9/23/2004	N	81.1	< 5 U	< 10 U
MW-34	MW-34-20041209	12/9/2004	N	93.3	< 5 U	< 10 U
MW-34	MW-34-20050405	4/5/2005	N	65.8	< 5 U	< 10 U
MW-34	MW-34-20050930	9/30/2005	N	83.7	< 5 U	< 10 U
MW-34	MW-34-20060314	3/14/2006	N	77.1	< 5 U	< 10 U
MW-34	MW-34-20061011	10/11/2006	N	63	4 J	< 10 U
MW-34	MW-34-20070418	4/18/2007	N	41	9.79	< 10 U
MW-34	MW-34-20070919	9/19/2007	N	61	< 5 U	< 10 U
MW-34	MW-34-20080430	4/30/2008	N	32 0	< 5 U	< 10 U
MW-34	MW-34-20081210	12/10/2008	N	53	< 5 U	< 5 U
MW-34	MW-34-20090424	4/24/2009	N	43	< 5 U	< 5 U
MW-34	MW-34-20090527	5/27/2009	N	12	< 5 U	< 5 U
MW-34	MW-34-20091028	10/28/2009	N	34	< 5 U	< 5 U
MW-34	MW-34-20100512	5/12/2010	N	38	< 5 U	< 5 U
MW-34	MW-34-20101107-FD	11/7/2010	FD	70	< 5 U	< 5 U
MW-34	MW-34-20101107	11/7/2010	N	73	< 5 U	< 5 U
MW-34	MW-34-20110324-FD	3/24/2011	FD	40	< 5 U	< 5 U
MW-34	MW-34-20110324	3/24/2011	N	42	< 5 U	< 5 U
MW-34	MW-34-20111026	10/26/2011	N	56	< 5 U	< 5 U
MW-34	MW-34-20121020	10/20/2012	N	90	1.6 J	< 2.0 U
MW-34	MW-34-101713	10/17/2013	N	43	0.90 J	< 2.0 U
MW-34	MW-34-201403	3/8/2014	N	28.7	0.61 J	< 2.0 U
MW-34	MW-34-201405	5/13/2014	N	19.9	< 5.0 U	< 2.0 U
MW-34	MW-34-201407	7/29/2014	N	78.2	1.7 J	< 2.0 U
MW-34	MW-34-201410	10/15/2014	N	47.7	0.96 J	< 2.0 U
MW-34	MW-34-201501	1/13/2015	N	22.0	< 1.0 U	< 1.0 U
MW-34	MW-34-201504	4/14/2015	N	13.8	< 1.0 U	< 1.0 U
MW-34R	MW-34R-201507	7/21/2015	N	3.5	< 1.0 U	< 1.0 U
MW-34R	MW-34R-201510	10/8/2015	N	4.5	0.16 J	< 1.0 U
MW-34R	MW-34R-201601	1/11/2016	N	2.6	0.30 J	< 1.0 U
MW-34R	MW-34R-201605	5/3/2016	N	2.5	0.56 J	< 1.0 U
MW-35R	MW-35R-20010328	3/28/2001	N	960	34	< 10 U
MW-35R	MW-35R-20010913	9/13/2001	N	1030	40	< 20 U
MW-35R	MW-35L-20020909	9/9/2002	N	900	31	< 10 U
MW-35R	MW-35R-20030228	2/28/2003	N	246	15.1	< 10 U
MW-35R	MW-35R-20030925	9/25/2003	N	297	19.8	< 10 U
MW-35R	MW-35R-20031114	11/14/2003	N	990	34.9	< 10 U
MW-35R	MW-35R-20040415	4/15/2004	N	1150	45.8	< 10 U
MW-35R	MW-35R-20040923	9/23/2004	N	685	28.4	< 10 U
MW-35R	MW-35R-20041209	12/9/2004	N	880	42	< 10 U
MW-35R	MW-35R-20050406	4/6/2005	N	886	35	< 10 U
MW-35R	MW-35R-20050930	9/30/2005	N	804	29.3	< 10 U
MW-35R	MW-35R-20060314	3/14/2006	N	858	24.2	< 10 U
MW-35R	MW-35R-20060406	4/6/2006	N	1540	52.5	< 10 U
MW-35R	MW-35R-20061011	10/11/2006	N	910	29	< 10 U
MW-35R	MW-35R-20070418	4/18/2007	N	900	27.6	< 10 U
MW-35R	MW-35R-20070919	9/19/2007	N	1100	28	< 10 U
MW-35R	MW-35R-20080430	4/30/2008	N	1100 0	33 0	< 10 U
MW-35R	MW-35R-20081211	12/11/2008	N	790	27	< 5 U
MW-35R	MW-35R-20090424	4/24/2009	N	1100	37	< 5 U
MW-35R	MW-35R-20090507	5/7/2009	N	< 5 U	< 5 U	< 5 U
MW-35R	MW-35R-20090527	5/27/2009	N	< 5 U	< 5 U	< 5 U
MW-35R	MW-35R-20101105	11/5/2010	N	240	9.9	< 5 U
MW-35R	MW-35R-20110304-FS	3/4/2011	N	180	8.4	< 5.0 U
MW-35R	MW-35R-20110523-FS	5/23/2011	N	260	13	
MW-35R	MW-35R-20111025	10/25/2011	N	280	12	< 5 U
MW-35R	MW-35R-20121020	10/20/2012	N	280	10	< 2.0 U
MW-35R	MW-35R-101713	10/17/2013	N	200	12	< 2.0 U
MW-35R	MW-35R-20131017-FD	10/17/2013	FD	220	13	
MW-35R	MW-35R-201403	3/8/2014	N	345	14.9	< 2.0 U
MW-35R	MW-35R-201405	5/13/2014	N	183	6.1	< 2.0 U
MW-35R	MW-35R-201407	7/30/2014	N	64.7	2.8 J	< 2.0 U
MW-35R	MW-35R-201410	10/14/2014	N	79.2	2.6 J	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-35R	MW-35R-201501	1/13/2015	N	10.9	< 1.0 U	< 1.0 U
MW-35R	MW-35R-201504	4/14/2015	N	39.5	1.3	< 1.0 U
MW-35R	MW-35R-201507	7/21/2015	N	33.7	1.0	< 1.0 U
MW-35R	MW-35R-201510	10/7/2015	N	15.4	0.58 J	< 1.0 U
MW-35R	MW-35R-201511	11/4/2015	N	23.6	0.36 J	< 1.0 U
MW-35R	MW-35R-201512	12/2/2015	N	0.89 J	< 1.0 U	< 1.0 U
MW-35R	MW-35R-201601	1/11/2016	N	13.2	0.34 J	< 1.0 U
MW-35R	MW-35R-201605	5/3/2016	N	19.3	0.49 J	< 1.0 U
MW-36	MW-36-20010328	3/28/2001	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20010913	9/13/2001	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36L-20020909	9/9/2002	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20030228	2/28/2003	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20031114	11/14/2003	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20040923	9/23/2004	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20050406	4/6/2005	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20060317	3/17/2006	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20061011	10/11/2006	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20070418	4/18/2007	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20070920	9/20/2007	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20080430	4/30/2008	N	< 5 U	< 5 U	< 10 U
MW-36	MW-36-20081211	12/11/2008	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20090507	5/7/2009	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20090508	5/8/2009	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20090528	5/28/2009	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20091028	10/28/2009	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20100512	5/12/2010	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20101107	11/7/2010	N	9.9	< 5 U	< 5 U
MW-36	MW-36-20110324	3/24/2011	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-36	MW-36-20121019	10/19/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-36	MW-36-101713	10/17/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-36	MW-36-201403	3/6/2014	N	0.22 J	< 5.0 U	< 2.0 U
MW-36	MW-36-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-36	MW-36-201407	7/29/2014	N	0.61 J	< 5.0 U	< 2.0 U
MW-36	MW-36-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-36	MW-36-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-36	MW-36-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-36R	MW-36R-201507	7/20/2015	N	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
MW-36R	MW-36R-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-36R	MW-36R-201601	1/11/2016	N	0.31 J	< 1.0 U	< 1.0 U
MW-36R	MW-36R-201605	5/3/2016	N	1.7	< 1.0 U	< 1.0 U
MW-37	MW-37-20010914	9/14/2001	N	5000	340	< 100 U
MW-37	MW-37-20011120	11/20/2001	N	< 5 U	< 5 U	< 10 U
MW-37	MW-37-20020911	9/11/2002	N	1400	10000	300
MW-37	MW-37-20030227	2/27/2003	N	4050	5660	2500
MW-37	MW-37-20030717	7/17/2003	N	2560	1710	316
MW-37	MW-37-20030924	9/24/2003	N	3700	7020	973
MW-37	MW-37-20040413	4/13/2004	N	5190	3160	1180
MW-37	MW-37-20040921	9/21/2004	N	5030	5650	1370
MW-37	MW-37-20050405	4/5/2005	N	5310	2360	1030 E
MW-37	MW-37-20050929	9/29/2005	N	6780	3210	910 E
MW-37	MW-37-20060316	3/16/2006	N	11200	5020	1730
MW-37	MW-37-20061013	10/13/2006	N	13000	5300	1200
MW-37	MW-37-20061013-FD	10/13/2006	FD	13000	5000	1200
MW-37	MW-37-20070419	4/19/2007	N	9490	3010	780
MW-37	MW-37-20070921	9/21/2007	N	22000	9100	2800
MW-37	MW-37-20080430	4/30/2008	N	16000 0	3300 0	1800 0
MW-37	MW-37-20081210	12/10/2008	N	24000	6300	1800
MW-37	MW-37-20090427	4/27/2009	N	11000	3200	1200
MW-37	MW-37-20091027	10/27/2009	N	37000	7400	2200
MW-37	MW-37-20100511	5/11/2010	N	33000	7200	2400
MW-37	MW-37-20101104	11/4/2010	N	54000	10000	2200
MW-37	MW-37-20110322	3/22/2011	N	36000	6000	2300
MW-37	MW-37-20111026	10/26/2011	N	57000	9700	2500
MW-37	MW-37-20120418	4/18/2012	N	29000	5300	2100
MW-37	MW-37-20121019	10/19/2012	N	4800	1100	230
MW-37	MW-37-20130425	4/25/2013	N	1700	900	230
MW-37	MW-37-101713	10/17/2013	N	1100	1500	1300
MW-37	MW-37-201904	4/24/2019	N	8080	1410	375
MW-37	MW-37-201910	10/24/2019	N	12100	1950	662

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-37	MW-37-202005	5/13/2020	N	4210	< 1.0 U	499
MW-37	MW-37-202010	10/8/2020	N	3990	648	186
MW-38	MW-38-20010914	9/14/2001	N	620	90	< 20 U
MW-38	MW-38-20050929	9/29/2005	N	< 5 U	98.9	2150
MW-38	MW-38-20061013	10/13/2006	N	26	130	2000 J
MW-38	MW-38-20081210	12/10/2008	N	44	110	1400
MW-38	MW-38-20111026	10/26/2011	N	580	870	1100
MW-38	MW-38-20121018	10/18/2012	N	1000	750	700
MW-38	MW-38-101613	10/16/2013	N	2300	1200	560
MW-38	MW-38-201403	3/8/2014	N	1790	535	68.4
MW-38	DUP1-201405	5/14/2014	FD	2040	426 J	98.2
MW-38	MW-38-201405	5/14/2014	N	1650	428	97.9
MW-38	MW-38-201407	7/31/2014	N	1720	637	197
MW-38	DUP-06-201410	10/16/2014	FD	6970	869	370
MW-38	MW-38-201410	10/16/2014	N	6750	781	321
MW-38	MW-38-20141204	12/4/2014	N	3190	697	193
MW-38	DUP-06-201501	1/15/2015	FD	3910	1190	143
MW-38	MW-38-201501	1/15/2015	N	5440	1900	133
MW-38	MW-38-201504	4/16/2015	N	3060	2060	33.7
MW-38	MW-38-201507	7/23/2015	N	3420	1340	119
MW-38	MW-38-201510	10/8/2015	N	2740	1340	190
MW-38	MW-38-201601	1/13/2016	N	3680	1180	84.3
MW-38	MW-38-201605	5/5/2016	N	3040	950	18.1
MW-38	MW-38-201611	11/10/2016	N	2860	1070	597
MW-38	MW-38-201704	4/28/2017	N	2550	949	23.9
MW-38	MW-38-201710	10/26/2017	N	2240	823	< 1.0 U
MW-38	MW-38-201804	4/19/2018	N	2560	777	23.6
MW-38	MW-38-201811	11/15/2018	N	2340	675	360
MW-38	DUP-02-201904	4/25/2019	FD	1890	416	14.1
MW-38	MW-38-201904	4/25/2019	N	1760	388	15.9
MW-38	MW-38-201910	10/23/2019	N	2180	542	307
MW-38	MW-38-202005	5/14/2020	N	10500	295	5.2
MW-38	MW-38-202010	10/7/2020	N	1110	353	237
MW-39	MW-39-20030718	7/18/2003	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20031114	11/14/2003	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20040923	9/23/2004	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20050408	4/8/2005	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20060317	3/17/2006	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20061011	10/11/2006	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20070418	4/18/2007	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20080430	4/30/2008	N	< 5 U	< 5 U	< 10 U
MW-39	MW-39-20081209	12/9/2008	N	< 5 U	< 5 U	< 5 U
MW-39	MW-39-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-39	MW-39-20091027	10/27/2009	N	< 5 U	< 5 U	< 5 U
MW-39	MW-39-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-39	MW-39-20101107	11/7/2010	N	20	< 5 U	< 5 U
MW-39	MW-39-20110324	3/24/2011	N	< 5 U	< 5 U	< 5 U
MW-39	MW-39-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-39	MW-39-20121019	10/19/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-39	MW-39-101813	10/18/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-39	MW-39-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-39	MW-39-201405	5/13/2014	N	0.23 J	< 5.0 U	< 2.0 U
MW-39	MW-39-201407	7/29/2014	N	0.79 J	< 5.0 U	< 2.0 U
MW-39	MW-39-201410	10/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-39	MW-39-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39	MW-39-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201507	7/20/2015	N	< 1.0 UJ	< 1.0 UJ	< 1.0 UJ
MW-39R	MW-39R-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201611	11/7/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	FD-05-201710	10/25/2017	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201811	11/15/2018	N	< 1.0	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	DUP-05-202005	5/12/2020	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-39R	MW-39R-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-39R	MW-39R-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40	MW-40-20030718	7/18/2003	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20030925	9/25/2003	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20031114	11/14/2003	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20031114-FD	11/14/2003	FD	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20040415	4/15/2004	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20040923	9/23/2004	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20050407	4/7/2005	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20050929	9/29/2005	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20060314	3/14/2006	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20061010	10/10/2006	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20070418	4/18/2007	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20070918	9/18/2007	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20080428	4/28/2008	N	< 5 U	< 5 U	< 10 U
MW-40	MW-40-20081211	12/11/2008	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20090527	5/27/2009	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20091029	10/29/2009	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20100512	5/12/2010	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20101104	11/4/2010	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20110323	3/23/2011	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-40	MW-40-20120418	4/18/2012	N	3.9 J	< 5 U	< 5 U
MW-40	MW-40-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-40	MW-40-20130423	4/23/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-40	MW-40-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-40	MW-40-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-40	MW-40-201405	5/12/2014	N	0.76 J	< 5.0 U	< 2.0 U
MW-40	MW-40-201407	7/29/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-40	MW-40-201410	10/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-40	MW-40-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40	MW-40-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201507	7/20/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	DUP-03-201510	10/6/2015	FD	0.83 J	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201510	10/6/2015	N	0.30 J	0.23 J	< 1.0 U
MW-40R	DUP-06-201601	1/12/2016	FD	0.28 J	0.22 J	< 1.0 U
MW-40R	MW-40R-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201611	11/7/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201710	10/24/2017	N	0.31 J	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-40R	MW-40R-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-41	MW-41-20030718	7/18/2003	N	972	50.6	< 10 U
MW-41	MW-41-20030718-FD	7/18/2003	FD	964	45.5	< 10 U
MW-41	MW-41-20030925	9/25/2003	N	722	37.8	< 10 U
MW-41	MW-41-20031114	11/14/2003	N	331	205	< 10 U
MW-41	MW-41-20040415	4/15/2004	N	760	54.2	< 10 U
MW-41	MW-41-20040923	9/23/2004	N	1060	48	< 10 U
MW-41	MW-41-20050407	4/7/2005	N	1170	58	< 10 U
MW-41	MW-41-20050930	9/30/2005	N	1120	55.8	< 10 U
MW-41	MW-41-20060317	3/17/2006	N	917	52.5	< 10 U
MW-41	MW-41-20061013	10/13/2006	N	970	43	< 10 UJ
MW-41	MW-41-20070418	4/18/2007	N	900	30.1	< 10 U
MW-41	MW-41-20070920	9/20/2007	N	850	32	< 10 U
MW-41	MW-41-20080430	4/30/2008	N	730 0	31 0	< 10 U
MW-41	MW-41-20081211	12/11/2008	N	820	29	< 5 U
MW-41	MW-41-20090424	4/24/2009	N	660	25	< 5 U
MW-41	MW-41-20090507	5/7/2009	N	180	4.7 J	< 5 U
MW-41	MW-41-20090508	5/8/2009	N	180	4.7 J	< 5 U
MW-41	MW-41-20090527	5/27/2009	N	230	16	< 5 U
MW-41	MW-41-20091028	10/28/2009	N	180	4 J	< 5 U
MW-41	MW-41-20100513	5/13/2010	N	610	19	< 5 U
MW-41	MW-41-20101105	11/5/2010	N	930	31	< 5 U
MW-41	MW-41-20110304-FS	3/4/2011	N	120	20	< 5.0 U
MW-41	MW-41-20110523-FS	5/23/2011	N	370	15	
MW-41	MW-41-20111025	10/25/2011	N	420	18	< 5 U
MW-41	MW-41-20121020	10/20/2012	N	620	23	< 2.0 U
MW-41	MW-41-20121020-FD	10/20/2012	FD	550	21	< 2.0 U
MW-41	MW-41-101613	10/16/2013	N	520	24	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-41	MW-41-201403	3/7/2014	N	501	19.7	0.68 J
MW-41	MW-41-201405	5/14/2014	N	518	18.0	0.50 J
MW-41	DUP-2-201407	7/30/2014	FD	511	19.1	< 2.0 U
MW-41	MW-41-201407	7/30/2014	N	480	19.7	< 2.0 U
MW-41	MW-41-201410	10/15/2014	N	491	16.9	< 2.0 U
MW-41	MW-41-201501	1/14/2015	N	425	15.6	< 1.0 U
MW-41	DUP-02-201504	4/15/2015	FD	410	13.5	< 1.0
MW-41	MW-41-201504	4/15/2015	N	386	15.2	0.27 J
MW-41R	DUP-03-201507	7/21/2015	FD	43.0	2.8	< 1.0 U
MW-41R	MW-41R-201507	7/21/2015	N	40.4	3.3	< 1.0 U
MW-41R	DUP-07-201510	10/6/2015	FD	46.4	35.2	0.33 J
MW-41R	MW-41R-201510	10/6/2015	N	48.7	36.7	0.39 J
MW-41R	DUP-07-201601	1/12/2016	FD	56.6	40.1	0.35 J
MW-41R	MW-41R-201601	1/12/2016	N	59.9	40.9	0.38 J
MW-41R	DUP-03-201605	5/3/2016	FD	82.9	17.5	0.20 J
MW-41R	MW-41R-201605	5/3/2016	N	87.8	17.3	0.18 J
MW-42B	MW-42B-20031114	11/14/2003	N	481	21.1	< 10 U
MW-42B	MW-42B-20040415	4/15/2004	N	856	29.3	< 10 U
MW-42B	MW-42B-20040923	9/23/2004	N	400	19.8	< 10 U
MW-42B	MW-42B-20050405	4/5/2005	N	1310	32	< 10 U
MW-42B	MW-42B-20050927	9/27/2005	N	1470	27.3	< 10 U
MW-42B	MW-42B-20060315	3/15/2006	N	2270	37.2	< 10 U
MW-42B	MW-42B-20061010	10/10/2006	N	2000	35	2 J
MW-42B	MW-42B-20070417	4/17/2007	N	1600	36.8	< 10 U
MW-42B	MW-42B-20070918	9/18/2007	N	2100	39	4 J
MW-42B	MW-42B-20080429	4/29/2008	N	1600 0	33 0	3 J
MW-42B	MW-42B-20081209	12/9/2008	N	1100	30	< 5 U
MW-42B	MW-42B-20090425	4/25/2009	N	1500	35	< 5 U
MW-43	MW-43-20031114	11/14/2003	N	223	18.5	< 10 U
MW-43	MW-43-20040415	4/15/2004	N	510	12.1	< 10 U
MW-43	MW-43-20040923	9/23/2004	N	64.7	6.31	< 10 U
MW-43	MW-43-20050405	4/5/2005	N	304	11.9	< 10 U
MW-43	MW-43-20050927	9/27/2005	N	518	21.3	< 10 U
MW-43	MW-43-20060315	3/15/2006	N	1300	35	< 10 U
MW-43	MW-43-20061011	10/11/2006	N	920	30	< 10 U
MW-43	MW-43-20070417	4/17/2007	N	220	14.1	< 10 U
MW-43	MW-43-20070918	9/18/2007	N	350	13	< 10 U
MW-43	MW-43-20080428	4/28/2008	N	120 0	4 J	< 10 U
MW-43	MW-43-20081209	12/9/2008	N	150	5.3	< 5 U
MW-43	MW-43-20090425	4/25/2009	N	120	< 5 U	< 5 U
MW-43	MW-43-20090507	5/7/2009	N	180	6	< 5 U
MW-43	MW-43-20090508	5/8/2009	N	180	6	< 5 U
MW-46R	MW-46R-20031114	11/14/2003	N	39.9	< 5 U	< 10 U
MW-46R	MW-46R-20040415	4/15/2004	N	77.1	27.2	< 10 U
MW-46R	MW-46R-20040923	9/23/2004	N	142	21.2	< 10 U
MW-46R	MW-46R-20050406	4/6/2005	N	210	28.4	< 10 U
MW-46R	MW-46R-20050928	9/28/2005	N	222	15.6	< 10 U
MW-46R	MW-46R-20060316	3/16/2006	N	111	6.37	< 10 U
MW-46R	MW-46R-20060406	4/6/2006	N	300	< 5 U	< 10 U
MW-46R	MW-46R-20061011	10/11/2006	N	450	8	< 10 U
MW-46R	MW-46R-20070417	4/17/2007	N	440	12.5	< 10 U
MW-46R	MW-46R-20070918	9/18/2007	N	420	9	< 10 U
MW-46R	MW-46R-20080429	4/29/2008	N	430 0	8 0	< 10 U
MW-46R	MW-46R-20081209	12/9/2008	N	310	19	< 5 U
MW-46R	MW-46R-20090425	4/25/2009	N	460	11	< 5 U
MW-46R	MW-46R-20090527	5/27/2009	N	< 5 U	< 5 U	< 5 U
MW-46R	MW-46R-20091027	10/27/2009	N	390	12	< 5 U
MW-46R	MW-46R-20091221-FS	12/21/2009	N	410	10	< 5.0 U
MW-46R	MW-46R-20100511	5/11/2010	N	610	13	< 5 U
MW-46R	MW-46R-20101105	11/5/2010	N	650	12	< 5 U
MW-46R	MW-46R-20110307-FS	3/7/2011	N	670	14	< 5.0 U
MW-46R	MW-46R-20110322	3/22/2011	N	680	11	< 5 U
MW-46R	MW-46R-20110523-FS	5/23/2011	N	610	13	
MW-46R	MW-46R-20111026	10/26/2011	N	460	10	< 5 U
MW-46R	MW-46R-20120418	4/18/2012	N	680	14	< 5 U
MW-46R	MW-46R-20121020	10/20/2012	N	410	7.9	0.44 J
MW-46R	MW-46R-20130423	4/23/2013	N	470	7.6	0.91 J
MW-46R	MW-46R-101813	10/18/2013	N	410	11	< 2.0 U
MW-46R	MW-46R-201403	3/7/2014	N	469	12.8	0.46 J
MW-46R	MW-46R-201405	5/14/2014	N	471	12.8	0.76 J
MW-46R	MW-46R-201407	7/29/2014	N	472	13.7	0.64 J
MW-46R	DUP-03-201410	10/16/2014	FD	373	25.2	< 2.0 U
MW-46R	MW-46R-201410	10/16/2014	N	410	24.6	< 2.0 U
MW-46R	DUP-03-201501	1/13/2015	FD	428	12.0	0.90 J

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-46R	MW-46R-201501	1/13/2015	N	452	11.6	0.71 J
MW-46R	DUP-07-201504	4/14/2015	FD	482	13.9	0.51 J
MW-46R	MW-46R-201504	4/14/2015	N	220 J	13.8	0.47 J
MW-46R	DUP-05-201507	7/21/2015	FD	444	10.3	0.40 J
MW-46R	MW-46R-201507	7/21/2015	N	460	11.2	0.37 J
MW-46R	MW-46R-201510	10/7/2015	N	371	10.2	0.43 J
MW-46R	MW-46R-201601	1/12/2016	N	432	10.9	0.56 J
MW-46R	DUP-10-201605	5/3/2016	FD	461	11.1	0.52 J
MW-46R	MW-46R-201605	5/3/2016	N	445	12.6	0.40 J
MW-46R	MW-46R-201611	11/8/2016	N	411	10.3	0.79 J
MW-46R	MW-46R-201704	4/27/2017	N	486	12.4	0.47 J
MW-46R	MW-46R-201710	10/24/2017	N	408	10.7	0.51 J
MW-46R	MW-46R-201804	4/18/2018	N	520	12.6	0.56 J
MW-46R	MW-46R-201811	11/14/2018	N	603	14.4	1.2
MW-46R	MW-46R-201904	4/24/2019	N	560 M1	13.4 J-	0.46 J
MW-46R	DUP-03-201910	10/23/2019	FD	560	16.5	0.56 J
MW-46R	MW-46R-201910	10/23/2019	N	555	22.1	0.69 J
MW-46R	MW-46R-202005	5/12/2020	N	483	14.2	0.54 J
MW-46R	MW-46R-202010	10/8/2020	N	460	14.6	2.1
MW-50	MW-50-20040415	4/15/2004	N	6.51	< 5 U	< 10 U
MW-50	MW-50-20040923	9/23/2004	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20041210	12/10/2004	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20050406	4/6/2005	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20050928	9/28/2005	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20060317	3/17/2006	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-50	MW-50-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20091027	10/27/2009	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20101105	11/5/2010	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20110323	3/23/2011	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20111025	10/25/2011	N	< 5 U	< 5 U	< 5 U
MW-50	MW-50-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-50	MW-50-101613	10/16/2013	N	1.6 J	< 5.0 U	< 2.0 U
MW-50	MW-50-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-50	MW-50-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-50	MW-50-201407	7/28/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-50	MW-50-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-50	MW-50-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-50	MW-50-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-50	MW-50-201710	10/23/2017	N	0.26 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201507	7/21/2015	N	0.22 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201510	10/6/2015	N	0.35 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201601	1/11/2016	N	0.42 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201605	5/2/2016	N	0.46 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201611	11/7/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201804	4/17/2018	N	0.61 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201811	11/13/2018	N	0.73 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201904	4/23/2019	N	0.72 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-201910	10/23/2019	N	0.61 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-202005	5/12/2020	N	0.66 J	< 1.0 U	< 1.0 U
MW-50R	MW-50R-202010	10/5/2020	N	0.98 J	< 1.0 U	< 1.0 U
MW-55	MW-55-20041209	12/9/2004	N	< 5 U	< 5 U	< 10 U
MW-55	MW-55-20050408	4/8/2005	N	< 5 U	< 5 U	< 10 U
MW-55	MW-55-20050928	9/28/2005	N	< 5 U	< 5 U	< 10 U
MW-55	MW-55-20060316	3/16/2006	N	< 5 U	< 5 U	< 10 U
MW-55	MW-55-20061013	10/13/2006	N	2 J	< 5 U	< 10 UJ
MW-55	MW-55-20070419	4/19/2007	N	2.6 J	< 5 U	< 10 U
MW-55	MW-55-20070919	9/19/2007	N	5 J	< 5 U	< 10 U
MW-55	MW-55-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-55	MW-55-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-55	MW-55-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-55	MW-55-20091027	10/27/2009	N	3.6 J	< 5 U	< 5 U
MW-55	MW-55-20100512	5/12/2010	N	4.2 J	< 5 U	< 5 U
MW-55	MW-55-20101106	11/6/2010	N	14	< 5 U	< 5 U
MW-55	MW-55-20110323	3/23/2011	N	5.5	< 5 U	< 5 U
MW-55	MW-55-20111025	10/25/2011	N	7	< 5 U	< 5 U
MW-55	MW-55-20121020	10/20/2012	N	9.2	< 5.0 U	< 2.0 U
MW-55	MW-55-101613	10/16/2013	N	13	< 5.0 U	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-55R	MW-55R-201507	7/20/2015	N	8.2	0.42 J	0.13 J
MW-55R	MW-55R-201510	10/6/2015	N	4.4	0.53 J	0.14 J
MW-55R	MW-55R-201601	1/12/2016	N	0.26 J	< 1.0 U	< 1.0 U
MW-55R	MW-55R-201605	5/2/2016	N	2.1	< 1.0 U	< 1.0 U
MW-55R	MW-55R-201611	11/7/2016	N	3.1	< 1.0 U	< 1.0 U
MW-55R	MW-55R-201704	4/27/2017	N	7.0	0.58 J	< 1.0 U
MW-55R	MW-55R-201710	10/25/2017	N	10.9	0.77 J	0.15 J
MW-55R	DUP-05-201804	4/18/2018	FD	18.1	0.82 J	0.16 J
MW-55R	MW-55R-201804	4/18/2018	N	17.0	0.77 J	< 1.0 U
MW-55R	DUP-08-201811	11/15/2018	FD	23.1	0.85 J	< 1.0 U
MW-55R	MW-55R-201811	11/15/2018	N	22.3	0.91 J	< 1.0 U
MW-55R	MW-55R-201904	4/25/2019	N	10.9	0.60 J	< 1.0 U
MW-55R	DUP-04-2019110	10/23/2019	FD	27.7	1.2	0.18 J
MW-55R	MW-55R-201910	10/23/2019	N	26.4	0.98 J	0.16 J
MW-55R	MW-55R-202005	5/12/2020	N	23.9	0.94 J	0.19 J
MW-55R	MW-55R-202010	10/6/2020	N	29.9	1.0	< 1.0 U
MW-56	MW-56-20041210	12/10/2004	N	90.2	< 5 U	< 10 U
MW-56	MW-56-20050408	4/8/2005	N	88.2	< 5 U	< 10 U
MW-56	MW-56-20050928	9/28/2005	N	207	< 5 U	< 10 U
MW-56	MW-56-20060316	3/16/2006	N	8.7	< 5 U	< 10 U
MW-56	MW-56-20061014	10/14/2006	N	110	2 J	< 10 UJ
MW-56	MW-56-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-56	MW-56-20070919	9/19/2007	N	38	< 5 U	< 10 U
MW-56	MW-56-20080429	4/29/2008	N	4 J	< 5 U	< 10 U
MW-56	MW-56-20081210	12/10/2008	N	93	< 5 U	< 5 U
MW-56	MW-56-20090424	4/24/2009	N	14	< 5 U	< 5 U
MW-56	MW-56-20091027	10/27/2009	N	8.7	< 5 U	< 5 U
MW-56	MW-56-20100512	5/12/2010	N	230	6.4	< 5 U
MW-56	MW-56-20110323	3/23/2011	N	71	2.6 J	< 5 U
MW-56	MW-56-20111025	10/25/2011	N	150	11	1.9 J
MW-56	MW-56-20121020	10/20/2012	N	470	11	< 2.0 U
MW-56	MW-56-101713	10/17/2013	N	590	17	< 2.0 U
MW-56	MW-56-201403	3/7/2014	N	618	15.3	0.15 J
MW-56	MW-56-201405	6/11/2014	N	307	17.6	0.16 J
MW-56	MW-56-201407	7/29/2014	N	516	19.3	< 2.0 U
MW-56	MW-56-201410	10/15/2014	N	408	12.1	< 2.0 U
MW-56	MW-56-201501	1/13/2015	N	326	10	< 1.0 U
MW-56	MW-56-201504	4/16/2015	N	495	8.2	< 1.0 U
MW-56R	MW-56R-201507	7/20/2015	N	156	8.0	0.31 J
MW-56R	MW-56R-201510	10/6/2015	N	278	18.1	0.42 J
MW-56R	MW-56R-201601	1/11/2016	N	408	19.2	0.32 J
MW-56R	MW-56R-201605	5/3/2016	N	734	19.7	0.52 J
MW-56R	MW-56R-201611	11/8/2016	N	679	27.8	0.37 J
MW-56R	MW-56R-201710	10/24/2017	N	815	33.8	< 1.0 U
MW-56R	MW-56R-201811	11/14/2018	N	902	21.1	0.38 J
MW-56R	DUP-03-201904	4/25/2019	FD	798	20.3	0.31 J
MW-56R	MW-56R-201904	4/25/2019	N	803	20.0	0.36 J
MW-56R	MW-56R-201910	10/23/2019	N	649	16.9	0.32 J
MW-56R	MW-56R-202005	5/12/2020	N	619	17.3	0.28 J
MW-56R	MW-56R-202010	10/6/2020	N	706	16.8	0.36 J
MW-57	MW-57-20041210	12/10/2004	N	207	6.72	< 10 U
MW-57	MW-57-20050408	4/8/2005	N	282	6.83	< 10 U
MW-57	MW-57-20050928	9/28/2005	N	96	< 5 U	< 10 U
MW-57	MW-57-20060316	3/16/2006	N	254	7.56	< 10 U
MW-57	MW-57-20061013	10/13/2006	N	64	< 5 U	< 10 UJ
MW-57	MW-57-20070419	4/19/2007	N	201	3.77 J	< 10 U
MW-57	MW-57-20070920	9/20/2007	N	250	5 J	< 10 U
MW-57	MW-57-20080430	4/30/2008	N	14 0	< 5 U	< 10 U
MW-57	MW-57-20081210	12/10/2008	N	130	7.4	< 5 U
MW-57	MW-57-20090424	4/24/2009	N	96	4.2 J	< 5 U
MW-57	MW-57-20091027	10/27/2009	N	100	2.6 J	< 5 U
MW-57	MW-57-20100512	5/12/2010	N	210	6	< 5 U
MW-57	MW-57-20110323	3/23/2011	N	110	2.3 J	< 5 U
MW-57	MW-57-20111025	10/25/2011	N	59	2 J	< 5 U
MW-57	MW-57-20121020	10/20/2012	N	120	5.1	< 2.0 U
MW-57	MW-57-101713	10/17/2013	N	210	7.4	< 2.0 U
MW-57	MW-57-201403	3/7/2014	N	134	3.0 J	0.14 J
MW-57	MW-57-201405	6/11/2014	N	167	4.4 J	< 2.0 U
MW-57	MW-57-201407	7/29/2014	N	308	8.2	< 2.0 U
MW-57	MW-57-201410	10/15/2014	N	172	4.2 J	< 2.0 U
MW-57	MW-57-201501	1/13/2015	N	177	5.4	< 1.0 U
MW-57	MW-57-201504	4/16/2015	N	194	4.8	< 1.0 U
MW-57R	MW-57R-201507	7/20/2015	N	409	10.6	0.53 J
MW-57R	MW-57R-201510	10/6/2015	N	400	13.0	0.42 J

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-57R	MW-57R-201601	1/11/2016	N	422	15.7	0.48 J
MW-57R	MW-57R-201605	5/3/2016	N	425	12.8	0.51 J
MW-57R	DUP-07-201611	11/8/2016	FD	453	24.3	0.45 J
MW-57R	MW-57R-201611	11/8/2016	N	441	23.0	0.44 J
MW-57R	MW-57R-201710	10/24/2017	N	441	17.5	< 1.0 U
MW-57R	MW-57R-201811	11/14/2018	N	286	7.7	0.21 J
MW-57R	MW-57R-201904	4/25/2019	N	393	10.4	0.45 J
MW-57R	MW-57R-201910	10/23/2019	N	317	12.4	0.39 J
MW-57R	MW-57R-202005	5/12/2020	N	61.0	1.4	< 1.0 U
MW-57R	DUP-02-202010	10/7/2020	FD	326	14.4	0.37 J
MW-57R	MW-57R-202010	10/7/2020	N	327	14.2	0.41 J
MW-58	MW-58-20041209	12/9/2004	N	526	14.5	< 10 U
MW-58	MW-58-20050407	4/7/2005	N	809	18.8	< 10 U
MW-58	MW-58-20050928	9/28/2005	N	486	10.9	< 10 U
MW-58	MW-58-20060316	3/16/2006	N	421	8.66	< 10 U
MW-58	MW-58-20061013	10/13/2006	N	620	14	< 10 UJ
MW-58	MW-58-20070419	4/19/2007	N	784	30.7	< 25 U
MW-58	MW-58-20070419-FD	4/19/2007	FD	717	9.54 J	< 25 U
MW-58	MW-58-20070919	9/19/2007	N	650	17	< 10 U
MW-58	MW-58-20070919-FD	9/19/2007	FD	640	16	< 10 U
MW-58	MW-58-20080430	4/30/2008	N	630 0	15 0	< 10 U
MW-58	MW-58-20080430-FD	4/30/2008	FD	580 0	14 0	< 10 U
MW-58	MW-58-20081211	12/11/2008	N	530	12	< 5 U
MW-58	MW-58-20081211-FD	12/11/2008	FD	510	13	< 5 U
MW-58	MW-58-20090425	4/25/2009	N	590	14	< 5 U
MW-58	MW-58-20090425-FD	4/25/2009	FD	580	15	< 5 U
MW-58	MW-58-20091028	10/28/2009	N	480	11	< 5 U
MW-58	MW-58-20091028-FD	10/28/2009	FD	480	11	< 5 U
MW-58	MW-58-20100512	5/12/2010	N	660	14	< 5 U
MW-58	MW-58-20101106-FD	11/6/2010	FD	560	11	< 5 U
MW-58	MW-58-20101106	11/6/2010	N	580	12	< 5 U
MW-58	MW-58-20110324	3/24/2011	N	710	12	< 5 U
MW-58	MW-58-20110324-FD	3/24/2011	FD	700	14	1.1 J
MW-58	MW-58-20121020	10/20/2012	N	440	18	0.84 J
MW-58	MW-58-101713	10/17/2013	N	410	13	1.5 J
MW-58	MW-58-20131017-FD	10/17/2013	FD	420	12	1.1 J
MW-58	MW-58-201403	3/7/2014	N	293	22.3	0.93 J
MW-58	MW-58-201405	5/12/2014	N	397	12.1	0.72 J
MW-58	MW-58-201407	7/29/2014	N	399	12.7	0.76 J
MW-58	MW-58-201410	10/15/2014	N	360	10.8	0.68 J
MW-58	MW-58-201501	1/14/2015	N	385	14.7	0.71 J
MW-58	MW-58-201504	4/16/2015	N	356	19.7	1.5
MW-58R	MW-58R-201507	7/21/2015	N	337	9.5	0.57 J
MW-58R	MW-58R-201510	10/8/2015	N	299	10.5	0.55 J
MW-58R	DUP-10-201601	1/12/2016	FD	319	29.4	0.66 J
MW-58R	MW-58R-201601	1/12/2016	N	312	28.7	0.67 J
MW-58R	DUP-04-201605	5/4/2016	FD	308	25.2	0.64 J
MW-58R	MW-58R-201605	5/4/2016	N	352	29.7	0.81 J
MW-58R	MW-58R-201611	11/10/2016	N	< 1.0 U	28.5	0.85 J
MW-58R	MW-58R-201612	12/14/2016	N	265	30.3	0.61 J
MW-58R	MW-58R-201710	10/24/2017	N	360	10.0	0.65 J
MW-58R	DUP-05-201811	11/15/2018	FD	319	9.8	0.47 J
MW-58R	MW-58R-201811	11/15/2018	N	312	10.2	0.43 J
MW-58R	MW-58R-201904	4/25/2019	N	305	9.8	0.48 J
MW-58R	DUP-01-201910	10/23/2019	FD	311	9.6	0.55 J
MW-58R	MW-58R-201910	10/23/2019	N	299	9.1	0.51 J
MW-58R	MW-58R-202005	5/12/2020	N	258	8.7	0.50 J
MW-58R	MW-58R-202010	10/7/2020	N	298	9.7	0.61 J
MW-60	MW-60-20050401	4/1/2005	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20060317	3/17/2006	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-60	MW-60-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20091027	10/27/2009	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20101104	11/4/2010	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20110323	3/23/2011	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20111025	10/25/2011	N	< 5 U	< 5 U	< 5 U
MW-60	MW-60-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-60	MW-60-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-60	MW-60-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-60	MW-60-201405	5/13/2014	N	0.21 J	< 5.0 U	< 2.0 U
MW-60	MW-60-201407	7/28/2014	N	1.0 J	< 5.0 U	< 2.0 U
MW-60	MW-60-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-60	MW-60-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60	MW-60-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201507	7/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201601	1/11/2016	N	0.22 J	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201710	10/24/2017	N	0.83 J	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-60R	MW-60R-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-61	MW-61-20050401	4/1/2005	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20050401-FD	4/1/2005	FD	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20060317	3/17/2006	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-61	MW-61-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-61	MW-61-20090424	4/24/2009	N	4 J	< 5 U	< 5 U
MW-61	MW-61-20091027	10/27/2009	N	< 5 U	< 5 U	< 5 U
MW-61	MW-61-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-61	MW-61-20101104	11/4/2010	N	< 5 U	< 5 U	< 5 U
MW-61	MW-61-20110323	3/23/2011	N	1.8 J	< 5 U	< 5 U
MW-61	MW-61-20111025	10/25/2011	N	< 5 U	< 5 U	< 5 U
MW-61	MW-61-20121017	10/17/2012	N	2.4 J	< 5.0 U	< 2.0 U
MW-61	MW-61-101613	10/16/2013	N	4.0 J	< 5.0 U	< 2.0 U
MW-61	MW-61-201403	3/6/2014	N	4.7 J	< 5.0 U	< 2.0 U
MW-61	MW-61-201405	5/13/2014	N	6.6	< 5.0 U	< 2.0 U
MW-61	MW-61-201407	7/28/2014	N	8.1	< 5.0 U	< 2.0 U
MW-61	MW-61-201410	10/14/2014	N	7.9	< 5.0 U	< 2.0 U
MW-61	MW-61-201501	1/13/2015	N	10.2	< 1.0 U	< 1.0 U
MW-61	MW-61-201504	4/14/2015	N	10.9	< 1.0 U	< 1.0 U
MW-61R	MW-61R-201507	7/21/2015	N	14.7	< 1.0 U	< 1.0 U
MW-61R	MW-61R-GW-091815	9/18/2015	N	16.5	< 1.0 U	< 1.0 U
MW-61R	DUP-02-201510	10/8/2015	FD	13.3	< 1.0 U	< 1.0 U
MW-61R	MW-61R-201510	10/8/2015	N	11.7	< 1.0 U	< 1.0 U
MW-61R	MW-61R-201511	11/4/2015	N	9.2	1.1	< 1.0 U
MW-61R	MW-61R-201512	12/1/2015	N	5.0	4.6	< 1.0 U
MW-61R	MW-61R-201601	1/8/2016	N	3.9	4.6	< 1.0 U
MW-61R	MW-61R-201605	5/3/2016	N	5.3	3.8	< 1.0 U
MW-61R	MW-61R-201611	11/7/2016	N	2.3	2.9	< 1.0 U
MW-61R	MW-61R-201704	4/27/2017	N	2.4	2.6	< 1.0 U
MW-61R	MW-61R-201710	10/23/2017	N	2.9	2.1	< 1.0 U
MW-61R	MW-61R-201804	4/17/2018	N	4.0	1.9	< 1.0 U
MW-61R	MW-61R-201807	7/31/2018	N	7.0	1.8	< 1.0 U
MW-61R	DUP-06-201811	11/13/2018	FD	7.7	1.8	< 1.0 U
MW-61R	MW-61R-201811	11/13/2018	N	7.7	1.9	< 1.0 U
MW-61R	MW-61R-201904	4/25/2019	N	14.9	1.1	< 1.0 U
MW-61R	MW-61R-201910	10/23/2019	N	20.8	1.7	< 1.0 U
MW-61R	MW-61R-202005	5/14/2020	N	15.6	1.0	< 1.0 U
MW-61R	MW-61R-202010	10/6/2020	N	15.8	1.1	< 1.0 U
MW-62	MW-62-20050401	4/1/2005	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20060316	3/16/2006	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20061012	10/12/2006	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20070919	9/19/2007	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-62	MW-62-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-62	MW-62-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-62	MW-62-20091027	10/27/2009	N	< 5 U	< 5 U	< 5 U
MW-62	MW-62-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-62	MW-62-20110323	3/23/2011	N	< 5 U	< 5 U	< 5 U
MW-62	MW-62-20111025	10/25/2011	N	1.9 J	< 5 U	< 5 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-62	MW-62-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-62	MW-62-101713	10/17/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-62	MW-62-201403	3/7/2014	N	0.18 J	< 5.0 U	< 2.0 U
MW-62	MW-62-201405	5/14/2014	N	0.62 J	< 5.0 U	< 2.0 U
MW-62	MW-62-201407	7/29/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-62	MW-62-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-62	MW-62-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62	MW-62-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201507	7/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201611	11/7/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	FD-02-201710	10/24/2017	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201710	10/25/2017	N	0.38 U	0.17 J	< 1.0 U
MW-62R	MW-62R-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-62R	MW-62R-202005	5/12/2020	N	0.21 J	< 1.0 U	< 1.0 U
MW-62R	MW-62R-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-63	MW-63-20050401	4/1/2005	N	8.14	< 5 U	< 10 U
MW-63	MW-63-20050930	9/30/2005	N	< 5 U	< 5 U	< 10 U
MW-63	MW-63-20060316	3/16/2006	N	9.76	< 5 U	< 10 U
MW-63	MW-63-20060406	4/6/2006	N	11.6	< 5 U	< 10 U
MW-63	MW-63-20061012	10/12/2006	N	4 J	< 5 U	< 10 U
MW-63	MW-63-20070419	4/19/2007	N	4.08 J	< 5 U	< 10 U
MW-63	MW-63-20070919	9/19/2007	N	8	< 5 U	< 10 U
MW-63	MW-63-20080430	4/30/2008	N	3 J	< 5 U	< 10 U
MW-63	MW-63-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-63	MW-63-20090424	4/24/2009	N	4.3 J	< 5 U	< 5 U
MW-63	MW-63-20091027	10/27/2009	N	7.7	< 5 U	< 5 U
MW-63	MW-63-20100511	5/11/2010	N	7.6	< 5 U	< 5 U
MW-63	MW-63-20101106	11/6/2010	N	11	< 5 U	< 5 U
MW-63	MW-63-20110323	3/23/2011	N	12	< 5 U	< 5 U
MW-63	MW-63-20111025	10/25/2011	N	9.8	< 5 U	< 5 U
MW-63	MW-63-20121019	10/19/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-63	MW-63-101713	10/17/2013	N	7.5	< 5.0 U	< 2.0 U
MW-63	MW-63-201403	3/7/2014	N	9.4	1.3 J	< 2.0 U
MW-63	MW-63-201405	5/14/2014	N	12.2	0.61 J	0.13 J
MW-63	MW-63-201407	7/28/2014	N	8.3	0.99 J	< 2.0 U
MW-63	MW-63-201410	10/14/2014	N	9.4	0.98 J	< 2.0 U
MW-63	MW-63-201501	1/13/2015	N	8.2	1.0	< 1.0 U
MW-63	MW-63-201504	4/14/2015	N	9.2	0.99 J	< 1.0 U
MW-63R	MW-63R-201507	7/21/2015	N	5.6	0.70 J	< 1.0 U
MW-63R	MW-63R-201510	10/8/2015	N	3.9	0.70 J	< 1.0 U
MW-63R	MW-63R-201601	1/12/2016	N	3.2	0.39 J	< 1.0 U
MW-63R	MW-63R-201605	5/2/2016	N	3.3	0.55 J	< 1.0 U
MW-63R	MW-63R-201611	11/7/2016	N	2.9	0.21 J	< 1.0 U
MW-63R	MW-63R-201704	4/26/2017	N	3.8 B	< 1.0 U	< 1.0 U
MW-63R	MW-63R-201710	10/23/2017	N	4.4	0.85 J	< 1.0 U
MW-63R	DUP-01-201804	4/17/2018	FD	4.9	0.38 J	< 1.0 U
MW-63R	MW-63R-201804	4/17/2018	N	4.8	0.44 J	< 1.0 U
MW-63R	MW-63R-201811	11/14/2018	N	4.5	0.66 J	< 1.0 U
MW-63R	MW-63R-201904	4/23/2019	N	4.1	0.52 J	< 1.0 U
MW-63R	MW-63R-201910	10/22/2019	N	7.4	0.59 J	< 1.0 U
MW-63R	MW-63R-202005	5/12/2020	N	7.2	0.76 J	< 1.0 U
MW-63R	MW-63R-202010	10/6/2020	N	7.1	0.81 J	< 1.0 U
MW-65	MW-65-20061011	10/11/2006	N	470	19	< 10 U
MW-65	MW-65-20061011-FD	10/11/2006	FD	560	18	< 10 U
MW-65	MW-65-20070419	4/19/2007	N	1350	23.4	< 10 U
MW-65	MW-65-20070920	9/20/2007	N	580	17	< 10 U
MW-65	MW-65-20080430	4/30/2008	N	570 0	16 0	< 10 U
MW-65	MW-65-20081211	12/11/2008	N	460	11	< 5 U
MW-65	MW-65-20090424	4/24/2009	N	620	19	< 5 U
MW-65	MW-65-20101107	11/7/2010	N	400	11	< 5 U
MW-65	MW-65-20110304-FS	3/4/2011	N	370	13	< 5.0 U
MW-65	MW-65-20111025	10/25/2011	N	310	10	< 5 U
MW-65	MW-65-20121020	10/20/2012	N	280	8.9	< 2.0 U
MW-65	MW-65-101713	10/17/2013	N	220	8.6	< 2.0 U
MW-65	MW-65-201403	3/8/2014	N	199	6.6	< 2.0 U
MW-65	MW-65-201405	5/14/2014	N	195	6.9	< 2.0 U
MW-65	MW-65-201407	7/30/2014	N	17.1	< 5.0 U	< 2.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-65	MW-65-201410	10/14/2014	N	30.8	0.54 J	< 2.0 U
MW-65	MW-65-201501	1/13/2015	N	19.2	< 1.0 U	< 1.0 U
MW-65	MW-65-201504	4/15/2015	N	16.0	< 1.0 U	< 1.0 U
MW-65	MW-65-201507	7/20/2015	N	26.3	0.38 J	< 1.0 U
MW-65	MW-65-201510	10/7/2015	N	0.28 J	< 1.0 U	< 1.0 U
MW-65	MW-65-201511	11/4/2015	N	7.7	< 1.0 U	< 1.0 U
MW-65	MW-65-201512	12/2/2015	N	6.6	< 1.0 U	< 1.0 U
MW-65	MW-65-201601	1/11/2016	N	14.5	0.32 J	< 1.0 U
MW-65	MW-65-201605	5/3/2016	N	21.5	0.35 J	< 1.0 U
MW-66	MW-66-20060406	4/6/2006	N	< 5 U	< 5 U	< 10 U
MW-66	MW-66-20061012	10/12/2006	N	2 J	< 5 U	< 10 U
MW-66	MW-66-20070418	4/18/2007	N	< 5 U	< 5 U	< 10 U
MW-66	MW-66-20070919	9/19/2007	N	4 J	< 5 U	< 10 U
MW-66	MW-66-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-66	MW-66-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-66	MW-66-20090425	4/25/2009	N	< 5 U	< 5 U	< 5 U
MW-66	MW-66-20091028	10/28/2009	N	< 5 U	< 5 U	< 5 U
MW-66	MW-66-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-66	MW-66-20101103	11/3/2010	N	< 5 U	< 5 U	< 5 U
MW-66	MW-66-20110324	3/24/2011	N	1.6 J	< 5 U	< 5 U
MW-66	MW-66-20111026	10/26/2011	N	1.8 J	< 5 U	< 5 U
MW-66	MW-66-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-66	MW-66-101713	10/17/2013	N	2.1 J	< 5.0 U	< 2.0 U
MW-66	MW-66-201403	3/7/2014	N	3.5 J	< 5.0 U	< 2.0 U
MW-66	MW-66-201405	5/13/2014	N	3.1 J	< 5.0 U	< 2.0 U
MW-66	MW-66-201407	7/28/2014	N	2.6 J	< 5.0 U	< 2.0 U
MW-66	MW-66-201410	10/13/2014	N	2.3 J	< 5.0 U	< 2.0 U
MW-66	MW-66-201501	1/14/2015	N	2.4	< 1.0 U	< 1.0 U
MW-66	MW-66-201504	4/15/2015	N	2.6	< 1.0 U	< 1.0 U
MW-66	MW-66-201507	7/20/2015	N	3.3	0.22 J	< 1.0 U
MW-66	MW-66-201510	10/6/2015	N	2.3	0.18 J	< 1.0 U
MW-66	MW-66-201601	1/11/2016	N	0.53 J	< 1.0 U	< 1.0 U
MW-66	MW-66-201605	5/2/2016	N	2.6	0.20 J	< 1.0 U
MW-67	MW-67-20060406	4/6/2006	N	< 5 U	< 5 U	< 10 U
MW-67	MW-67-20061012	10/12/2006	N	1 J	< 5 U	< 10 U
MW-67	MW-67-20070419	4/19/2007	N	< 5 U	< 5 U	< 10 U
MW-67	MW-67-20070918	9/18/2007	N	< 5 U	< 5 U	< 10 U
MW-67	MW-67-20080429	4/29/2008	N	< 5 U	< 5 U	< 10 U
MW-67	MW-67-20081210	12/10/2008	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20090425	4/25/2009	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20091028	10/28/2009	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20100511	5/11/2010	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20101103	11/3/2010	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20110324	3/24/2011	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-67	MW-67-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-67	MW-67-101713	10/17/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-67	MW-67-201403	3/7/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-67	MW-67-201405	5/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-67	MW-67-201407	7/28/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-67	MW-67-201410	10/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-67	MW-67-201501	1/12/2015	N	1.3	< 1.0 U	< 1.0 U
MW-67	MW-67-201504	4/15/2015	N	0.77 J	< 1.0 U	< 1.0 U
MW-67R	MW-67R-201507	7/20/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-67R	MW-67R-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-67R	MW-67R-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-67R	MW-67R-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-20090115	1/15/2009	N	< 5 U	< 5 U	< 5 U
MW-68	MW-68-20090424	4/24/2009	N	< 5 U	< 5 U	< 5 U
MW-68	MW-68-20091028	10/28/2009	N	< 5 U	< 5 U	< 5 U
MW-68	MW-68-20100513	5/13/2010	N	< 5 U	< 5 U	< 5 U
MW-68	MW-68-20101106	11/6/2010	N	9.5	< 5 U	< 5 U
MW-68	MW-68-20111026	10/26/2011	N	< 5 U	< 5 U	< 5 U
MW-68	MW-68-20121017	10/17/2012	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-68	MW-68-101613	10/16/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-68	MW-68-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-68	MW-68-201405	5/14/2014	N	0.49 J	< 5.0 U	< 2.0 U
MW-68	MW-68-201407	7/29/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-68	MW-68-201410	10/14/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-68	MW-68-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201504	4/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201507	7/20/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-68	MW-68-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201611	11/7/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201704	4/27/2017	N	0.22 J	< 1.0 U	< 1.0 U
MW-68	MW-68-201710	10/24/2017	N	0.31 J	< 1.0 U	< 1.0 U
MW-68	MW-68-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-68	MW-68-202010	10/6/2020	N	0.57 J	< 1.0 U	< 1.0 U
MW-70	MW-70-20101104	11/4/2010	N	540	14	< 5 U
MW-70	MW-70-20110322	3/22/2011	N	170	9.2	1.2 J
MW-70	MW-70-20111026	10/26/2011	N	320	7.7	< 5 U
MW-70	MW-70-20120418	4/18/2012	N	330	11	< 5 U
MW-70	MW-70-20121018	10/18/2012	N	200	11	< 2.0 U
MW-70	MW-70-20130423	4/23/2013	N	180	3.6 J	0.32 J
MW-70	MW-70-101613	10/16/2013	N	270	7.2	0.30 J
MW-71	MW-71-20091028	10/28/2009	N	190	6.3	< 5 U
MW-71	MW-71-20100513	5/13/2010	N	160	7.4	< 5 U
MW-71	MW-71-20101104	11/4/2010	N	250	7.2	< 5 U
MW-71	MW-71-20110322	3/22/2011	N	76	1.6 J	< 5 U
MW-71	MW-71-20111026	10/26/2011	N	130	2.7 J	< 5 U
MW-71	MW-71-20120418	4/18/2012	N	160	5.3	< 5 U
MW-71	MW-71-20121020	10/20/2012	N	210	7.3	< 2.0 U
MW-71	MW-71-20130423	4/23/2013	N	220	4.8 J	0.23 J
MW-71	MW-71-101613	10/16/2013	N	160	6.1	0.57 J
MW-71	MW-71-201403	3/7/2014	N	166	5.8	0.19 J
MW-71	MW-71-201405	5/13/2014	N	164	5.3	0.33 J
MW-71	MW-71-201407	7/29/2014	N	181	6.4	< 2.0 U
MW-71	MW-71-201410	10/14/2014	N	185	6.0	< 2.0 U
MW-71	MW-71-201501	1/14/2015	N	170	6.0	< 1.0 U
MW-71	MW-71-201504	4/14/2015	N	156	5.7	< 1.0 U
MW-71	MW-71-201507	7/20/2015	N	165	5.3	0.48 J
MW-71	MW-71-201510	10/6/2015	N	179	6.5	0.43 J
MW-71	MW-71-201601	1/11/2016	N	171	6.1	0.40 J
MW-71	MW-71-201605	5/3/2016	N	140	5.3	0.23 J
MW-81	MW-81-201405	5/29/2014	N	512	14.3	0.21 J
MW-81	20140708-GW-MW-81	7/9/2014	N	518	11.4	< 2.0 U
MW-81	MW-81-201409	9/11/2014	N	463	13.5	< 2.0 U
MW-81	MW-81-201501	1/13/2015	N	385	9.9	< 1.0 U
MW-81	MW-81-201504	4/15/2015	N	198	4.2	< 1.0 U
MW-81	MW-81-201507	7/22/2015	N	275	7.7	< 1.0 U
MW-81	MW-81-201510	10/8/2015	N	160	3.8	< 1.0 U
MW-81	MW-81-201511	11/5/2015	N	233	6.5	< 1.0 U
MW-81	MW-81-201512	12/2/2015	N	56.1	0.84 J	< 1.0 U
MW-81	MW-81-201601	1/11/2016	N	157	3.9	< 1.0 U
MW-81	MW-81-201605	5/4/2016	N	256	8.3	< 1.0 U
MW-82	MW-82-201405	5/28/2014	N	285	4.8 J	0.14 J
MW-82	20140708-GW-MW-82	7/9/2014	N	48.2	1.2 J	< 2.0 U
MW-82	MW-82-201409	9/11/2014	N	50.0	1.1 J	< 2.0 U
MW-82	MW-82-201501	1/13/2015	N	66.0	1.2	< 1.0 U
MW-82	MW-82-201504	4/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-82	MW-82-201507	7/22/2015	N	5.3	< 1.0 U	< 1.0 U
MW-82	MW-82-201510	10/6/2015	N	4.2	< 1.0 U	< 1.0 U
MW-82	MW-82-201601	1/11/2016	N	5.6	0.18 J	< 1.0 U
MW-82	MW-82-201605	5/4/2016	N	31.7	0.81 J	< 1.0 U
MW-82	MW-82-201611	11/9/2016	N	36.2	0.24 J	< 1.0 U
MW-82	FD-03-201710	10/24/2017	FD	34.1	0.80 J	< 1.0 U
MW-82	MW-82-201710	10/24/2017	N	34.3	0.80 J	< 1.0 U
MW-82	MW-82-201811	11/15/2018	N	60.3	1.2	< 1.0 U
MW-82	DUP-02-201910	10/23/2019	FD	55.9	0.99 J	< 1.0 U
MW-82	MW-82-201910	10/23/2019	N	55.6	1.1	< 1.0 U
MW-82	MW-82-202010	10/7/2020	N	55.1	1.3	< 1.0 U
MW-83	MW-83-20140523	5/23/2014	N	470	8.3	< 2.0 U
MW-83	MW-83-201409	9/12/2014	N	213	4.9 J	< 2.0 U
MW-83	MW-83-20141023	10/23/2014	N	210	5.2	< 2.0 U
MW-83	MW-83-201501	1/15/2015	N	101	1.8	< 1.0 U
MW-83	MW-83-201504	4/16/2015	N	151	2.8	< 1.0 U
MW-83	MW-83-201507	7/22/2015	N	27.9	0.49 J	< 1.0 U
MW-83	MW-83-201510	10/8/2015	N	9.8	0.25 J	< 1.0 U
MW-83	MW-83-201511	11/5/2015	N	3.2	< 1.0 U	< 1.0 U
MW-83	MW-83-201512	12/2/2015	N	1.3	< 1.0 U	< 1.0 U
MW-83	MW-83-201601	1/7/2016	N	1.1	< 1.0 U	< 1.0 U
MW-83	MW-83-201605	5/4/2016	N	3.3	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-83	MW-83-201611	11/9/2016	N	0.63 J	< 1.0 U	< 1.0 U
MW-83	MW-83-201710	10/25/2017	N	4.8	< 1.0 U	< 1.0 U
MW-83	MW-83-201811	11/14/2018	N	34.2	0.63 J	< 1.0 U
MW-83	MW-83-201910	10/24/2019	N	41.9	0.85 J	< 1.0 U
MW-83	DUP-01-202010	10/7/2020	FD	40.9	0.82 J	< 1.0 U
MW-83	MW-83-202010	10/7/2020	N	40.5	0.81 J	< 1.0 U
MW-84	MW-84-201405	5/27/2014	N	214	4.6 J	0.16 J
MW-84	MW-84-201409A	9/12/2014	N	0.93 J	< 5.0 U	< 2.0 U
MW-84	MW-84-20141023	10/23/2014	N	0.68 J	< 5.0 U	< 2.0 U
MW-84	MW-84-201501	1/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201504	4/16/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201507	7/23/2015	N	0.29 J	< 1.0 U	< 1.0 U
MW-84	MW-84-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201601	1/7/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201605	5/5/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201710	10/25/2017	N	0.98 U	< 1.0 U	< 1.0 U
MW-84	MW-84-201804	4/18/2018	N	0.54 J	< 1.0 U	< 1.0 U
MW-84	MW-84-201811	11/14/2018	N	1.5	< 1.0 U	< 1.0 U
MW-84	DUP-01-201904	4/23/2019	FD	0.69 J	< 1.0 U	< 1.0 U
MW-84	MW-84-201904	4/23/2019	N	0.61 J	< 1.0 U	< 1.0 U
MW-84	MW-84-201910	10/23/2019	N	2.4	< 1.0 U	< 1.0 U
MW-84	MW-84-202005	5/13/2020	N	1.7	< 1.0 U	< 1.0 U
MW-84	MW-84-202010	10/6/2020	N	1.6	< 1.0 U	< 1.0 U
MW-84	MW-84-20201020	10/20/2020	N	1.7	< 1.0 U	< 1.0 U
MW-85	MW-85-201405	5/29/2014	N	1970	99.4	23.1
MW-85	20140708-GW-MW-85	7/8/2014	N	3780	133	3.9
MW-85	MW-85-201409	9/11/2014	N	5820	226 J	35.3
MW-85	MW-85-20141205	12/5/2014	N	27700	280	7.7
MW-85	MW-85-201501	1/15/2015	N	5940	167	1.1
MW-85	MW-85-201504	4/16/2015	N	256	16.8	< 1.0 U
MW-85	MW-85-201507	7/23/2015	N	132	6.3	< 1.0 U
MW-85	MW-85-201510	10/8/2015	N	12000	52.6	1.8
MW-85	MW-85-201601	1/13/2016	N	6980	32.8	0.70 J
MW-85	MW-85-201605	5/5/2016	N	678	12.0	0.82 J
MW-85R	DUP-09-201910	10/24/2019	FD	74500	101	4.8
MW-85R	MW-85R-201910	10/24/2019	N	68300	103	4.5
MW-85R	MW-85R-202010	10/8/2020	N	4860	76.0	1.7
MW-86	MW-86-201405	5/29/2014	N	533000	1220 J	341 J
MW-86	MW-86-201409	9/11/2014	N	129000	91.6	4.1
MW-86	MW-86-20141205	12/5/2014	N	169000	290 E	24.7
MW-86	MW-86-201501	1/15/2015	N	81200	128	4.5
MW-86	MW-86-201504	4/16/2015	N	46700	128	5.8
MW-86	MW-86-201507	7/23/2015	N	65100	292 J	46.7
MW-86	MW-86-201510	10/8/2015	N	131000	1020	127
MW-86	MW-86-201601	1/13/2016	N	95500	610 J	57.1
MW-86	MW-86-201605	5/5/2016	N	64900	348 J	35.7
MW-86	MW-86-201611	11/9/2016	N	75100	< 1000 U	65.4 J
MW-86	MW-86-201704	4/28/2017	N	29900	1330	< 1.0 U
MW-86	MW-86-201710	10/26/2017	N	61300	2210	< 1000 U
MW-86	MW-86-201804	4/19/2018	N	61200	2450	171
MW-86	MW-86-201811	11/16/2018	N	188000	19500	2780
MW-86	MW-86-201904	4/25/2019	N	75000	4350	264 J
MW-87	20140625-GW-MW-87	6/25/2014	N	564	41.8	< 2.0 U
MW-87	MW-87-201410	10/16/2014	N	594	47.8	< 2.0 U
MW-87	MW-87-201501	1/14/2015	N	661	51.3	< 1.0 U
MW-87	MW-87-201504	4/16/2015	N	758	58.6	0.33 J
MW-87	MW-87-201507	7/23/2015	N	758	56.5	0.34 J
MW-87	MW-87-201510	10/7/2015	N	708	54.5	0.31 J
MW-87	DUP-09-201601	1/13/2016	FD	781	63.2	0.40 J
MW-87	MW-87-201601	1/13/2016	N	757	61.9	0.47 J
MW-87	MW-87-201605	5/5/2016	N	839	51.6	0.36 J
MW-87	DUP-05-201611	11/8/2016	FD	948 J	49.0	0.39 J
MW-87	MW-87-201611	11/8/2016	N	701 J	51.9	0.25 J
MW-87	MW-87-201710	10/26/2017	N	486	36.4	< 1.0 U
MW-87	MW-87-201811	11/15/2018	N	397	28.3	0.77 J
MW-87	MW-87-201910	10/23/2019	N	315	22.4	0.21 J
MW-87	MW-87-202010	10/8/2020	N	320	22.3	< 1.0 U
MW-88	20140624-GW-MW-88	6/24/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-88	MW-88-201410	10/16/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-88	MW-88-201501	1/13/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-88	MW-88-201504	4/16/2015	N	0.58 J	< 1.0 U	< 1.0
MW-88	MW-88-201507	7/23/2015	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-88	MW-88-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-88	MW-88-201601	1/12/2016	N	0.58 J	< 1.0 U	< 1.0 U
MW-88	MW-88-201605	5/4/2016	N	0.25 J	< 1.0 U	< 1.0 U
MW-89	20140624-GW-MW-89	6/24/2014	N	19.5	< 5.0 U	< 2.0 U
MW-89	MW-89-201410	10/15/2014	N	11.3	< 5.0 U	< 2.0 U
MW-89	MW-89-201501	1/13/2015	N	11.4	< 1.0 U	< 1.0 U
MW-89	MW-89-201504	4/16/2015	N	15.9	< 1.0 U	< 1.0
MW-89	MW-89-201507	7/23/2015	N	14.5	0.18 J	< 1.0 U
MW-89	MW-89-201510	10/7/2015	N	12.7	0.24 J	< 1.0 U
MW-89	MW-89-201601	1/12/2016	N	11.6	0.20 J	< 1.0 U
MW-89	MW-89-201605	5/3/2016	N	14.0	0.30 J	< 1.0 U
MW-89	MW-89-201611	11/8/2016	N	13.4	< 1.0 U	< 1.0 U
MW-89	MW-89-201710	10/26/2017	N	11.3	0.48 J	< 1.0 U
MW-89	MW-89-201811	11/14/2018	N	9.7	0.53 J	< 1.0 U
MW-89	MW-89-201910	10/22/2019	N	9.0	0.51 J	< 1.0 U
MW-89	MW-89-202010	10/8/2020	N	6.4	0.48 J	< 1.0 U
MW-90	20140625-GW-MW-90	6/25/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-90	MW-90-201410	10/16/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-90	MW-90-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-90	MW-90-201504	4/15/2015	N	< 1.0 U	< 1.0 U	< 1.0
MW-90	MW-90-201507	7/22/2015	N	0.38 J	< 1.0 U	< 1.0 U
MW-90	MW-90-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-90	MW-90-201601	1/12/2016	N	0.25 J	< 1.0 U	< 1.0 U
MW-90	MW-90-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-91	20140625-GW-MW-91	6/25/2014	N	234	21.7	< 2.0 U
MW-91	MW-91-201410	10/16/2014	N	319	28.8	< 2.0 U
MW-91	DUP-07-201501	1/13/2015	FD	317	31.0	< 1.0 U
MW-91	MW-91-201501	1/13/2015	N	354	31.5	< 1.0 U
MW-91	MW-91-201504	4/16/2015	N	438	36.6	0.18 J
MW-91	MW-91-201507	7/23/2015	N	411	34.8	0.23 J
MW-91	DUP-08-201510	10/7/2015	FD	442	35.7	0.19 J
MW-91	MW-91-201510	10/7/2015	N	405	35.2	0.17 J
MW-91	DUP-08-201601	1/13/2016	FD	422	38.6	0.24 J
MW-91	MW-91-201601	1/13/2016	N	413	36.1	0.24 J
MW-91	DUP-02-201605	5/4/2016	FD	459	33.4	0.26 J
MW-91	MW-91-201605	5/4/2016	N	530	37.8	0.23 J
MW-91	DUP-03-201611	11/10/2016	FD	599	40.6	0.38 J
MW-91	MW-91-201611	11/10/2016	N	574	41.6	0.36 J
MW-91	DUP-04-201704	4/27/2017	FD	556	42.6	0.15 J
MW-91	MW-91-201704	4/27/2017	N	605	44.3	0.20 J
MW-91	MW-91-201710	10/25/2017	N	534	36.4	0.27 J
MW-91	MW-91-201804	4/19/2018	N	557	38.6	0.21 J
MW-91	MW-91-201811	11/15/2018	N	437	33.4	0.30 J
MW-91	MW-91-201904	4/25/2019	N	454	29.9	0.21 J
MW-91	MW-91-201910	10/24/2019	N	437	26.8	0.18 J
MW-91	MW-91-202005	5/14/2020	N	59.8	104	0.36 J
MW-91	MW-91-202010	10/6/2020	N	51.9	136	0.67 J
MW-92	MW-92-20141022	10/22/2014	N	2160	16.0	7.2
MW-92	MW-92-20141204	12/4/2014	N	2200	23.4	10.3
MW-92	MW-92-201501	1/15/2015	N	1410	10.4	4.6
MW-92	MW-92-201504	4/16/2015	N	736	5.4	2.1
MW-92	MW-92-201507	7/23/2015	N	617	6.7	1.0
MW-92	MW-92-201510	10/8/2015	N	1400	10.8	1.4
MW-92	MW-92-201601	1/13/2016	N	1840	7.1	0.66 J
MW-92	DUP-08-201605	5/4/2016	FD	1840	25.7	1.7
MW-92	MW-92-201605	5/4/2016	N	2210	25.5	1.8
MW-93	MW-93-20141022	10/22/2014	N	18200	145	5.0
MW-93	MW-93-20141204	12/4/2014	N	14600	85.7	2.5
MW-93	MW-93-201501	1/15/2015	N	18000	131	3.4
MW-93	MW-93-201504	4/16/2015	N	21500	160	3.9
MW-93	MW-93-201507	7/23/2015	N	20800	164	3.4
MW-93	MW-93-201510	10/8/2015	N	21100	120	3.3
MW-93	MW-93-201601	1/13/2016	N	21200	103	2.6
MW-93	MW-93-201605	5/5/2016	N	17300	127	7.6
MW-93	MW-93-201611	11/9/2016	N	18300	98.8	0.93 J
MW-93	MW-93-201704	4/28/2017	N	28200	127	5.8
MW-93	MW-93-201710	10/26/2017	N	16600	111	9.1
MW-93	MW-93-201804	4/19/2018	N	17000	97.9	4.5
MW-93	MW-93-201811	11/15/2018	N	16300	106	3.6
MW-93	MW-93-201904	4/24/2019	N	13700	124	2.3
MW-93	MW-93-201910	10/24/2019	N	14700	93.2	2.1
MW-93	MW-93-202010	10/8/2020	N	9130	64.5	1.0
MW-94	MW-94-20141022	10/22/2014	N	11100	309 J	2.5
MW-94	MW-94-20141204	12/4/2014	N	9570	250 J	3.0

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-94	MW-94-201501	1/15/2015	N	9530	297	2.4
MW-94	MW-94-201504	4/16/2015	N	11800	325	1.3
MW-94	MW-94-201507	7/23/2015	N	3890	119	0.61 J
MW-94	MW-94-201510	10/8/2015	N	1990	59.5	0.25 J
MW-94	MW-94-201601	1/13/2016	N	936	30.3	< 1.0 U
MW-94	MW-94-201605	5/5/2016	N	424	15.6	< 1.0 U
MW-94	MW-94-WG-20200717	7/17/2020	N	2680	56.7	< 1.0 U
MW-95	MW-95-20141022	10/22/2014	N	22300	151	25.7
MW-95	MW-95-20141204	12/4/2014	N	20900	159	29.9
MW-95	MW-95-201501	1/15/2015	N	21100	177	25.6
MW-95	MW-95-201504	4/16/2015	N	26700	184	14.9
MW-95	MW-95-201507	7/23/2015	N	25200	181	17.1
MW-95	MW-95-201510	10/8/2015	N	26300	161	32.0
MW-95	MW-95-201601	1/13/2016	N	24700	161	31.0
MW-95	MW-95-201605	5/5/2016	N	21600	164	14.8
MW-95	MW-95-201611	11/9/2016	N	28700	191	46.9 J
MW-95	MW-95-201704	4/28/2017	N	36300	181	10.7
MW-95	MW-95-201710	10/26/2017	N	23900	198	51.2
MW-95	MW-95-201804	4/19/2018	N	24100	153	13.1
MW-95	MW-95-201811	11/15/2018	N	20300	152	39.6
MW-95	DUP-06-201904	4/25/2019	FD	20400	194	8.3
MW-95	MW-95-201904	4/25/2019	N	22200	199	10.2
MW-95	MW-95-201910	10/24/2019	N	24700	265	25.9
MW-95	MW-95-WG-20200717	7/17/2020	N	21200	314	10.0
MW-95	MW-95-202010	10/8/2020	N	21100	315	10.4
MW-96	MW-96-20141022	10/22/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-96	MW-96-201501	1/15/2015	N	0.59 J	< 1.0 U	< 1.0 U
MW-96	DUP-06-201504	4/16/2015	FD	< 1.0 U	< 1.0 U	< 1.0
MW-96	MW-96-201504	4/16/2015	N	< 1.0 U	< 1.0 U	< 1.0
MW-96	DUP-06-201507	7/23/2015	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201507	7/23/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201804	4/19/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201811	11/15/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-96	MW-96-202010	10/8/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-20141022	10/22/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-97	MW-97-201501	1/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201504	4/16/2015	N	< 1.0 U	< 1.0 U	< 1.0
MW-97	MW-97-201507	7/23/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201510	10/7/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201605	5/5/2016	N	< 1.0 U	0.28 J	< 1.0 U
MW-97	MW-97-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201804	4/19/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201811	11/15/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-202005	5/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	DUP-10-202010	10/8/2020	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-97	MW-97-202010	10/8/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-GW-2014 1029	10/29/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-98	MW-98-201501	1/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201504	4/16/2015	N	< 1.0 U	< 1.0 U	< 1.0
MW-98	MW-98-201507	7/23/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201704	4/27/2017	N	0.21 J	0.23 J	< 1.0 U
MW-98	MW-98-201710	10/24/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-98	MW-98-201811	11/14/2018	N	0.29 J	< 1.0 U	< 1.0 U
MW-98	MW-98-201904	4/24/2019	N	0.22 J	< 1.0 U	< 1.0 U
MW-98	MW-98-201910	10/23/2019	N	0.38 J	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-98	DUP-4-202005	5/12/2020	FD	0.23 J	< 1.0 U	< 1.0 U
MW-98	MW-98-202005	5/12/2020	N	0.18 J	< 1.0 U	< 1.0 U
MW-98	MW-98-202010	10/7/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-20141022	10/22/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
MW-99	MW-99-201501	1/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-201504	4/16/2015	N	< 1.0 U	< 1.0 U	< 1.0
MW-99	MW-99-201507	7/23/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-201601	1/11/2016	N	0.21 J	< 1.0 U	< 1.0 U
MW-99	MW-99-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-201710	10/24/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-99	MW-99-201804	4/18/2018	N	1.3	0.12 J	< 1.0 U
MW-99	MW-99-201811	11/13/2018	N	8.1	0.64 J	< 1.0 U
MW-99	MW-99-201904	4/24/2019	N	23.6	1.6	< 1.0 U
MW-99	MW-99-201910	10/23/2019	N	72.6	4.8	< 1.0 U
MW-99	MW-99-202005	5/14/2020	N	1.5	10.7	< 1.0 U
MW-99	MW-99-202010	10/7/2020	N	0.85 J	5.0	< 1.0 U
MW-172	MW-172-20141022	10/22/2014	N	3010	21.4	2.4
MW-172	MW-172-20141205	12/5/2014	N	1810	15.6	1.3 J
MW-172	MW-172-201501	1/15/2015	N	3600	22.4	1.2
MW-172	MW-172-201504	4/16/2015	N	1740	11.9	0.92 J
MW-172	MW-172-201507	7/23/2015	N	2140	12.4	0.69 J
MW-172	MW-172-201510	10/8/2015	N	2110	12.4	0.51 J
MW-172	MW-172-201601	1/13/2016	N	3190	13.5	< 1.0 U
MW-172	MW-172-201605	5/5/2016	N	2160	13.3	< 1.0 U
MW-173	MW-173-201504	4/15/2015	N	< 1.0 U	< 1.0 U	< 1.0
MW-173	MW-173-201507	7/22/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-173	MW-173-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-173	MW-173-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-173	MW-173-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-174	MW-174-GW-20150120	1/20/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-174	MW-174-201504	4/14/2015	N	0.68 J	< 1.0 U	< 1.0
MW-174	MW-174-201507	7/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-174	MW-174-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-174	MW-174-201601	1/12/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-174	MW-174-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-175	MW-175-GW-20150120	1/20/2015	N	123	2.0	< 1.0 U
MW-175	MW-175-201504	4/15/2015	N	98.8	1.5	< 1.0
MW-175	MW-175-201507	7/21/2015	N	20.3	0.32 J	< 1.0 U
MW-175	MW-175-201510	10/7/2015	N	78.6	1.6	0.19 J
MW-175	MW-175-201601	1/11/2016	N	52.6	1.1	< 1.0 U
MW-175	MW-175-201605	5/3/2016	N	54.9	1.2	< 1.0 U
MW-175	MW-175-201611	11/8/2016	N	50.9	0.49 J	< 1.0 U
MW-175	MW-175-201704	4/28/2017	N	53.2	1.3	< 1.0 U
MW-175	MW-175-201710	10/24/2017	N	72.2	0.27 J	< 1.0 U
MW-175	MW-175-201804	4/18/2018	N	117	1.9	0.15 J
MW-175	MW-175-201811	11/13/2018	N	70.7	1.5	0.17 J
MW-175	MW-175-201904	4/23/2019	N	102	1.6	< 1.0 U
MW-175	MW-175-201910	10/23/2019	N	138	2.2	0.16 J
MW-175	MW-175-202005	5/13/2020	N	135	2.6	< 1.0 U
MW-175	MW-175-202010	10/6/2020	N	69.5	1.7	< 1.0 U
MW-176	MW-176-GW-20150120	1/20/2015	N	720	16.8	0.57 J
MW-176	MW-176-201504	4/14/2015	N	528	16.7	0.69 J
MW-176	MW-176-201507	7/21/2015	N	575	21.5	0.79 J
MW-176	MW-176-201510	10/6/2015	N	420	111	1.2
MW-176	MW-176-201601	1/12/2016	N	306	125	1.3
MW-176	MW-176-201605	5/3/2016	N	389	93.7	0.45 J
MW-176	MW-176-201611	11/8/2016	N	320	202	1.6
MW-176	MW-176-201704	4/28/2017	N	355	140	0.63 J
MW-176	MW-176-201710	10/24/2017	N	281	187	0.29 J
MW-176	MW-176-201804	4/17/2018	N	426	105	1.1
MW-176	MW-176-201811	11/13/2018	N	397	127	2.1
MW-176	MW-176-201904	4/23/2019	N	503	67.0	1.6
MW-176	MW-176-201910	10/22/2019	N	317	28.8	16.5
MW-176	MW-176-202005	5/12/2020	N	323	32.0	27.7
MW-176	MW-176-202010	10/6/2020	N	359	28.2	29.4
MW-177	MW-177-GW-20150121	1/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-177	MW-177-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-177	MW-177-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-177	MW-177-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-177	MW-177-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-178	MW-178-GW-20150118	1/18/2015	N	5.2	0.99 J	< 1.0 U
MW-178	MW-178-201504	4/16/2015	N	5.0	1.3	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-178	MW-178-201507	7/22/2015	N	4.6	1.1	< 1.0 U
MW-178	MW-178-201510	10/7/2015	N	5.8	1.4	< 1.0 U
MW-178	MW-178-201611	11/10/2016	N	3.2	0.15 J	< 1.0 U
MW-178	MW-178-201704	4/27/2017	N	4.6	1.3	< 1.0 U
MW-178	FD-06-201710	10/25/2017	FD	3.6	0.96 J	< 1.0 U
MW-178	MW-178-201710	10/25/2017	N	3.9	0.97 J	< 1.0 U
MW-178	MW-178-201804	4/18/2018	N	5.3	1.4	< 1.0 U
MW-178	MW-178-201811	11/14/2018	N	4.5	1.4	< 1.0 U
MW-178	MW-178-201904	4/24/2019	N	2.9	0.79 J	< 1.0 U
MW-178	MW-178-201910	10/23/2019	N	4.1	1.2	< 1.0 U
MW-178	MW-178-202005	5/13/2020	N	2.0	0.42 J	< 1.0 U
MW-178	MW-178-202010	10/7/2020	N	1.9	0.66 J	< 1.0 U
MW-179	MW-179-201504	4/16/2015	N	41.2	1.6	< 1.0
MW-179	MW-179-201507	7/22/2015	N	27.3	1.1	< 1.0 U
MW-179	MW-179-201601	1/13/2016	N	30.6	1.1	< 1.0 U
MW-179	MW-179-201605	5/4/2016	N	6.6	< 1.0 U	< 1.0 U
MW-179	MW-179-201704	4/28/2017	N	20.4	1.0	< 1.0 U
MW-179	MW-179-201710	10/26/2017	N	10.7	0.35 J	< 1.0 U
MW-179	MW-179-201804	4/19/2018	N	21.7	0.85 J	< 1.0 U
MW-179	MW-179-201811	11/13/2018	N	1.4	< 1.0 U	< 1.0 U
MW-179	MW-179-201904	4/24/2019	N	8.9	0.23 J	< 1.0 U
MW-179	MW-179-201910	10/24/2019	N	23.7	0.74 J	< 1.0 U
MW-179	MW-179-202005	5/15/2020	N	21.4	1.1	< 1.0 U
MW-179	MW-179-202010	10/8/2020	N	22.9	1.0	< 1.0 U
MW-180	MW-180-GW-20150119	1/19/2015	N	23.7	3.4	< 1.0 U
MW-180	MW-180-201504	4/16/2015	N	21.4	3.8	< 1.0
MW-180	MW-180-201507	7/22/2015	N	22.1	3.0	< 1.0 U
MW-180	MW-180-201510	10/7/2015	N	18.5	3.0	< 1.0 U
MW-180	MW-180-201601	1/14/2016	N	10.6	1.5	< 1.0 U
MW-180	MW-180-201605	5/5/2016	N	10.3	1.4	< 1.0 U
MW-181	MW-181-GW-20150121	1/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-181	MW-181-201504	4/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-181	MW-181-201507	7/21/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-181	MW-181-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-181	MW-181-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-182	MW-182-201507	7/23/2015	N	193	17.8	0.28 J
MW-182	MW-182-201510	10/5/2015	N	196	17.2	0.25 J
MW-182	MW-182-201601	1/13/2016	N	258	19.9	0.30 J
MW-182	DUP-09-201605	5/4/2016	FD	271	16.6	0.32 J
MW-182	MW-182-201605	5/4/2016	N	283	18.9	0.31 J
MW-182	DUP-02-201611	11/9/2016	FD	204	15.5	0.20 J
MW-182	MW-182-201611	11/9/2016	N	192	14.6	0.28 J
MW-182	MW-182-201710	10/24/2017	N	92.2	5.7	< 1.0 U
MW-182	MW-182-201804	4/19/2018	N	58.3	3.9	< 1.0 U
MW-182	DUP-06-201804	4/19/2018	FD	59.3	4.1	< 1.0 U
MW-182	MW-182-201811	11/15/2018	N	40.8	2.5	< 1.0 U
MW-182	MW-182-201904	4/24/2019	N	29.1	1.8	< 1.0 U
MW-182	MW-182-201910	10/23/2019	N	26.3	1.8	< 1.0 U
MW-182	MW-182-202005	5/13/2020	N	19.8	1.6	< 1.0 U
MW-182	DUP-08-202005	5/13/2020	FD	19.5	1.6	< 1.0 U
MW-182	MW-182-202010	10/7/2020	N	24.9	1.7	< 1.0 U
MW-183	MW-183-201510	10/6/2015	N	2.0	0.30 J	< 1.0 U
MW-183	MW-183-201601	1/12/2016	N	2.7	0.32 J	< 1.0 U
MW-183	MW-183-201605	5/4/2016	N	2.8	0.34 J	< 1.0 U
MW-183	MW-183-201611	11/9/2016	N	5.3	< 1.0 U	< 1.0 U
MW-183	DUP-03-201704	4/26/2017	FD	1.9	0.17 J	< 1.0 U
MW-183	MW-183-201704	4/26/2017	N	2.0	0.26 J	< 1.0 U
MW-183	MW-183-201710	10/25/2017	N	2.8	0.24 J	< 1.0 U
MW-183	MW-183-201804	4/18/2018	N	1.9	0.14 J	< 1.0 U
MW-183	MW-183R-201811	11/14/2018	N	1.1	< 1.0 U	< 1.0 U
MW-183	MW-183R-201904	4/24/2019	N	0.54 J	< 1.0 U	< 1.0 U
MW-183R	MW-183R-201910	10/23/2019	N	1.2	< 1.0 U	< 1.0 U
MW-183R	MW-183R-202005	5/13/2020	N	0.74 J	< 1.0 U	< 1.0 U
MW-183R	MW-183R-202010	10/7/2020	N	0.82 J	< 1.0 U	< 1.0 U
MW-184	MW-184-201510	10/5/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201704	4/28/2017	N	0.45	< 1.0 U	< 1.0 U
MW-184	MW-184-201710	10/24/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201811	11/14/2018	N	< 1.0	< 1.0 U	< 1.0 U
MW-184	MW-184-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-184	MW-184-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-184	MW-184-202005	5/13/2020	N	0.25 J	< 1.0 U	< 1.0 U
MW-184	DUP-05-202010	10/7/2020	FD	0.29 J	< 1.0 U	< 1.0 U
MW-184	MW-184-202010	10/7/2020	N	0.40 J	< 1.0 U	< 1.0 U
MW-185	MW-185-GW-091615	9/16/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-185	MW-185-201510	10/5/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-185	MW-185-201601	1/11/2016	N	0.87 J	< 1.0 U	< 1.0 U
MW-185	MW-185-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-185	MW-185-201611	11/8/2016	N	3.1	< 1.0 U	< 1.0 U
MW-185	MW-185-201704	4/26/2017	N	8.0	< 1.0 U	< 1.0 U
MW-185	MW-185-201710	10/24/2017	N	12.7	< 1.0 U	< 1.0 U
MW-185	DUP-07-201804	4/19/2018	FD	11.1	1.4	< 1.0 U
MW-185	MW-185-201804	4/19/2018	N	12.0	1.4	< 1.0 U
MW-185	MW-185-201807	7/31/2018	N	11.7	1.4	< 1.0 U
MW-185	MW-185-201811	11/14/2018	N	11.7	2.6	< 1.0 U
MW-185	MW-185-201904	4/25/2019	N	17.0	3.4	< 1.0 U
MW-185	MW-185-201910	10/24/2019	N	52.7	6.3	0.12 J
MW-185	DUP-07-202005	5/13/2020	FD	95.0	7.4	< 1.0 U
MW-185	MW-185-202005	5/13/2020	N	94.5	7.9	< 1.0 U
MW-185	MW-185-202010	10/7/2020	N	176	10.6	< 1.0 U
MW-186	MW-186-GW-091415	9/14/2015	N	< 1.0 U	0.37 J	< 1.0 U
MW-186	MW-186-201510	10/5/2015	N	1.2	2.4	< 1.0 U
MW-186	MW-186-201601	1/7/2016	N	3.0	3.2	< 1.0 U
MW-186	MW-186-201605	5/4/2016	N	4.0	3.0	< 1.0 U
MW-186	MW-186-201611	11/7/2016	N	5.2	3.3	0.16 J
MW-186	DUP-02-201704	4/26/2017	FD	5.0 B	2.8	< 1.0 U
MW-186	MW-186-201704	4/26/2017	N	4.7	2.7	< 1.0 U
MW-186	FD-04-201710	10/24/2017	FD	7.8	3.8	0.16 J
MW-186	MW-186-201710	10/24/2017	N	7.8	4.1	0.14 J
MW-186	DUP-01-20180402	4/2/2018	FD	12.9	4.7	0.21 J
MW-186	MW-186-20180402	4/2/2018	N	13.1	4.2	0.22 J
MW-186	MW-186-201804	4/19/2018	N	14.2	4.8	0.23 J
MW-186	MW-186-201807	8/3/2018	N	17.7	4.5	0.15 J
MW-186	MW-186-201811	11/14/2018	N	10.2 F1	6.5	< 5.0 U
MW-186	MW-186-201904	4/26/2019	N	5.6	8.8	0.14 J
MW-186	MW-186-201910	10/24/2019	N	2.9	3.0	2.2
MW-186	MW-186-202005	5/14/2020	N	1.0 J+	0.62 J	0.36 J
MW-186	MW-186-202010	10/8/2020	N	0.43 J	0.40 J	0.33 J
MW-187	MW-187-GW-091415	9/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-187	MW-187-201510	10/5/2015	N	< 1.0 U	0.21 J	< 1.0 U
MW-187	MW-187-201601	1/8/2016	N	0.22 J	0.27 J	< 1.0 U
MW-187	MW-187-201605	5/4/2016	N	0.56 J	0.59 J	< 1.0 U
MW-187	MW-187-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-187	MW-187-201704	4/26/2017	N	0.46 J	0.55 J	< 1.0 U
MW-187	MW-187-201710	10/24/2017	N	0.65 J	0.73 J	< 1.0 U
MW-187	MW-187-201804	4/18/2018	N	< 1.0 U	0.77 J	< 1.0 U
MW-187	MW-187-201811	11/14/2018	N	0.86 J	0.81 J	< 1.0 U
MW-187	MW-187-201904	4/24/2019	N	1.4	1.3	< 1.0 U
MW-187	MW-187-201910	10/22/2019	N	3.5	2.2	< 1.0 U
MW-187	MW-187-202005	5/14/2020	N	5.2	3.0	< 1.0 U
MW-187	MW-187-202010	10/6/2020	N	9.8	3.7	< 1.0 U
MW-188	MW-188A-GW-091715	9/17/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201510	10/5/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201601	1/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201605	5/3/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201704	4/27/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201710	10/24/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	DUP-04-201804	4/19/2018	FD	0.18 J	< 1.0 U	< 1.0 U
MW-188	MW-188-201804	4/19/2018	N	0.20 J	< 1.0 U	< 1.0 U
MW-188	MW-188-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-201904	4/24/2019	N	0.88 J	0.33 J	< 1.0 U
MW-188	MW-188-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-188	MW-188-202005	5/13/2020	N	2.9	0.51 J	< 1.0 U
MW-188	MW-188-202010	10/6/2020	N	11.7	1.3	< 1.0 U
MW-189	MW-189A-GW-091715	9/17/2015	N	2.4	3.1	< 1.0 U
MW-189	MW-189-201510	10/5/2015	N	4.1	4.5	0.14 J
MW-189	MW-189-201601	1/7/2016	N	4.5	5.4	0.19 J
MW-189	MW-189-201605	5/4/2016	N	5.5	6.1	0.19 J
MW-189	MW-189-201611	11/7/2016	N	10.2	9.7	0.31 J
MW-189	MW-189-201704	4/26/2017	N	30.1	11.1	0.29 J
MW-189	MW-189-201710	10/25/2017	N	195	9.5	0.40 J
MW-189	MW-189-201804	4/19/2018	N	385	11.1	0.48 J
MW-189	MW-189-201811	11/15/2018	N	670	11.3	0.64 J
MW-189	MW-189-201904	4/25/2019	N	188	3.1	0.14 J

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-189	DUP-08-201910	10/24/2019	FD	506	8.7	0.50 J
MW-189	MW-189-201910	10/24/2019	N	510	8.9	0.47 J
MW-189	MW-189-202005	5/13/2020	N	183	4.0	< 1.0 U
MW-189	MW-189-202010	10/6/2020	N	359	7.2	0.44 J
MW-190	MW-190-GW-091415	9/14/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201510	10/5/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201710	10/25/2017	N	0.94 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201804	4/18/2018	N	0.58 J	< 1.0 U	< 1.0 U
MW-190	MW-190-201811	11/15/2018	N	< 1.0	< 1.0 U	< 1.0 U
MW-190	MW-190-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-190	MW-190-201910	10/22/2019	N	< 1.0 U	0.21 J	< 1.0 U
MW-190	MW-190-202005	5/13/2020	N	2.7	1.7	< 1.0 U
MW-190	MW-190-202010	10/7/2020	N	14.5	3.0	< 1.0 U
MW-191	MW-191-GW-091515	9/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201510	10/5/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201611	11/8/2016	N	< 1.0 U	< 1.0 U	< 1.0
MW-191	MW-191-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201710	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201811	11/14/2018	N	< 1.0	< 1.0 U	< 1.0 U
MW-191	MW-191-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-202005	5/13/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-191	MW-191-202010	10/7/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-GW-091615	9/16/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201510	10/5/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201601	1/11/2016	N	0.30 J	< 1.0 U	< 1.0 U
MW-192	MW-192-201605	5/4/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201710	10/25/2017	N	0.25 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	DUP-07-201811	11/14/2018	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-192	MW-192-202005	5/13/2020	N	0.58 J	< 1.0 U	< 1.0 U
MW-192	DUP-04-202010	10/7/2020	FD	0.42 J	< 1.0 U	< 1.0 U
MW-192	MW-192-202010	10/7/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-193	MW-193-201510	10/6/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-193	MW-193-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-193	MW-193-201605	5/2/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-194	MW-194-GW-080516	8/5/2016	N	6.6	0.66 J	< 1.0 U
MW-194	MW-194-201611	11/7/2016	N	12.7	< 1.0 U	< 1.0 U
MW-194	MW-194-201704	4/26/2017	N	10.8	< 1.0 U	< 1.0 U
MW-194	MW-194-201710	10/23/2017	N	15.4	1.1	< 1.0 U
MW-194	MW-194-201804	4/17/2018	N	9.4	0.57 J	< 1.0 U
MW-194	MW-194-201807	7/31/2018	N	13.3	0.79 J	< 1.0 U
MW-194	MW-194-201811	11/14/2018	N	10.7	0.87 J	< 1.0 U
MW-194	MW-194-201904	4/25/2019	N	8.6	0.75 J	< 1.0 U
MW-194	MW-194-201910	10/23/2019	N	10.8	0.97 J	< 1.0 U
MW-194	MW-194-202005	5/14/2020	N	4.4	0.61 J	< 1.0 U
MW-194	MW-194-202010	10/7/2020	N	5.6	0.78 J	< 1.0 U
MW-195	MW-195-GW-080516	8/5/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201704	4/28/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201710	10/23/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	DUP-02-201804	4/17/2018	FD	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-195	MW-195-202005	5/12/2020	N	0.22 J	< 1.0 U	< 1.0 U
MW-195	MW-195-202010	10/6/2020	N	0.35 J	< 1.0 U	< 1.0 U
MW-196	MW-196-GW-080516	8/5/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-201611	11/9/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-201704	4/26/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-201710	10/24/2017	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-196	MW-196-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-196	MW-196-202010	10/6/2020	N	0.54 J	< 1.0 U	< 1.0 U
MW-197	MW-197-WG-2020922	9/22/2020	N	17.0	7.8	0.99 J
MW-197	MW-197-202010	10/6/2020	N	20.1	8.4	0.96 J
MW-198	MW-198-202010	10/8/2020	N	20600	1550	84.4
MW-199	MCP-HP-06-WG-22	7/15/2020	N	41.8	4.7	0.40 J
MW-199	MW-199-WG-2020922	9/22/2020	N	66.7	5.1	0.35 J
MW-199	MW-199-202010	10/6/2020	N	92.3	6.7	0.35 J
MW-200	NE-HP-01	7/14/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-200	MW-200-202010	10/8/2020	N	0.25 J	< 1.0 U	< 1.0 U
MW-201	HM-HP-05-WG-37	7/15/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-201	MW-201-202010	10/7/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
MW-202	NE-HP-02-WG-24.7	7/15/2020	N	1.5	0.36 J	< 1.0 U
MW-202	MW-202-202010	10/8/2020	N	9.3	1.1	< 1.0 U
MW-203	MW-203-WG-20200925	9/25/2020	N	0.57 J	< 1.0 U	< 1.0 U
MW-204	MW-204-WG-20200925	9/25/2020	N	34.8	3.0	< 1.0 U
MW-204	MW-204-202010	10/8/2020	N	55.6	4.1	< 1.0 U
NE-HP-03	NE-HP-03-WG-24.3	7/15/2020	N	0.17 J	< 1.0 U	< 1.0 U
NE-Manhole-SW	NE-MANHOLE-SW-20140818	8/18/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
QAQC	TB-01-20150422	4/22/2015	TB	< 1.0 U	< 1.0 U	< 1.0 U
QAQC	TRIPBLANK-01-20150701	7/1/2015	TB	< 1.0 U	< 1.0 U	< 1.0 U
QAQC	TB-20150730	7/30/2015	TB	< 1.0 U	< 1.0 U	< 1.0 U
QAQC	TB-1-201512	12/1/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
QAQC	TB-2-201512	12/2/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
QAQC	TB-05-201601	1/11/2016	N	< 1.0 U	< 1.0 U	< 1.0 U
RW-69	RW-69-20090115	1/15/2009	N	170	7.1	< 5 U
RW-69	RW-69-20090424	4/24/2009	N	62	< 5 U	< 5 U
RW-69	RW-69-20090527	5/27/2009	N	290	10	< 5 U
RW-69	RW-69-20091221-FS	12/21/2009	N	200	6.3	< 5.0 U
RW-69	RW-69-20100513	5/13/2010	N	170	8.2	< 5 U
RW-69	RW-69-20101104	11/4/2010	N	320	9	< 5 U
RW-69	RW-69-20110303-FS	3/3/2011	N	200	7.1	< 5.0 U
RW-69	RW-69-20110523-FS	5/23/2011	N	130	3.0 J	
RW-69	RW-69-20111026	10/26/2011	N	210	5.7	< 5 U
RW-69	RW-69-20120418	4/18/2012	N	150	3.6 J	< 5 U
RW-69	RW-69-20121018	10/18/2012	N	180	5.0	< 2.0 U
RW-69	RW-69-20130423	4/23/2013	N	190	2.8 J	< 2.0 U
RW-69	RW-69-101613	10/16/2013	N	190	7.7	< 2.0 U
RW-69	RW-69-201403	3/7/2014	N	105	3.5 J	0.41 J
RW-69	RW-69-201405	5/13/2014	N	110	3.3 J	0.30 J
RW-69	RW-69-201407	7/29/2014	N	164	5.6	0.50 J
RW-69	RW-69-201410	10/14/2014	N	173	6.9	< 2.0 U
RW-69	RW-69-201501	1/14/2015	N	115	4.7	< 1.0 U
RW-69	RW-69-201504	4/14/2015	N	113	4.5	< 1.0 U
RW-69	RW-69-201507	7/21/2015	N	135	5.5	0.31 J
RW-69	RW-69-201510	10/6/2015	N	184	6.7	0.24 J
RW-69	RW-69-201601	1/12/2016	N	128	4.6	< 1.0 U
RW-69	RW-69-201605	5/3/2016	N	91.1	4.1	< 1.0 U
RW-69	RW-69-201611	11/9/2016	N	185	6.2	0.26 J
RW-69	RW-69-201704	4/27/2017	N	158	4.6	< 1.0 U
RW-69	RW-69-201710	10/24/2017	N	159	5.2	0.21 J
RW-69	RW-69-201804	4/18/2018	N	110	5.0	0.19 J
RW-69	RW-69-201811	11/14/2018	N	141 J+	5.4	0.53 J
RW-69	RW-69-201904	4/24/2019	N	99.9	4.4	0.16 J
RW-69	RW-69-201910	10/23/2019	N	150	5.6	0.53 J
RW-69	RW-69-202005	5/13/2020	N	102	4.4	0.30 J
RW-69	DUP-06-202005	5/13/2020	FD	101	4.3	0.23 J
RW-69	RW-69-202010	10/6/2020	N	101 J-	4.6	0.60 J
SLUG-01	SLUG-01-GW-20140108	1/8/2014	N	230	7.7	< 2.0 U
SLUG-02	SLUG-02-GW-20140108	1/8/2014	N	300	11	< 2.0 U
SLUG-06	SLUG-06-GW-20140112	1/12/2014	N	11000	620	31
SV-04	SV-04D-20140916	9/16/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
TMW-01	TMW-01-062613-GW	6/26/2013	N	< 5.0 U	< 5.0 U	
TMW-01	TMW-01-062613-LL	6/26/2013	N			< 2.0 U
TMW-02	TMW-02-062613-GW	6/26/2013	N	< 5.0 U	< 5.0 U	
TMW-02	TMW-02-062613-LL	6/26/2013	N			< 2.0 U
TMW-036B	TMW-36B-202007	7/15/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-04	TMW-04-062613-GW	6/26/2013	N	< 5.0 U	< 5.0 U	
TMW-04	TMW-04-062613-LL	6/26/2013	N			< 2.0 U
TMW-05	TMW-05-062613-GW	6/26/2013	N	< 5.0 U	< 5.0 U	

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
TMW-05	TMW-05-062613-LL	6/26/2013	N			< 2.0 U
TMW-10	TMW-10-GW-091815	9/18/2015	N	190	1.9	< 1.0 U
TMW-10	TMW-10-201510	10/8/2015	N	102	1.1	< 1.0 U
TMW-10	TMW-10-201511	11/4/2015	N	120	0.72 J	< 1.0 U
TMW-10	TMW-10-201512	12/1/2015	N	114	0.88 J	< 1.0 U
TMW-10	TMW-10-201601	1/8/2016	N	103	3.1	< 1.0 U
TMW-10	TMW-10-201605	5/4/2016	N	123	12.9	< 1.0 U
TMW-10	TMW-10-201611	11/8/2016	N	95.4	4.4	< 1.0 U
TMW-10	TMW-10-201704	4/27/2017	N	96.2	5.1	0.32 J
TMW-10	DUP-05-201704	4/27/2017	FD	102	5.9	0.38 J
TMW-10	TMW-10-201710	10/24/2017	N	89.5	4.5	0.91 J
TMW-10	TMW-10-201804	4/18/2018	N	85.0	5.2	0.46 J
TMW-10	TMW-10-201807	7/31/2018	N	91.1	5.9	0.66 J
TMW-10	TMW-10-201811	11/13/2018	N	14.3	15.0	6.2
TMW-10	TMW-10-201904	4/25/2019	N	11.5	2.4	3.7
TMW-10	TMW-10-201910	10/22/2019	N	8.6	1.4	2.4
TMW-10	TMW-10-202005	5/14/2020	N	2.5	0.67 J	2.8
TMW-10	TMW-10-202010	10/5/2020	N	4.8	0.86 J	3.8
TMW-11	TMW-11-GW-091815	9/18/2015	N	31.1	0.15 J	< 1.0 U
TMW-11	TMW-11-201510	10/8/2015	N	14.3	< 1.0 U	< 1.0 U
TMW-11	TMW-11-201511	11/4/2015	N	6.3	2.5	< 1.0 U
TMW-11	TMW-11-201512	12/1/2015	N	0.63 J	5.8	< 1.0 U
TMW-11	TMW-11-201601	1/8/2016	N	3.1	5.3	< 1.0 U
TMW-11	TMW-11-201605	5/3/2016	N	8.1	3.6	< 1.0 U
TMW-11	TMW-11-201611	11/8/2016	N	1.2	4.7	< 1.0 U
TMW-11	TMW-11-201704	4/27/2017	N	0.85 J	3.6	0.36 J
TMW-11	TMW-11-201710	10/23/2017	N	0.62 J	1.7	0.70 J
TMW-11	TMW-11-201804	4/17/2018	N	0.67 J	1.2	0.59 J
TMW-11	TMW-11-201811	11/13/2018	N	0.40 J	0.73 J	0.46 J
TMW-11	TMW-11-201904	4/25/2019	N	1.4	0.78 J	0.64 J
TMW-11	TMW-11-201910	10/22/2019	N	0.70 J	0.79 J	0.29 J
TMW-11	TMW-11-202005	5/14/2020	N	0.75 J	0.55 J	< 1.0 U
TMW-11	TMW-11-202010	10/5/2020	N	0.70 J	0.66 J	0.34 J
TMW-12	TMW-12-201704	4/27/2017	N	463	12.0	0.34 J
TMW-12	TMW-12-201804	4/18/2018	N	563	12.0	0.37 J
TMW-12	DUP-04-201811	11/15/2018	FD	470	12.8	0.37 J
TMW-12	TMW-12-201811	11/15/2018	N	429	13.7	0.41 J
TMW-12	TMW-12-201904	4/24/2019	N	470	11.9	0.37 J
TMW-12	TMW-12-201910	10/23/2019	N	471	10.1	0.26 J
TMW-12	TMW-12-202005	5/12/2020	N	372	10.3	0.21 J
TMW-12	TMW-12-202010	10/7/2020	N	415	11.1	0.32 J
TMW-13	TMW-13-201704	4/27/2017	N	193	4.2	0.15 J
TMW-14	TMW-14-201704	4/27/2017	N	10.9	0.29 J	< 1.0 U
TMW-14	TMW-14-201804	4/18/2018	N	2.1	< 1.0 U	< 1.0 U
TMW-14	DUP-03-201804	4/18/2018	FD	2.0	< 1.0 U	< 1.0 U
TMW-14	TMW-14-201811	11/14/2018	N	0.24 J	< 1.0 U	< 1.0 U
TMW-14	TMW-14-201904	4/24/2019	N	10.1 J+	0.39 J	< 1.0 U
TMW-14	TMW-14-201910	10/23/2019	N	2.6	0.60 J	< 1.0 U
TMW-14	TMW-14-202005	5/11/2020	N	0.60 J	< 1.0 U	< 1.0 U
TMW-14	TMW-14-202010	10/7/2020	N	3.0	3.2	< 1.0 U
TMW-15	TMW-15-201704	4/26/2017	N	5.3	0.41 J	< 1.0 U
TMW-16	TMW-16-201704	4/25/2017	N	682	8.4	0.57 J
TMW-16	TMW-16-201710	10/24/2017	N	956	10.4	< 1.0 U
TMW-16	TMW-16-20180402	4/2/2018	N	985	11.5	0.78 J
TMW-16	TMW-16-201804	4/19/2018	N	1030	13.6	0.90 J
TMW-16	TMW-16-201807	8/2/2018	N	988	15.1	0.81 J
TMW-16	TMW-16-201811	11/16/2018	N	368	29.1	1.6 J
TMW-16	TMW-16-201904	4/25/2019	N	23.8	236	1.4
TMW-16	TMW-16-201910	10/23/2019	N	6.0	8.8	2.4
TMW-16	TMW-16-202005	5/14/2020	N	0.71 J	1.0 J	0.57 J
TMW-16	TMW-16-202010	10/8/2020	N	0.59 J	1.2 J+	0.38 J
TMW-17	TMW-17-201704	4/25/2017	N	154	7.6	0.37 J
TMW-18	TMW-18-201704	4/25/2017	N	0.60 J	0.72 J	< 1.0 U
TMW-19	DUP-01-201704	4/25/2017	FD	0.30 J	< 1.0 U	< 1.0 U
TMW-19	TMW-19-201704	4/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-19	TMW-19-201710	10/24/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-19	TMW-19-201804	4/19/2018	N	0.41 J	0.32 J	< 1.0 U
TMW-19	TMW-19-201811	11/14/2018	N	0.97 J	0.69 J	< 1.0 U
TMW-19	TMW-19-201904	4/24/2019	N	5.6	1.1	< 1.0 U
TMW-19	DUP-06-201910	10/23/2019	FD	12.2	1.5	< 1.0 U
TMW-19	TMW-19-201910	10/23/2019	N	13.6	1.6	< 1.0 U
TMW-19	TMW-19-202005	5/13/2020	N	7.8	0.97 J	< 1.0 U
TMW-19	TMW-19-202010	10/5/2020	N	16.0	1.7	< 1.0 U
TMW-20	TMW-20-201710	10/10/2017	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
TMW-20	FD-01-201710	10/23/2017	FD	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-20171023	10/23/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	DUP-01-201811	11/13/2018	FD	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-202005	5/14/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-20	TMW-20-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-21	TMW-21-201710	10/10/2017	N	375	8.7	0.16 J
TMW-21	TMW-21-20171024	10/24/2017	N	461	9.2	< 1.0 U
TMW-21	TMW-21-201804	4/18/2018	N	340	7.4	< 1.0 U
TMW-21	TMW-21-20180419	4/19/2018	N	420	10.0	0.21 J
TMW-21	TMW-21-201807	7/31/2018	N	564	12.6	0.31 J
TMW-21	TMW-21-201811	11/15/2018	N	22.1 J-	86.3 J-	0.52 J
TMW-21	TMW-21-201904	4/25/2019	N	47.0	27.7	5.9
TMW-21	TMW-21-201910	10/22/2019	N	21.8	13.5	1.9
TMW-21	TMW-21-202005	5/14/2020	N	3.8	6.8	1.9
TMW-21	TMW-21-202010	10/6/2020	N	7.2	3.2	1.9
TMW-22	TMW-22-20171013	10/13/2017	N	636	13.9	< 1.0 U
TMW-22	TMW-22-201710	10/24/2017	N	486	9.8	< 1.0 U
TMW-22	TMW-22-201804	4/18/2018	N	224	20.1	< 1.0 U
TMW-22	TMW-22-201807	8/1/2018	N	460	28.7	0.20 J
TMW-22	TMW-22R-201811	11/15/2018	N	347	71.2	0.16 J
TMW-22	TMW-22R-201904	4/25/2019	N	202	184	8.3
TMW-22R	TMW-22R-201910	10/23/2019	N	146	126	7.9
TMW-22R	TMW-22R-202005	5/14/2020	N	61.1	94.6	26.3
TMW-22R	TMW-22R-202010	10/6/2020	N	56.6	70.3	15.4
TMW-23	TMW-23-20171013	10/13/2017	N	131	2.0	< 1.0 U
TMW-23	TMW-23-201710	10/25/2017	N	62.2	0.89 J	< 1.0 U
TMW-23	TMW-23-201804	4/18/2018	N	125	1.5	< 1.0 U
TMW-23	DUP-03-201811	11/16/2018	FD	116	1.6	< 1.0 U
TMW-23	TMW-23-201811	11/16/2018	N	110	1.2	< 1.0 U
TMW-23	TMW-23-201904	4/24/2019	N	190	2.3	< 1.0 U
TMW-23	TMW-23-2019110	10/23/2019	N	189	2.5	< 1.0 U
TMW-23	TMW-23-202005	5/11/2020	N	182	2.9	< 1.0 U
TMW-23	DUP-03-202010	10/7/2020	FD	164	2.9	< 1.0 U
TMW-23	TMW-23-202010	10/7/2020	N	168	3.0	< 1.0 U
TMW-24	TMW-24-201710	10/10/2017	N	309	7.7	0.18 J
TMW-24	TMW-24-20171024	10/24/2017	N	385	8.1	< 1.0 U
TMW-24	TMW-24-201804	4/18/2018	N	601	11.9	0.25 J
TMW-24	TMW-24-201811	11/15/2018	N	540	10.9	0.25 J
TMW-24	TMW-24-201904	4/24/2019	N	565	12.3	0.47 J
TMW-24	TMW-24-2019110	10/23/2019	N	575	11.8	0.20 J
TMW-24	TMW-24-202005	5/12/2020	N	560	10.9	0.20 J
TMW-24	TMW-24-202010	10/6/2020	N	495	11.1	< 1.0 U
TMW-25	TMW-25-201710	10/11/2017	N	140	8.8	0.19 J
TMW-25	TMW-25-20171025	10/25/2017	N	245	11.2	0.41 J
TMW-25	TMW-25-201804	4/19/2018	N	240	10.9	0.29 J
TMW-25	TMW-25-201811	11/15/2018	N	58.6 J-	11.0 J-	< 5.0 UJ
TMW-25	TMW-25-201904	4/25/2019	N	38.6	47.7	0.39 J
TMW-25	TMW-25-201910	10/24/2019	N	23.6	39.9	0.41 J
TMW-25	TMW-25-202005	5/14/2020	N	17.0	5.5	1.2
TMW-25	TMW-25-202010	10/7/2020	N	3.1	1.1	< 1.0 U
TMW-26	TMW-26-201710	10/11/2017	N	185	4.2	0.23 J
TMW-26	TMW-26-20171024	10/24/2017	N	36.3	< 1.0 U	< 1.0 U
TMW-26	TMW-26-20180402	4/2/2018	N	35.4	0.98 J	< 1.0 U
TMW-26	TMW-26-201804	4/19/2018	N	28.3	1.1	< 1.0 U
TMW-26	TMW-26-201807	8/2/2018	N	96.1	2.5	0.23 J
TMW-26	TMW-26-201811	11/15/2018	N	54.4 J-	11.1 J-	< 5.0 UJ
TMW-26	TMW-26-201904	4/25/2019	N	128	46.3	0.29 J
TMW-26	TMW-26-201910	10/23/2019	N	42.9	53.3	2.9
TMW-26	TMW-26-202005	5/14/2020	N	4.1	2.5	0.71 J
TMW-26	TMW-26-202010	10/7/2020	N	3.7	1.1	0.99 J
TMW-27	TMW-27-201710	10/11/2017	N	0.20 J	< 1.0 U	< 1.0 U
TMW-27	TMW-27-20171025	10/25/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-20180402	4/2/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-201804	4/18/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-201811	11/14/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-201904	4/24/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-201910	10/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-202005	5/14/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	DUP-06-202010	10/7/2020	FD	< 1.0 U	< 1.0 U	< 1.0 U
TMW-27	TMW-27-202010	10/7/2020	N	< 1.0 U	< 1.0 U	< 1.0 U

TABLE 7a
HISTORICAL SUMMARY OF MONITORING WELL GROUNDWATER CONCENTRATIONS FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
TMW-28	TMW-28-20171010	10/12/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-20171010	10/12/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-201710	10/23/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-201804	4/17/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-201811	11/13/2018	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-201904	4/23/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-29	TMW-29-202005	5/12/2020	N	0.12 J	< 1.0 U	< 1.0 U
TMW-29	TMW-29-202010	10/5/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-30	TMW-30-20171013	10/13/2017	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-30	TMW-30-201710	10/24/2017	N	0.55 J	< 1.0 U	< 1.0 U
TMW-30	TMW-30-20180402	4/2/2018	N	1.5	0.49 J	< 1.0 U
TMW-30	TMW-30-201811	11/14/2018	N	< 25.0	< 25.0 U	< 25.0 U
TMW-30	TMW-30-201910	10/23/2019	N	2.5	2.3	0.12 J
TMW-30	TMW-30-202005	5/14/2020	N	< 5.0 U	2.9 J	< 5.0 U
TMW-30	TMW-30-202010	10/7/2020	N	12.7 J	< 20.0 U	< 20.0 U
TMW-31	TMW-31-20180403	4/3/2018	N	< 5.0 U	< 5.0 U	< 5.0 U
TMW-32	TMW-32-20180403	4/3/2018	N	65.8	3.3	< 1.0 U
TMW-32	TMW-32-201804	4/18/2018	N	101	3.7	< 1.0 U
TMW-32	TMW-32-201807	8/3/2018	N	83.5	3.4	< 1.0 U
TMW-32	TMW-32-201811	11/16/2018	N	16.0	1.9	0.35 J
TMW-32	TMW-32-201904	4/25/2019	N	12.5	36.4	0.13 J
TMW-32	TMW-32-201910	10/24/2019	N	29.2	21.0	0.13 J
TMW-32	TMW-32-202005	5/14/2020	N	31.6	16.1	1.5
TMW-32	TMW-32-202010	10/8/2020	N	27.6	7.3	0.90 J
TMW-33	TMW-33-20180403	4/3/2018	N	55.8	2.3	0.17 J
TMW-33	MW-33-SHALLOW-2018040	4/5/2018	N	156	3.0	0.26 J
TMW-34	TMW-34-201811	11/14/2018	N	7.4	1.5	< 1.0 U
TMW-34	TMW-34-201904	4/25/2019	N	10.3	2.2	< 1.0 U
TMW-34	TMW-34-201910	10/24/2019	N	17.6	6.9	< 1.0 U
TMW-34	TMW-34-202005	5/14/2020	N	46.6	18.1	< 1.0 U
TMW-34	TMW-34-202010	10/7/2020	N	84.4	46.0	< 1.0 U
TMW-35	TMW-35-201910	10/22/2019	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-35	TMW-35-202005	5/12/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-35	DUP-01-202005	5/12/2020	FD	< 1.0 U	< 1.0 U	< 1.0 U
TMW-35	TMW-35-202010	10/6/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-36	TMW-36-201910	10/24/2019	N	389	8.4	0.31 J
TMW-36	TMW-36-202005	5/13/2020	N	235	7.6	0.30 J
TMW-36	TMW-36-202010	10/5/2020	N	299	8.7	0.40 J
TMW-36B	TMW-36B-202010	10/5/2020	N	< 1.0 U	< 1.0 U	< 1.0 U
TMW-188	MW-188-GW-091415	9/14/2015	N	2.0 J	2.4 J	< 5.0 U
TMW-189	MW-189-GW-091515	9/15/2015	N	2.6	4.7	0.22 J

TABLE 7b
HISTORICAL SUMMARY OF INJECTION WELL GROUNDWATER CONCENTRATIONS
FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
IW-101	IW-101-20140323	3/23/2014	N	314	7.5	0.21 J
IW-101	IW-101-20140430	4/30/2014	N	794	18.9	< 2.0 U
IW-101	IW-101-20140523	5/23/2014	N	509	11.2	< 2.0 U
IW-101	20140708-GW-IW-101	7/8/2014	N	150	4.5 J	< 2.0 U
IW-101	IW-101-201409	9/12/2014	N	139	3.4 J	< 2.0 U
IW-101	IW-101-201601	1/7/2016	N	42.9	1.1	< 1.0 U
IW-101	IW-101-201605	5/5/2016	N	20.3	0.54 J	< 1.0 U
IW-102	IW-102-20140323	3/23/2014	N	685	14.6	0.45 J
IW-102	IW-102-20140430	4/30/2014	N	239	5.4	< 2.0 U
IW-103	IW-103-20140323	3/23/2014	N	692	13.1	0.76 J
IW-103	IW-103-20140430	4/30/2014	N	729	22.8	0.83 J
IW-104	IW-104-20140323	3/23/2014	N	637	13.5	0.69 J
IW-104	IW-104-20140430	4/30/2014	N	527	12.6	< 2.0 U
IW-105	IW-105-20140323	3/23/2014	N	901	14.4	0.54 J
IW-105	IW-105-20140430	4/30/2014	N	185	4.9 J	< 2.0 U
IW-106	IW-106-20140323	3/23/2014	N	198	4.2 J	< 2 U
IW-106	IW-106-20140430	4/30/2014	N	163	6.8	< 2.0 U
IW-106	IW-106-20140523	5/23/2014	N	132	2.6 J	< 2.0 U
IW-107	IW-107-20140323	3/23/2014	N	198	4.3 J	0.14 J
IW-107	IW-107-20140430	4/30/2014	N	110	3.3 J	< 2.0 U
IW-108	IW-108-20140323	3/23/2014	N	1280	27.8	0.83 J
IW-108	IW-108-20140429	4/29/2014	N	72.1	4.1 J	< 2.0 U
IW-108	IW-108-20140523	5/23/2014	N	59.0	1.5 J	< 2.0 U
IW-109	IW-109-20140323	3/23/2014	N	362	7.4	0.23 J
IW-109	IW-109-20140429	4/29/2014	N	91.2	2.5 J	< 2.0 U
IW-109	IW-109-20140523	5/23/2014	N	110	1.9 J	< 2.0 U
IW-110	IW-110-20140323	3/23/2014	N	464	9.8	0.5 J
IW-110	IW-110	4/16/2014	N	397	9.4	0.17 J
IW-110	IW-110-20140430	4/30/2014	N	268	8.2	0.33 J
IW-111	IW-111-20140323	3/23/2014	N	704	14	0.63 J
IW-111	IW-111-20140429	4/29/2014	N	260	6.4	< 2.0 U
IW-112	IW-112-20140323	3/23/2014	N	219	4.9 J	0.23 J
IW-112	IW-112	4/16/2014	N	200	4.8 J	< 2.0 U
IW-112	IW-112-20140430	4/30/2014	N	104	3.8 J	< 2.0 U
IW-113	IW-113-20140324	3/24/2014	N	510	11.1	0.43 J
IW-113	IW-113	4/14/2014	N	435	8.7	< 2.0 U
IW-114	IW-114-20140324	3/24/2014	N	397	9.7	0.25 J
IW-114	IW-114	4/14/2014	N	336	8.1	< 2.0 U
IW-115	IW-115-20140324	3/24/2014	N	622	14	0.25 J
IW-115	IW-115-20140407	4/7/2014	N	455	9.1 J	< 20.0 U
IW-115	IW-115	4/14/2014	N	449	9.3	< 2.0 U
IW-115	IW-115-201405	5/28/2014	N	504	11.2	0.27 J
IW-115	20140709-GW-IW-115	7/9/2014	N	352	7.4	< 2.0 U
IW-115	IW-115-201409	9/11/2014	N	355	8.0	< 2.0 U
IW-115	IW-115-201601	1/11/2016	N	169	3.6	< 1.0 U
IW-115	IW-115-201605	5/4/2016	N	51.9	1.1	< 1.0 U
IW-116	IW-116-20140324	3/24/2014	N	486	10.9	0.33 J
IW-116	IW-116	4/15/2014	N	546	10.8	0.34 J
IW-117	IW-117-20140324	3/24/2014	N	384	9.1	0.23 J
IW-117	IW-117	4/15/2014	N	384	9.9	< 2.0 U
IW-118	IW-118-20140324	3/24/2014	N	496	11.6	0.34 J
IW-118	IW-118	4/15/2014	N	395	9.7	< 2.0 U
IW-118	IW-118-201405	5/28/2014	N	437	9.3	< 2.0 U
IW-119	IW-119-20140324	3/24/2014	N	524	11.5	0.33 J
IW-119	IW-119-20140407	4/7/2014	N	478	9.1 J	< 20.0 U
IW-119	IW-119	4/15/2014	N	509	11.3	< 2.0 U
IW-120	IW-120-20140324	3/24/2014	N	289	7.9	0.14 J
IW-120	IW-120	4/15/2014	N	390	10.2	< 2.0 U
IW-121	IW-121-20140324	3/24/2014	N	402	8.9 J	< 10 U
IW-121	IW-121	4/15/2014	N	445	11.7	< 2.0 U
IW-122	IW-122-20140324	3/24/2014	N	473	11.5	0.29 J
IW-122	IW-122	4/15/2014	N	384	10.0	< 2.0 U
IW-123	IW-123-20140324	3/24/2014	N	532	12.2	0.40 J
IW-123	IW-123-20140407	4/7/2014	N	539	8.8 J	< 20.0 U
IW-123	IW-123	4/15/2014	N	488	10.0	< 2.0 U
IW-124	IW-124-20140324	3/24/2014	N	455	6.8 J	< 10 U
IW-124	IW-124	4/15/2014	N	448	8.7	0.26 J
IW-125	IW-125-20140325	3/25/2014	N	2140	207	3.1
IW-125	IW-125-201405	5/29/2014	N	17.1	2.9 J	< 2.0 U
IW-125	IW-125-201409	9/11/2014	N	7.3	1.0 J	< 2.0 U
IW-126	IW-126-20140325	3/25/2014	N	2020	197	10.4
IW-126	IW-126-201405	5/29/2014	N	787	59.1	< 2.0 U
IW-127	IW-127-20140324	3/24/2014	N	3700	219 J	7.6
IW-127	IW-127-201405	5/29/2014	N	639	34.7	< 2.0 U

TABLE 7b
HISTORICAL SUMMARY OF INJECTION WELL GROUNDWATER CONCENTRATIONS
FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
IW-127	IW-127-201409	9/11/2014	N	1020	38.5	2.6
IW-127	IW-127-20141204	12/4/2014	N	182	7.2	< 2.0 U
IW-128	IW-128-20140325	3/25/2014	N	2980	178	11.7
IW-128	IW-128-20140429	4/29/2014	N	1250	68.4	4.9
IW-128	IW-128-201405	5/29/2014	N	1190	62.7	< 2.0 U
IW-129	IW-129-20140325	3/25/2014	N	2540	192	< 2.0 U
IW-129	IW-129-201405	5/29/2014	N	25.8	1.8 J	< 2.0 U
IW-130	IW-130-20140323	3/23/2014	N	358	7.6 J	< 10 U
IW-130	IW-130-20140523	5/23/2014	N	75.5	0.78 J	< 2.0 U
IW-131	IW-131-20140324	3/24/2014	N	526	11.5	0.35 J
IW-131	IW-131-20140430	4/30/2014	N	318	8.5	0.31 J
IW-131	IW-131-201405	5/28/2014	N	443	8.8	0.30 J
IW-132	IW-132-20141023	10/23/2014	N	714	3.5 J	< 2.0 U
IW-132	IW-132-201910	10/24/2019	N	292	0.57 J	< 1.0 U
IW-132	IW-132-202005	5/13/2020	N	180	0.63 J	< 1.0 U
IW-132	IW-132-202010	10/8/2020	N	210	0.63 J	< 1.0 U
IW-134	IW-134-201910	10/24/2019	N	1090	9.9	< 1.0 U
IW-134	DUP-02-202005	5/13/2020	FD	922	8.8	0.21 J
IW-134	IW-134-202005	5/13/2020	N	985	8.3	< 1.0 U
IW-134	IW-134-202010	10/8/2020	N	1110	10.6	0.38 J
IW-135	IW-135-20141023	10/23/2014	N	3840	43.3	2.0
IW-141	IW-141-20141023	10/23/2014	N	368000	< 10000 U	82.6
IW-141	IW-141-20141205	12/5/2014	N	46300	232 E	31.0
IW-143	IW-143-20141023	10/23/2014	N	13100	44.8	2.5
IW-147	IW-147-20141023	10/23/2014	N	199000	1640 J	< 4000 U
IW-147	IW-147-20141205	12/5/2014	N	91600	1420 J	176
IW-147	IW-147-201910	10/24/2019	N	95800	5420	376 J
IW-147	IW-147-202005	5/13/2020	N	37500	4460	170
IW-147	IW-147-202010	10/7/2020	N	76800	8340	329 J
IW-152	IW-152-20141022	10/22/2014	N	17600	224 J	8.2
IW-152	IW-152-20141204	12/4/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-153	IW-153-20141023	10/23/2014	N	293	85.3	12.3
IW-153	IW-153-20141204	12/4/2014	N	1.6 J	< 5.0 U	< 2.0 U
IW-155	IW-155-20141023	10/23/2014	N	14600	36.4	5.8
IW-157	IW-157-20141023	10/23/2014	N	74200	712 J	195
IW-157	IW-157-20141205	12/5/2014	N	31700	391 E	66.8
IW-169	IW-169-20141022	10/22/2014	N	163	1.7 J	< 2.0 U
IW-72	IW-72-20090116	1/16/2009	N	27	< 5 U	< 5 U
IW-72	IW-72-20090423	4/23/2009	N	40	< 5 U	< 5 U
IW-72	IW-72-20090508	5/8/2009	N	40	< 5 U	< 5 U
IW-72	IW-72-20110303-FS	3/3/2011	N	3.1 J	< 5.0 U	< 5.0 U
IW-72	IW-72-20110519-FS	5/19/2011	N	< 5.0 U	< 5.0 U	
IW-72	IW-72-20111024	10/24/2011	N	< 5 U	< 5 U	< 5 U
IW-72	IW-72-20120417	4/17/2012	N	3.8 J	< 5 U	< 5 U
IW-72	IW-72-20121019	10/19/2012	N	< 25 U	< 25 U	< 10 U
IW-72	IW-72-20130424	4/24/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-72	IW-72-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-72	IW-72-201403	3/6/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-72	IW-72-201405	5/12/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-72	IW-72-201407	7/29/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-72	IW-72-201410	10/13/2014	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-72	IW-72-201501	1/12/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
IW-72	IW-72-201504	4/15/2015	N	< 1.0 U	< 1.0 U	< 1.0 U
IW-72	IW-72-201507	7/20/2015	N	0.48 J	< 1.0 U	< 1.0 U
IW-72	IW-72-201510	10/6/2015	N	0.74 J	< 1.0 U	< 1.0 U
IW-72	IW-72-201601	1/12/2016	N	1.4	< 1.0 U	< 1.0 U
IW-72	IW-72-201605	5/3/2016	N	1.8	< 1.0 U	< 1.0 U
IW-73	IW-73-20090423	4/23/2009	N	400	16	< 5 U
IW-73	IW-73-20110519-FS	5/19/2011	N	160	3.6 J	
IW-73	IW-73-20111025	10/25/2011	N	250	4.9 J	< 5 U
IW-73	IW-73-20120417	4/17/2012	N	180	5.8	< 5 U
IW-73	IW-73-20121020	10/20/2012	N	170	7.0	< 2.0 U
IW-73	IW-73-20130424	4/24/2013	N	200	6.5	< 2.0 U
IW-73	IW-73-20130424-FD	4/24/2013	FD	180	6.4	< 2.0 U
IW-73	IW-73-101513	10/15/2013	N	140	47	6.3
IW-73	IW-73-201403	3/7/2014	N	183	20.9	4.6
IW-73	IW-73-201405	5/14/2014	N	31.9	0.81 J	< 2.0 U
IW-73	IW-73-201407	7/29/2014	N	138	24.3	26.1
IW-73	IW-73-201410	10/14/2014	N	8.5	0.84 J	1.1 J
IW-73	IW-73-201501	1/14/2015	N	70.8	6.3	4.1
IW-73	IW-73-201504	4/15/2015	N	96.8	6.8	1.6
IW-73	IW-73-201507	7/21/2015	N	143	9.0	1.5
IW-73	IW-73-201510	10/6/2015	N	154	7.8	0.59 J
IW-73	IW-73-201601	1/12/2016	N	103	4.3	0.24 J

TABLE 7b
HISTORICAL SUMMARY OF INJECTION WELL GROUNDWATER CONCENTRATIONS
FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
IW-73	IW-73-201605	5/4/2016	N	125	4.9	0.35 J
IW-73	DUP-01-201611	11/9/2016	FD	116	2.8	0.21 J
IW-73	IW-73-201611	11/9/2016	N	113	2.5	0.16 J
IW-73	IW-73-201704	4/28/2017	N	108	3.8	< 1.0 U
IW-73	IW-73-201710	10/24/2017	N	126	3.3	< 1.0 U
IW-73	IW-73-201804	4/18/2018	N	176	4.0	< 1.0 U
IW-73	IW-73-201811	11/14/2018	N	208	7.3	< 1.0 U
IW-73	IW-73-201904	4/24/2019	N	216	8.0	0.35 J
IW-73	IW-73-201910	11/20/2019	N	215	7.0	0.16 J
IW-73	IW-73-202005	5/13/2020	N	173	6.4	0.21 J
IW-73	DUP-03-202005	5/13/2020	FD	193	6.0	< 1.0 U
IW-73	IW-73-202010	10/7/2020	N	211	7.6	0.27 J
IW-74	IW-74-20090423	4/23/2009	N	260	8.1	< 5 U
IW-74	IW-74-20110519-FS	5/19/2011	N	74	< 5.0 U	
IW-74	IW-74-20111025	10/25/2011	N	150	3.1 J	< 5 U
IW-74	IW-74-20120417	4/17/2012	N	130	2.4 J	< 5 U
IW-74	IW-74-20121020	10/20/2012	N	160	3.4 J	< 2.0 U
IW-74	IW-74-20130424	4/24/2013	N	160	4.8 J	< 2.0 U
IW-74	IW-74-101513	10/15/2013	N	190	5.7	< 2.0 U
IW-74	IW-74-201403	3/7/2014	N	135	4.3 J	1.5 J
IW-74	IW-74-201403-FD	3/7/2014	FD	151	4.5 J	2.2
IW-74	IW-74-201405	5/14/2014	N	169	4.3 J	0.80 J
IW-74	IW-74-201407	7/29/2014	N	177	5.8	0.91 J
IW-74	DUP-01-201410	10/14/2014	FD	143	3.3 J	< 2.0 U
IW-74	IW-74-201410	10/14/2014	N	144	3.3 J	< 2.0 U
IW-74	DUP-01-201501	1/14/2015	FD	139	3.5	< 1.0 U
IW-74	IW-74-201501	1/14/2015	N	141	3.8	< 1.0 U
IW-74	DUP-05-201504	4/15/2015	FD	153	4.8	< 1.0 U
IW-74	IW-74-201504	4/15/2015	N	147	5.0	< 1.0 U
IW-74	DUP-08-201507	7/21/2015	FD	168	4.2	1.3
IW-74	IW-74-201507	7/21/2015	N	168	4.6	1.4
IW-74	DUP-10-201510	10/7/2015	FD	122	3.8	0.33 J
IW-74	IW-74-201510	10/7/2015	N	121	3.8	0.36 J
IW-74	DUP-05-201601	1/12/2016	FD	135	3.3	0.18 J
IW-74	IW-74-201601	1/12/2016	N	135	3.2	0.17 J
IW-74	DUP-07-201605	5/4/2016	FD	108	3.2	0.42 J
IW-74	IW-74-201605	5/4/2016	N	122	3.5	0.44 J
IW-75	IW-75-20090116	1/16/2009	N	140	2.4 J	< 5 U
IW-75	IW-75-20111025	10/25/2011	N	< 5 U	< 5 U	< 5 U
IW-75	IW-75-20120417	4/17/2012	N	2.9 J	< 5 U	< 5 U
IW-75	IW-75-20121018	10/18/2012	N	< 25 U	< 25 U	< 10 U
IW-75	IW-75-101513	10/15/2013	N	< 5.0 U	< 5.0 U	< 2.0 U
IW-76	IW-76-20090423	4/23/2009	N	730	28	< 5 U
IW-76	IW-76-20090507	5/7/2009	N	460	28	< 5 U
IW-76	IW-76-20110304-FS	3/4/2011	N	380	11	< 5.0 U
IW-76	IW-76-20110523-FS	5/23/2011	N	460	12	
IW-76	IW-76-20111025	10/25/2011	N	130	2.2 J	< 5 U
IW-76	IW-76-20120417	4/17/2012	N	400	8.9	< 5 U
IW-76	IW-76-20121020	10/20/2012	N	610	16	< 2.0 U
IW-76	IW-76-20130424	4/24/2013	N	420	13	0.39 J
IW-76	IW-76-101513	10/15/2013	N	450	8.7	< 2.0 U
IW-76	IW-76-201403	3/8/2014	N	127	1.5 J	< 2.0 U
IW-76	IW-76-201405	5/14/2014	N	10.3	< 5.0 U	< 2.0 U
IW-76	IW-76-201407	7/29/2014	N	319	2.7 J	< 2.0
IW-76	IW-76-201410	10/15/2014	N	214	6.7	< 2.0 U
IW-76	IW-76-201501	1/14/2015	N	288	8.8	< 1.0 U
IW-76	IW-76-201504	4/15/2015	N	354	11.2	< 1.0 U
IW-76	IW-76-201507	7/21/2015	N	323	7.3	< 1.0 U
IW-76	IW-76-201510	10/6/2015	N	106	1.6	< 1.0 U
IW-76	IW-76-201601	1/12/2016	N	80.2 J	1.9	< 1.0 U
IW-76	IW-76-201605	5/4/2016	N	139 J	2.6	< 1.0 U
IW-77	IW-77-20090423	4/23/2009	N	570	20	< 5 U
IW-77	IW-77-20090507	5/7/2009	N	300	17	< 5 U
IW-77	IW-77-20090527	5/27/2009	N	250	13	< 5 U
IW-77	IW-77-20091028	10/28/2009	N	380	13	< 5 U
IW-77	IW-77-20091221-FS	12/21/2009	N	250	12	< 5.0 U
IW-77	IW-77-20100513	5/13/2010	N	260	11	< 5 U
IW-77	IW-77-20101105	11/5/2010	N	1400	41	< 5 U
IW-77	IW-77-20110304-FS	3/4/2011	N	430	14	< 5.0 U
IW-77	IW-77-20110523-FS	5/23/2011	N	440	15	
IW-77	IW-77-20111025	10/25/2011	N	1400	32	< 5 U
IW-77	IW-77-20120417-FD	4/17/2012	FD	520	20	< 5 U
IW-77	IW-77-20120417	4/17/2012	N	510	23	< 5 U
IW-77	IW-77-20121019	10/19/2012	N	1000	32	0.65 J

TABLE 7b
HISTORICAL SUMMARY OF INJECTION WELL GROUNDWATER CONCENTRATIONS
FOR TCE AND DAUGHTER-PRODUCTS
Whirlpool Facility - Fort Smith, Arkansas

Location	Sample ID	Date	Sample Type	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
IW-77	IW-77-20130424	4/24/2013	N	530	21	< 2.0 U
IW-77	IW-77-101613	10/16/2013	N	1000	39	1.6 J
IW-77	IW-77-20131016-FD	10/16/2013	FD	990	39	0.49 J
IW-77	IW-77-201403	3/8/2014	N	546	24.4	0.22 J
IW-77	IW-77-201405	5/14/2014	N	1460	36.0	0.66 J
IW-77	20140709-GW-IW-77	7/9/2014	N	1200	21.1	< 2.0 U
IW-77	IW-77-201407	7/29/2014	N	1540	35.2	< 2.0 U
IW-77	IW-77-201410	10/15/2014	N	741	15.8	< 2.0 U
IW-77	IW-77-20141023	10/23/2014	N	554	11.9	< 2.0 U
IW-77	IW-77-201501	1/14/2015	N	201	4.8	< 1.0 U
IW-77	IW-77-201504	4/14/2015	N	153	2.9	< 1.0 U
IW-77	IW-77-201507	7/21/2015	N	130	2.4	< 1.0 U
IW-77	IW-77-201510	10/8/2015	N	24.3	0.54 J	< 1.0 U
IW-77	IW-77-201511	11/5/2015	N	95.1	1.1	< 1.0 U
IW-77	IW-77-201512	12/2/2015	N	87.8	1.3	< 1.0 U
IW-77	IW-77-201601	1/11/2016	N	95.3	1.3	< 1.0 U
IW-77	IW-77-201605	5/4/2016	N	101	1.7	< 1.0 U
IW-77	IW-77-201611	11/8/2016	N	137	2.1	< 1.0 U
IW-77	IW-77-201704	4/28/2017	N	113	1.8	< 1.0 U
IW-77	IW-77-201710	10/24/2017	N	161	2.9	< 1.0 U
IW-77	IW-77-201804	4/18/2018	N	181	3.6	< 1.0 U
IW-77	IW-77-201811	11/15/2018	N	218	5.1	< 1.0 U
IW-77	DUP-04-201904	4/25/2019	FD	198	4.3	< 1.0 U
IW-77	IW-77-201904	4/25/2019	N	188	4.1	< 1.0 U
IW-77	IW-77-201910	10/23/2019	N	180	6.8	< 1.0 U
IW-77	IW-77-202005	5/12/2020	N	196	4.3	< 1.0 U
IW-77	IW-77-202010	10/8/2020	N	171	5.7	< 1.0 U
IW-78	IW-78-20111025	10/25/2011	N	350	12	< 5 U
IW-78	IW-78-20120418	4/18/2012	N	120	2.3 J	< 5 U
IW-78	IW-78-20121020	10/20/2012	N	310	8.7	< 2.0 U
IW-78	IW-78-20130424	4/24/2013	N	7.0	< 5.0 U	< 2.0 U
IW-78	IW-78-101713	10/17/2013	N	190	4.6 J	< 2.0 U
IW-78	IW-78-201405	5/28/2014	N	255	6.2	< 2.0 U
IW-78	IW-78-201409	9/11/2014	N	39.6	1.2 J	< 2.0 U
IW-78	IW-78-201601	1/11/2016	N	1.5	< 1.0 U	< 1.0 U
IW-78	IW-78-201605	5/3/2016	N	1.3	< 1.0 U	< 1.0 U
IW-78	IW-78-201611	11/8/2016	N	2.6	< 1.0 U	< 1.0 U
IW-78	IW-78-201710	10/25/2017	N	7.0	0.16 J	< 1.0 U
IW-78	IW-78-201811	11/15/2018	N	0.74 J	< 1.0 U	< 1.0 U
IW-78	IW-78-201910	10/23/2019	N	2.4	< 1.0 U	< 1.0 U
IW-78	IW-78-202010	10/7/2020	N	25.0	0.66 J	< 1.0 U
IW-79	IW-79-20111025	10/25/2011	N	570	13	< 5 U
IW-79	IW-79-20120417	4/17/2012	N	430	2.1 J	< 5 U
IW-79	IW-79-20121020	10/20/2012	N	670	20	0.45 J
IW-79	IW-79-20121020-FD	10/20/2012	FD	480	16	< 2.0 U
IW-79	IW-79-20130424	4/24/2013	N	420	9.0	< 2.0 U
IW-79	IW-79-101713	10/17/2013	N	440	12	< 2.0 U
IW-79	IW-79-201405	5/28/2014	N	426	6.9	< 2.0 U
IW-79	IW-79-201409	9/11/2014	N	105	1.8 J	< 2.0 U
IW-79	IW-79-201601	1/11/2016	N	70.0	1.4	< 1.0 U
IW-79	IW-79-201605	5/4/2016	N	55.0	1.0	< 1.0 U
IW-80	IW-80-20090423	4/23/2009	N	170	4 J	< 5 U
IW-80	IW-80-20090507	5/7/2009	N	69	< 5 U	< 5 U
IW-80	IW-80-20110519-FS	5/19/2011	N	27	< 5.0 U	
IW-80	IW-80-20111025	10/25/2011	N	9.7	< 5 U	< 5 U
IW-80	IW-80-20120417	4/17/2012	N	55	2.2 J	< 5 U
IW-80	IW-80-20121019	10/19/2012	N	48	< 5.0 U	< 2.0 U
IW-80	IW-80-20130424	4/24/2013	N	40	< 5.0 U	< 2.0 U
IW-80	IW-80-101713	10/17/2013	N	58	2.4 J	< 2.0 U
IW-80	IW-80-20131017-FD	10/17/2013	FD	62	2.4 J	< 2.0 U
IW-80	IW-80-201403	3/8/2014	N	79.1 J	2.7 J	< 2.0 U
IW-80	IW-80-201405	5/13/2014	N	24.2	< 5.0 U	< 2.0 U
IW-80	IW-80-201407	7/30/2014	N	25.6	0.85 J	< 2.0 U
IW-80	IW-80-201410	10/14/2014	N	11.8	< 5.0 U	< 2.0 U
IW-80	IW-80-201501	1/13/2015	N	7.1	< 1.0 U	< 1.0 U
IW-80	IW-80-201504	4/14/2015	N	9.2	< 1.0 U	< 1.0 U
IW-80	IW-80-201507	7/21/2015	N	12.5	0.39 J	< 1.0 U
IW-80	IW-80-201510	10/6/2015	N	10.6	0.37 J	< 1.0 U
IW-80	IW-80-201511	11/5/2015	N	11.0	< 1.0 U	< 1.0 U
IW-80	IW-80-201512	12/2/2015	N	9.0	0.35 J	< 1.0 U
IW-80	IW-80-201601	1/7/2016	N	4.2	< 1.0 U	< 1.0 U
IW-80	IW-80-201605	5/3/2016	N	4.3	< 1.0 U	< 1.0 U

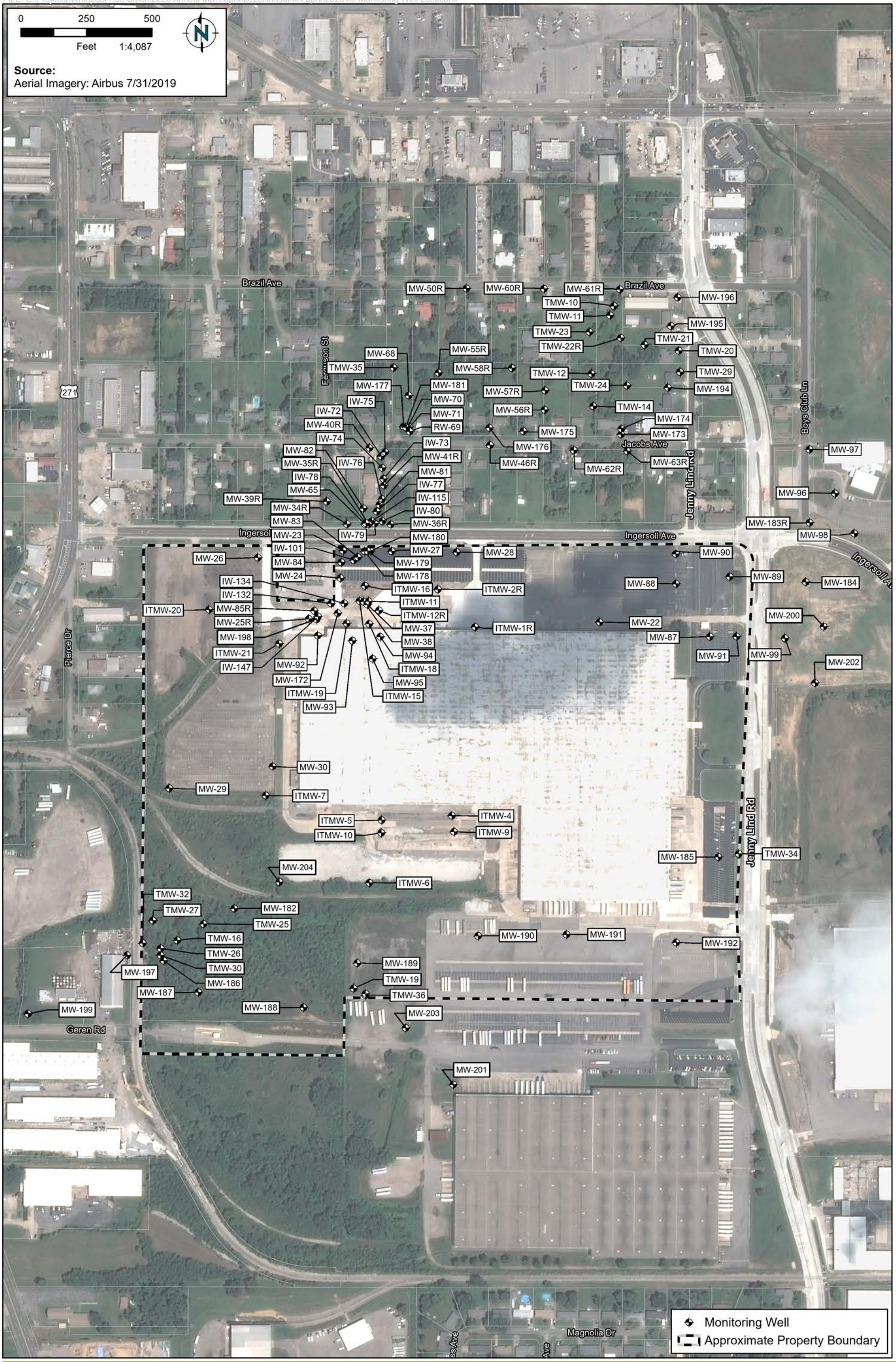
TABLE 8
SUMMARY OF STATISTICAL TEMPORAL TREND ANALYSIS (2009 - 2020)
Whirlpool Facility - Fort Smith, Arkansas

Well ID	Grouping	Start Date	End Date	Number of Samples	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
Northern Plume Wells							
MW-24	Northern	04/27/09	10/08/20	25	Decreasing	Decreasing	<PQL
MW-27	Northern	05/12/10	10/07/20	22	No Trend	<PQL	ND
MW-28	Northern	10/29/09	10/08/20	24	Decreasing	ND	ND
MW-39/MW-39R	Northern	04/24/09	10/06/20	27	<PQL	ND	ND
MW-40/MW-40R	Northern	04/24/09	10/06/20	30	<PQL	<PQL	ND
MW-46R	Northern	04/25/09	10/08/20	33	Stable	Increasing	Increasing
MW-50/MW-50R	Northern	04/24/09	10/05/20	27	<PQL	ND	ND
MW-55/MW-55R	Northern	04/24/09	10/06/20	21	Increasing	Increasing	<PQL
MW-56/MW-56R	Northern	04/24/09	10/06/20	24	Increasing	Increasing	<PQL
MW-57/MW-57R	Northern	04/24/09	10/07/20	24	Increasing	Increasing	<PQL
MW-58/MW-58R	Northern	04/25/09	10/07/20	25	Decreasing	Decreasing	Stable
MW-60/MW-60R	Northern	04/24/09	10/06/20	27	<PQL	ND	ND
MW-61/MW-61R	Northern	04/24/09	10/06/20	31	Increasing	Increasing	ND
MW-62/MW-62R	Northern	04/24/09	10/06/20	27	<PQL	<PQL	ND
MW-63/MW-63R	Northern	04/24/09	10/06/20	27	Decreasing	Increasing	<PQL
MW-68	Northern	01/15/09	10/06/20	27	No Trend	ND	ND
RW-69	Northern	01/15/09	10/06/20	32	Decreasing	Decreasing	<PQL
IW-73	Northern	04/23/09	10/07/20	26	Stable	No Trend	No Trend
IW-77	Northern	04/23/09	10/08/20	37	Decreasing	Decreasing	<PQL
IW-78	Northern	10/25/11	10/07/20	14	Decreasing	Decreasing	ND
MW-82	Northern	05/28/14	10/07/20	14	No Trend	No Trend	<PQL
MW-83	Northern	05/23/14	10/07/20	16	Decreasing	Decreasing	ND
MW-84	Northern	05/27/14	10/20/20	19	Increasing	<PQL	<PQL
MW-194	Northern	08/05/16	10/07/20	11	Decreasing	Stable	ND
MW-195	Northern	08/05/16	10/06/20	10	<PQL	ND	ND
MW-196	Northern	08/05/16	10/06/20	10	<PQL	ND	ND
TMW-10	Northern	09/18/15	10/05/20	16	Decreasing	No Trend	Increasing
TMW-11	Northern	09/18/15	10/05/20	15	Decreasing	Decreasing	<PQL
Southern Plume Wells (includes Source Area Wells as indicated by bold font well ID)							
ITMW-1/ITMW-1R	Southern	10/27/11	10/08/20	20	Stable	Stable	<PQL
ITMW-2/ITMW-2R	Southern	11/03/10	10/08/20	21	<PQL	<PQL	ND
ITMW-5	Southern	04/27/09	10/08/20	18	Increasing	Stable	Increasing
ITMW-7	Southern	04/27/09	10/08/20	28	Decreasing	Decreasing	No Trend
ITMW-9	Southern	04/27/09	10/07/20	26	Increasing	Stable	No Trend
ITMW-10	Southern	04/27/09	10/08/20	27	Stable	Decreasing	Decreasing
ITMW-16	Southern	11/06/10	10/08/20	21	Decreasing	ND	ND
ITMW-18	Southern	04/27/09	10/08/20	24	Decreasing	Decreasing	<PQL
ITMW-19	Southern	04/27/09	10/08/20	25	Decreasing	Decreasing	<PQL
ITMW-20	Southern	10/29/09	10/06/20	27	No Trend	ND	<PQL
ITMW-21	Southern	10/27/09	10/08/20	27	Decreasing	<PQL	ND
MW-22	Southern	10/27/09	10/08/20	22	<PQL	ND	ND
MW-24	Southern	04/27/09	10/08/20	25	Decreasing	Decreasing	<PQL
MW-25/MW-25R	Southern	04/27/09	10/08/20	28	Decreasing	No Trend	Decreasing
MW-26	Southern	10/29/09	10/07/20	27	No Trend	ND	ND
MW-29	Southern	10/29/09	10/06/20	25	<PQL	<PQL	ND
MW-38	Southern	10/26/11	10/07/20	23	Stable	Decreasing	Decreasing
MW-85/MW-85R	Southern	05/29/14	10/08/20	12	No Trend	Stable	No Trend
MW-93	Southern	10/22/14	10/08/20	16	Decreasing	Decreasing	Stable
MW-95	Southern	10/22/14	10/08/20	17	Stable	Increasing	Stable
MW-182	Southern	07/23/15	10/07/20	12	Decreasing	Decreasing	<PQL
MW-185	Southern	09/16/15	10/07/20	14	Increasing	Increasing	<PQL
MW-186	Southern	09/14/15	10/08/20	15	Stable	Increasing	Increasing
MW-187	Southern	09/14/15	10/06/20	13	Increasing	Increasing	ND
MW-188	Southern	09/17/15	10/06/20	13	Increasing	Increasing	ND
MW-189	Southern	09/17/15	10/06/20	13	Increasing	Stable	<PQL
MW-190	Southern	09/14/15	10/07/20	13	Increasing	Increasing	ND
MW-191	Southern	09/15/15	10/07/20	13	ND	ND	ND
MW-192	Southern	09/16/15	10/07/20	13	<PQL	ND	ND
Northeast Plume Wells							
MW-87	Northeast	06/25/14	10/08/20	13	Stable	Decreasing	<PQL
MW-89	Northeast	06/24/14	10/08/20	13	Decreasing	<PQL	ND
MW-91	Northeast	06/25/14	10/06/20	17	Stable	Increasing	<PQL
MW-96	Northeast	10/22/14	10/08/20	16	<PQL	ND	ND
MW-97	Northeast	10/22/14	10/08/20	16	ND	<PQL	ND
MW-98	Northeast	10/29/14	10/07/20	16	<PQL	<PQL	ND
MW-99	Northeast	10/22/14	10/07/20	15	Increasing	Increasing	ND
MW-183/MW-183R	Northeast	10/06/15	10/07/20	12	Decreasing	<PQL	ND
MW-184	Northeast	10/05/15	10/07/20	12	Increasing	ND	ND
ITMW-18	**Source Area**	04/27/09	10/08/20	24	Decreasing	Decreasing	<PQL
ITMW-19	**Source Area**	04/27/09	10/08/20	25	Decreasing	Decreasing	<PQL
MW-25/MW-25R	**Source Area**	04/27/09	10/08/20	28	Decreasing	No Trend	Decreasing
MW-38	**Source Area**	10/26/11	10/07/20	23	Stable	Decreasing	Decreasing
MW-85/MW-85R	**Source Area**	05/29/14	10/08/20	12	No Trend	Stable	No Trend
MW-93	**Source Area**	10/22/14	10/08/20	16	Decreasing	Decreasing	Stable
MW-95	**Source Area**	10/22/14	10/08/20	17	Stable	Increasing	Stable

Notes:
ND = Result is Not Detected at the associated method quantitation limit
<PQL = Analyte qualified as estimated because it was detected above method detection limit but below reporting limit or mixture of estimated and non-detect results
Bolded text = source area well

Figures

FILE: E:\Projects\Whirlpool Fort Smith\2020 Annual M&R\aprx\2020AnnualMR.aprx\2020 All Monitoring Well Locations



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DRAFTED BY: FK/KNB | DATE: 12/22/2020

2020 MONITORING WELL LOCATIONS

Whirlpool Facility - Fort Smith, Arkansas

Figure 1

PROJECT: 1690016820

FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&R\aprx\2020AnnualMR.aprx\Oct 2020 Potentiometric Surface Map_1ft_2020

0 200 400 600
Feet
1:3,927

Notes
- Water levels measured October 5th, 2020.
- Water levels in ft.
- Only measured wells shown.
- * indicates wells not used in contouring.

Brazil Ave
Ingersoll Ave
Jacobs Ave
Jenny Lind Rd
Pierce Dr
Ferguson St
Boys Club
Geren Rd
271

MW-55R: 464.18
MW-68: 464.23
TMW-35: 464.4
MW-71: 463.95
MW-70: 464.34
IW-75: 464.14
IW-72: 463.96
MW-40R: 464.07
IW-74: 464.04
IW-73: 464.12
MW-41R: 464.42
MW-82: 464.04
IW-115: 463.93
MW-35R: 464.89
IW-78: 464.06
MW-39R: 464.19
MW-65R: 464.15
MW-23: 463.08
MW-178*: 471.08
IW-101: 463.92
MW-26: 464.68
MW-84: 463.92
MW-24: 464.09
ITMW-20: 464.37
IW-132: 463.96
MW-85R: 463.92
MW-25R: 463.95
IW-147: 463.95
ITMW-21: 464.17
MW-198: 464.13
MW-92: 464.05
MW-172: 464.03
IW-134: 464.03
ITMW-19: 463.88
MW-93: 463.88
MW-38: 464.04
MW-95: 463.71
MW-94: 463.6
ITMW-18: 463.69
ITMW-12R: 463.78
ITMW-16: 463.97
ITMW-15: 464.1
ITMW-11: 464.11
MW-37: 464.08
MW-83: 463.99
ITMW-2R: 463.34
MW-27: 464.03
MW-28: 463.72
MW-180*: 470.48
MW-179*: 466.64
MW-36R: 464
IW-80: 463.94
IW-79: 464.09
IW-77: 464.07
MW-81: 464.05
RW-69: 463.77
IW-76: 463.93
MW-58R: 463.79
MW-57R: 461.94
MW-56R: 462.05
MW-46R: 463.91
MW-62R: 460.8
MW-50R: 459.29
MW-60R: 459.24
TMW-23: 459.25
TMW-10: 458.29
TMW-11: 458.43
MW-61R: 454.87
MW-63R: 461.06
TMW-12: 460.98
TMW-24: 460.29
TMW-14: 460.83
ITMW-1R: 461.86
MW-22: 462.04
MW-87: 458.36
MW-90: 462.23
MW-88: 460.7
MW-196: 454.92
MW-195: 458.53
TMW-22R: 459.7
TMW-21: 458.99
TMW-20: 458.77
TMW-29: 452.25
MW-194: 459.62
MW-97: 451.19
MW-183R: 449.95
MW-96: 449.72
MW-98: 450.31
MW-184: 451.2
MW-200: 457.08
MW-89: 456.76
MW-99: 456.76
MW-91: 457.3
MW-202: 458.26
MW-30: 463.23
MW-29: 463.68
ITMW-7: 462.38
ITMW-4: 460.42
ITMW-5: 460.55
ITMW-10: 460.56
ITMW-9: 460.3
TMW-34: 459.11
MW-185: 460.95
MW-204: 460.87
ITMW-6: 460.57
MW-182: 460.55
TMW-27: 457.63
TMW-25: 459.05
MW-197: 455.62
TMW-16: 458.58
TMW-26: 457.28
TMW-30: 456.74
TMW-32: 456.32
MW-186: 451.25
MW-189: 460.41
TMW-19: 460.37
MW-188: 460.3
TMW-36: 460.34
MW-190: 460.27
MW-191: 460.19
MW-192: 459.89
MW-199: 453.98
MW-187: 458.87
TMW-36B: 460.17
MW-203: 453.88*
MW-201: 460.36

460 459 456 455 463 464 462 461 457 458 459 454 453 452 451

Monitoring Well Location
Groundwater Contour (1-ft Interval)
Groundwater Contour (Inferred)
Approximate Property Boundary

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2020 ANNUAL SAMPLING POTENTIOMETRIC SURFACE

Whirlpool Facility - Fort Smith, Arkansas

Figure 2A

DRAFTED BY: KB | DATE: 01/04/2021 | PROJECT: 1690016820



FILE: E:\Projects\Whirlpool Fort Smith\2020 Annual M&R\aprx\2020AnnualMR.aprx

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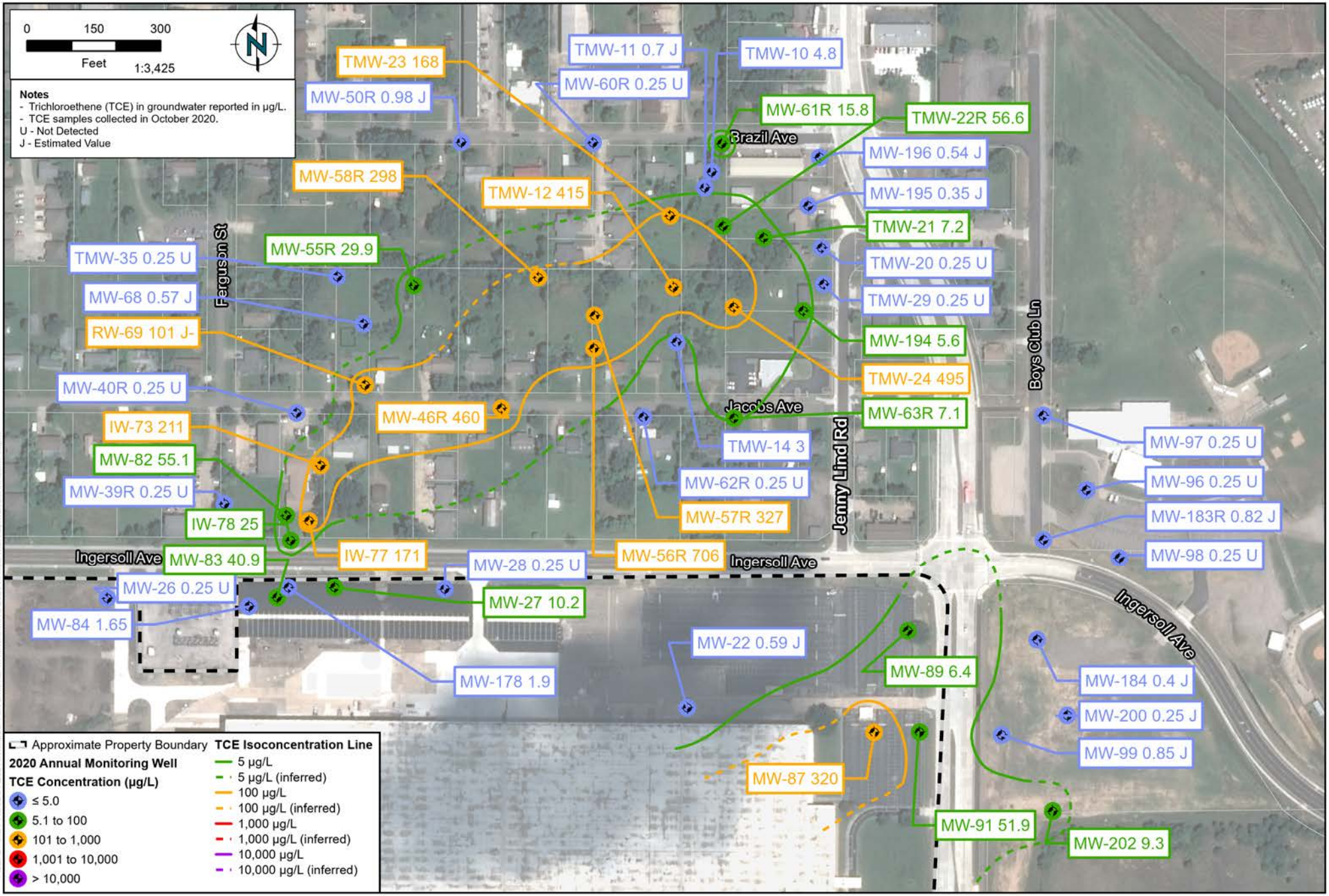
DRAFTED BY: KNB | DATE: 12/18/2020

VERTICAL GROUNDWATER GRADIENTS OBSERVED IN NESTED WELLS MAY 2020/OCTOBER 2020

Whirlpool Facility - Fort Smith, Arkansas

Figure 2B

PROJECT: 1690016820



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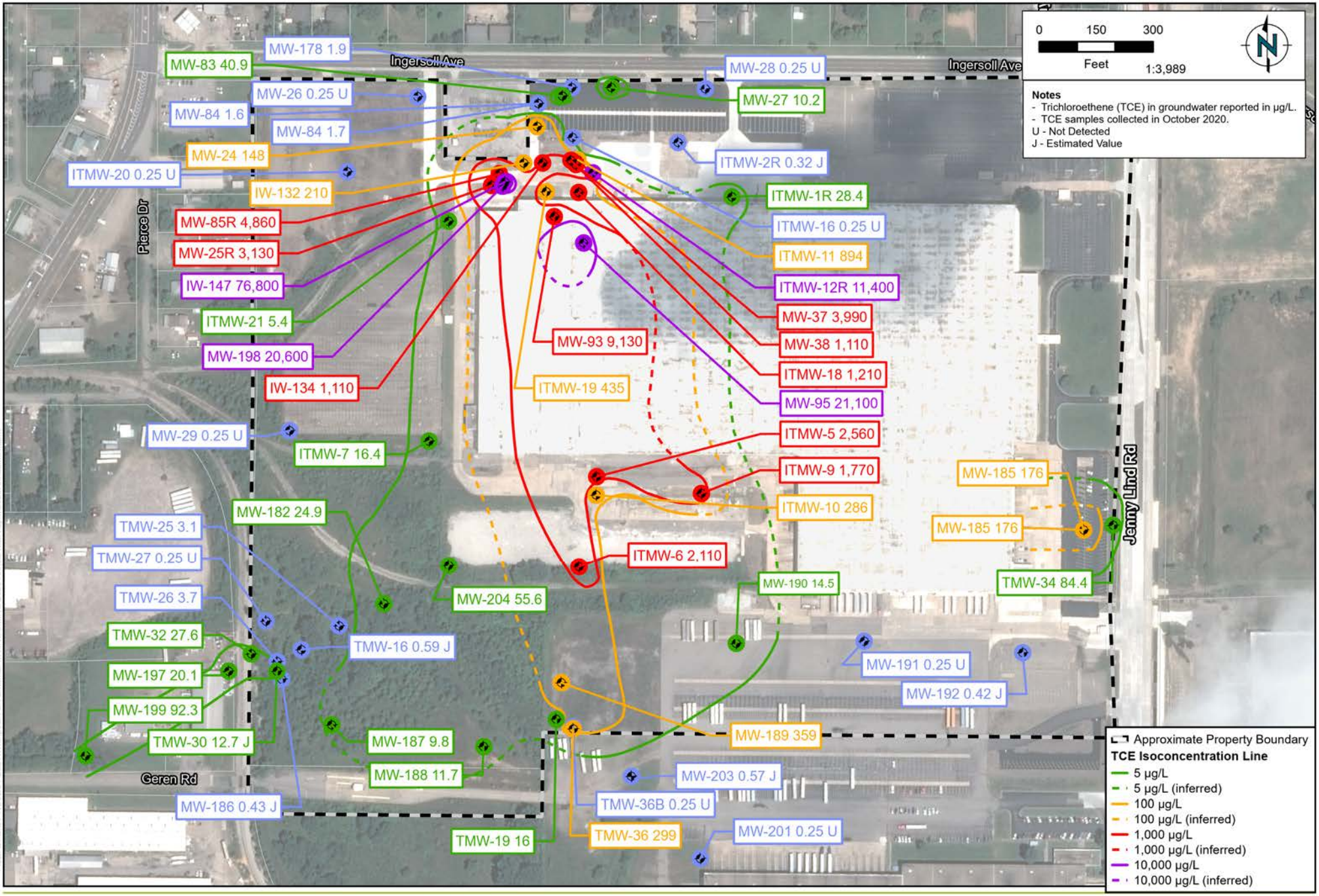
DRAFTED BY: KNB | DATE: 01/20/2021

2020 ANNUAL TCE ISOCONCENTRATION MAP NORTH AND NORTHEAST PLUMES

Whirlpool Facility - Fort Smith, Arkansas

Figure 3A

PROJECT: 1690012820



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DRAFTED BY: KNB | DATE: 01/20/2021

2020 ANNUAL TCE ISOCONCENTRATION MAP SOUTHERN PLUME

Whirlpool Facility - Fort Smith, Arkansas

Figure 3B

PROJECT: 1690012820

Attachment A

Calibration Logs

* All 10/5 Calibration Checklist data is in CAL notebook & HA notebook. *

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10/6/20

Calibrated by: Alicia Gilman 0748

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** NA **Exp:** NA

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** NA **Exp:** NA

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.
5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.
9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):

1. Ensure unit has been on for at least 10 minutes: Initial time: 0826 ~~0748~~ + 10min = 0836 ~~0758~~
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.31 in. x 25.4 = 769.874 mmHg - 15.169 = 754.705 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number:

1. Specific Conductance:
2. ORP:
3. pH:
   - Point 1:
   - Point 2: See notebook
   - Point 3:
4. DO:

Turbidity Meter Model/Serial Number:

RAMBOLL

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10/7/20

Calibrated by: Alicia Gilman

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** NA **Exp:** NA

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** NA **Exp:** NA

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.
5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.
9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes): 0736

1. Ensure unit has been on for at least 10 minutes: Initial time: ~~0936~~ + 10min = ~~0946~~ 0746 (YSI time wrong, updated 10/7)
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.06 in. x 25.4 = 763.512 mmHg - 15.169 = 748.355 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number:

1. Specific Conductance:
2. ORP:
3. pH:
   - Point 1:
   - Point 2: see notebook
   - Point 3:
4. DO:

Turbidity Meter Model/Serial Number:

RAMBOLL

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10/8/20

Calibrated by: Alicia Gilman

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** NA **Exp:** NA

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** NA **Exp:** NA

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.
5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.
9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** NA **Exp:** NA
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):

1. Ensure unit has been on for at least 10 minutes: Initial time: 0733 + 10min = 0743
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.06 in. x 25.4 = 763.524 mmHg - 15.169 = 748.355 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number:

1. Specific Conductance:
2. ORP:
3. pH:
   - Point 1:
   - Point 2:
   - Point 3:
4. DO:

see notebook

Turbidity Meter Model/Serial Number:

RAMBOLL

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10-6-20

Calibrated by: P. Meyer

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** 06C1220 **Exp:** 3-30-21

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** 20F108341 **Exp:** 06-17-2025

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** 0 6C085 **Exp:** 03-31-22
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.
5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** 06C473 **Exp:** 03-31-22
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.
9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** 06C486 **Exp:** 2-28-22
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):

1. Ensure unit has been on for at least 10 minutes: Initial time: 0803 + 10min = 0813
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.12 in. x 25.4 = 765.048 mmHg - 15.169 = 749.879 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number: 18E109379

1. Specific Conductance: 7,000 µS/cm
2. ORP: 237.7
3. pH:
   - Point 1: 7
   - Point 2: 4
   - Point 3: 10
4. DO: 749.876 mmHg

Turbidity Meter Model/Serial Number:

RAMBOLL

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10-7-20

Calibrated by: R. Meyer

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** Same as yesterday **Exp:**
1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** **Exp:**
1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):
1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** **Exp:**
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** **Exp:**
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.

9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** **Exp:**
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):
1. Ensure unit has been on for at least 10 minutes: Initial time: 0710 + 10min = 0720
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.06 in. x 25.4 = 763.524 mmHg - 15.169 = 748.355 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:
1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number: 18L109379
1. Specific Conductance: 7,000 µS/cm
2. ORP: 230.35
3. pH:
   - Point 1: 7
   - Point 2: 4
   - Point 3: 10
4. DO: 748.355

Turbidity Meter Model/Serial Number:

RAMBOLL

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10-8-20

Calibrated by: David Mayer

Turn on YSI. Note time in DO section Line 1. Same as previous day

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** _____ **Exp:** _____

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** _____ **Exp:** _____

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** _____ **Exp:** _____
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** _____ **Exp:** _____
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.

9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** _____ **Exp:** _____
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):

1. Ensure unit has been on for at least 10 minutes: Initial time: 0720 + 10min = 0730
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.06 in. x 25.4 = 763.524 mmHg - 15.169 = 748.355 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number: 18L1093379

1. Specific Conductance: 7000 µS/cm
2. ORP: 220.35
3. pH:
   - Point 1: 7
   - Point 2: 4
   - Point 3: 10
4. DO: 748.355

Turbidity Meter Model/Serial Number:

RAMBOLL

Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10/6/2020

Calibrated by: SC

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** – **Exp:**_____

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** 061320 **Exp:** 2025-09-03

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** – **Exp:**_____
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** – **Exp:**_____
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.

9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** – **Exp:**_____
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):

1. Ensure unit has been on for at least 10 minutes: Initial time: 0742 + 10min = 0842
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.31 in. x 25.4 = 769.874 mmHg - 15.169 = 754.705 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number:

1. Specific Conductance: ~7,100 µS/cm³
2. ORP: set @ 237.7
3. pH:
   - Point 1: Before calibration: 7.04
   - Point 2: 3.90
   - Point 3: 10.03
4. DO: : ~~75.4~~ 751.55 mmHg ; ~~67.0%~~

Turbidity Meter Model/Serial Number: FAO 3026 – 8.01 NTU (for 10)

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Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10/7/2020

Calibrated by: SC

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** _____ **Exp:** _____

1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** _____ **Exp:** _____

1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):

1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** _____ **Exp:** _____
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** _____ **Exp:** _____
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.

9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** _____ **Exp:** _____
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):

1. Ensure unit has been on for at least 10 minutes: Initial time: 0707 + 10min = 0717
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.07 ~~29.51~~ in. x 25.4 = ~~749.374~~ 748.609 mmHg - 15.169 = ~~734.205~~ 733.778 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:

1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample" => 3.06 NTU
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:

YSI – Serial Number:

1. Specific Conductance: before cal ~6884 µS/cm — Temp: 18.3 Cal to: 230.35 ; before cal 240.4 → used 237.7
2. ORP:
3. pH:
   - Point 1: 6.97
   - Point 2: 4.03
   - Point 3: 10.04 => 10.03
4. DO: 110.7 DO% Start 9:30

Turbidity Meter Model/Serial Number: FA03026

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Whirlpool Ft. Smith Field Equipment Calibration Checklist

Date: 10/8/2020

Calibrated by: SC

Turn on YSI. Note time in DO section Line 1.

Specific Conductance calibration (should take *at least* 1.5 minutes): **Lot #:** — **Exp:**
1. Pour conductivity standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in specific conductance. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

ORP calibration (should take *at least* 1.5 minutes): **Lot #:** **Exp:**
1. Pour ORP (Zobell) standard into calibration cup and immerse sensor.
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in ORP. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

3-Point pH calibration (should take *at least* 4.5 minutes):
1. Pour pH 7.0 standard into the calibration cup and immerse pH sensor. **Lot #** — **Exp:** —
2. Allow *1 minute* for temperature stabilization.
3. Press "calibrate" after *30 seconds* of no significant change in pH. Note below.
4. Discard used calibration standard, and rinse calibration cup and probes with DI water.

5. Pour pH 4.0 standard into the calibration cup and immerse pH sensor. **Lot #** — **Exp:** —
6. Allow *1 minute* for temperature stabilization.
7. Press "calibrate" after *30 seconds* of no significant change in pH. Note standard below.
8. Discard used calibration standard, and rinse calibration cup and probes with DI water.

9. Pour pH 10.0 standard into the calibration cup and immerse pH sensor. **Lot #** — **Exp:** —
10. Allow *1 minute* for temperature stabilization.
11. Press "calibrate" after *30 seconds* of no significant change in pH. Note below
12. Discard used calibration standard, and rinse calibration cup and probes with DI water.

Dissolved Oxygen (% DO) calibration (should take *at least* 10 minutes):
1. Ensure unit has been on for at least 10 minutes: Initial time: 0700 + 10min = 0710
2. Enter the local barometric pressure.
   (Note: to convert from inches (common on a weather app or forecast) to mmHg, multiply by 25.4, then to correct to Ft. Smith's altitude, subtract 15.169 mmHg.)
   30.06 in. x 25.4 = 763.524 mmHg - 15.169 = 748.355 mmHg
3. Place ~3mm of DI water in the bottom of the calibration cup.
4. Lightly screw on the calibration cup (only 1 or 2 threads!)
5. Allow *10 minutes* for the air in the cup to become water-saturated and temp to stabilize.
6. Press "calibrate" after *30 seconds* of no significant change in DO. Note below.
7. Discard used DI water, and rinse calibration cup and probes with DI water.

Turbidity calibration:
1. Select "measure" on the main menu, then "Turbidity – With Blank"
2. Scan a sample using the 0.0 NTU Blank solution. "Scan Blank"
3. Scan a sample using the 10 NTU standard. "Scan Sample"
4. Select "Calibrate," then use the arrow buttons to adjust the value to the standard (10.0 NTU).

Field Notebook calibration entry:
YSI – Serial Number: Before hitting 'CAL'
1. Specific Conductance: 6,898
2. ORP:
3. pH:
   - Point 1: 6.97
   - Point 2: 4.05
   - Point 3: 10.04
4. DO: START 0726 91.4%

Turbidity Meter Model/Serial Number: 19.8°C → 23035 calvalue → before cal 231.7

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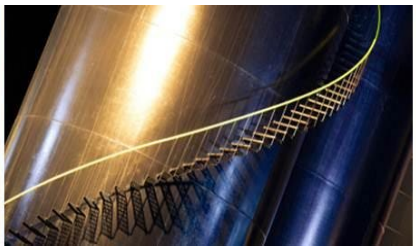
Attachment B
2020 Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report


ATTACHMENT B

2020 Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report

Whirlpool Facility
Fort Smith, Arkansas

Prepared for:
Whirlpool Corporation

Prepared by:
Ramboll US Consulting, Inc

Date:
February 2021

Project Number:
1690016820

RAMBOLL

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1 Introduction

Ramboll US Consulting, Inc (Ramboll) has prepared this Annual 2020 Soil Vapor Monitoring and Vapor Intrusion Assessment Report for the Fort Smith, Arkansas, Site (Site) on behalf of Whirlpool Corporation, in accordance with the Revised Groundwater Monitoring Plan (RGWMP) approved by the Arkansas Department of Energy and Environment Division of Environmental Quality (ADEQ) in September 2016; the Remedial Action Decision Document (RADD) issued by ADEQ on December 27, 2013, and revised in November 2015 (Revised RADD); and ADEQ comment letters and Ramboll/Whirlpool responses to previous Soil Vapor Monitoring and Vapor Intrusion Assessment Reports. This report is Attachment B of the Annual 2020 Progress Report for the Site.

Whirlpool has been monitoring groundwater at the Site since 1989. In 2012, the potential for vapor intrusion from groundwater into residential buildings in the neighborhood north of the Site and the onsite building were evaluated using multiple lines of evidence in a human health risk assessment, which was presented as Appendix A of the Revised Risk Management Plan (RRMP) (ENVIRON 2013). The risk assessment included the use of groundwater and soil vapor data in the evaluation of the potential for vapor intrusion. In January 2016, the risk assessment was updated with the monitoring data collected after the 2013 risk assessment (Ramboll Environ 2016b). The use of multiple lines of evidence in these risk assessments is consistent with USEPA's recommendations in its 2015 vapor intrusion guidance documents (USEPA 2015a and 2015b).

Monitoring data collected during the 2020 annual sampling event from groundwater monitoring wells and vapor monitoring points are evaluated in this report for residential buildings in the neighborhood north of the Site, using the methods and assumptions described in the 2013 and 2016 risk assessment reports.

Monitoring data to assess potential for vapor intrusion for the onsite building was assessed in April and November 2015. The onsite building has been renovated by the current owner Phoenix Investors LLC to facilitate future use for warehousing purposes. The building renovation included removal of equipment, filling of former pits, interior painting and subdividing the interior of the building. Since completion of renovations, vapor intrusion sampling has occurred onsite during several sampling events as described below.

- In April 2019, indoor air and sub-slab soil gas data were collected to assess indoor air quality and the degree to which a vapor intrusion pathway exists (if at all). An evaluation of this data was presented in a separate report (Ramboll 2019).
- In July 2020 and October 2020, indoor air and sub-slab soil gas data were collected. An evaluation of this data will be presented in the Onsite Indoor Air and Sub-Slab Vapor Monitoring Report (Ramboll 2021).

Groundwater, soil vapor, crawl space air and indoor air have been monitored since 2014 to assess the potential for vapor intrusion in the neighborhood north of the Site and the onsite building as documented in the following reports:

- Four quarterly monitoring events in 2014 consisting of:
  - First Quarter 2014 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, May 15, 2014;
  - Second Quarter 2014 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, August 15, 2014;
  - Third Quarter 2014 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, November 14, 2014; and
  - Fourth Quarter 2014 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, February 13, 2015.
- 2014 Remedial Action Effectiveness Report, January 2015
- Four quarterly monitoring events in 2015 consisting of:
  - First Quarter 2015 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, May 8, 2015;
  - Second Quarter 2015 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, August 13, 2015 (including outdoor, crawl space and indoor air samples from Parcel 3 on April 22 and 23, 2015);
  - Third Quarter 2015 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, November 13, 2015; and
  - Fourth Quarter 2015 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, January 12, 2016 (including outdoor, crawl space and indoor air samples from Parcel 3 on November 5, 2015).
- 2015 Two Year Technical Review Report, January 28, 2016
- Human Health Risk Assessment Update, January 29, 2016
- Two quarters of monitoring events in 2016 consisting of:
  - First Quarter 2016 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, May 12, 2016; and
  - Second Quarter 2016 Quarterly Soil Vapor Monitoring/Vapor Intrusion Report, August 15, 2016.
- Onsite Indoor Air and Sub-slab Soil Vapor Data Report, April 27, 2016
- Onsite Indoor Air and Sub-slab Soil Vapor Data Report, Second Monitoring Event, August 26, 2016

- Annual 2016 Soil Vapor Monitoring and Vapor Intrusion Assessment Report, February 2, 2017
- 2017 Semi-Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report, July 2017
- Annual 2017 Soil Vapor Monitoring and Vapor Intrusion Assessment Report, January 5, 2018
- 2018 Semi-Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report, July 2018
- 2018 Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report, January 2019
- Onsite Indoor Air and Sub-slab Soil Vapor Data Report, June 2019
- 2019 Semi-Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report, June 2019
- 2019 Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report, December 2019
- 2020 Semi-Annual Soil Vapor Monitoring and Vapor Intrusion Assessment Report, July 2020

2 Vapor Intrusion Assessment Sampling

The most recent samples for vapor intrusion assessment were collected on October 5-8, 2020, in accordance with the RGWMP, section Shallow Groundwater Monitoring for Vapor Intrusion Assessment and Table 1 (Ramboll Environ 2016g). Groundwater samples for vapor intrusion assessment[1] were collected from monitoring wells MW-175, MW-176, MW-178 and MW-179, which are located at two parcels (Parcels 2 and 3) in the neighborhood and at one parcel (Parcel 5) south of the neighborhood. Soil vapor sampling was attempted at associated soil vapor monitoring points VP-7, VP-8, VP-9, VP-10, and VP-14. Water was encountered in all of these soil vapor monitoring points. The sampling was performed following USEPA and industry standard methods.

Soil vapor sampling was also attempted at VP-12 (at Parcel 4). Although Parcel 4 is not included for vapor intrusion assessment in the RGWMP (Ramboll Environ 2016g), data from this location are evaluated in this assessment.

Perched water filled the vapor monitoring points VP-7, VP-8, VP-9, VP-10, VP-12 and VP-14 and the water from these monitoring points could not be purged from the sampling train. Water samples were collected from each of these vapor points, per the sampling modifications discussed in the Second Quarter 2014 Soil Vapor Monitoring/Vapor Intrusion Report except for VP-9. As discussed in Section 3.3 of the main text of this report, neither an air sample nor a water sample was able to be retrieved from location VP-9. Table 1a summarizes the matrices encountered at the vapor monitoring points at each Parcel and the types of samples that were collected during the October 2020 sampling event, as well as the sampling events since 2014. Table 1a also shows that indoor air, crawl space and outdoor air data were collected in April and October 2015 at Parcel 3 to provide additional lines of evidence for supporting the vapor intrusion assessment.

Table 1b summarizes the groundwater monitoring wells and vapor monitoring points sampled in October 2020 or in a previous sampling event. The table includes a column that indicates whether a sampling location is for vapor intrusion assessment per the RGWMP (Ramboll Environ 2016g). These sampling locations are shown on Figure 1.

Information regarding the installation of the vapor monitoring points can be found in the Fourth Quarter 2015 Soil Vapor Monitoring and Vapor Intrusion Assessment Report (Ramboll Environ 2015f). The field procedures used during the soil vapor sampling attempts were consistent with the methodology described in the First Quarter 2014 Soil Vapor Monitoring/Vapor Intrusion Report (ENVIRON 2014a) and the modifications discussed in the Second Quarter 2014 Soil Vapor Monitoring/Vapor Intrusion Report (ENVIRON 2014b); the sampling attempts on October

[1] According to the RGWMP (2016d), MW-55R (in Parcel 6) is sampled for purposes other than vapor intrusion assessment. Parcel 6 is no longer included for vapor intrusion assessment.

5-8, 2020, were preceded by at least five consecutive days with less than 0.1 inch of rain. Precipitation data for September and October 2020 are provided in Appendix B.

The volatile organic compound (VOC) results for the groundwater, soil vapor and perched water samples collected during the 2020 Annual Sampling Event are discussed in Section 3. The analytical data reports for the samples are provided in Appendix A.

3 Results

3.1 Summary of Prior Assessments

The data collected over the groundwater plume in the neighborhood prior to Fourth Quarter 2020 continued to show that trichloroethylene (TCE) vapor intrusion from groundwater is not indicative of a public health concern. These findings, based on multiple lines of evidence involving the evaluation of groundwater, soil vapor, crawl space air and indoor air data corroborate the original groundwater vapor intrusion modeling results which indicate vapor intrusion from groundwater is not occurring at levels that would present a public health concern.

3.2 Current Assessment

Groundwater data from monitoring wells in the neighborhood collected during the 2020 annual sampling event in October are summarized in Table 2a. Groundwater data from the monitoring wells south of the neighborhood are summarized on Table 2b. Figure 2 shows the locations of the groundwater monitoring wells included in Tables 2a and 2b. Perched water data and soil vapor data from soil vapor points sampled during the 2020 annual sampling event are included in Table 3a and Table 3b, respectively.

The maximum detected groundwater concentrations among the monitoring wells in the neighborhood that were sampled in October 2020 are summarized in Table 4. These concentrations were used to calculate upper-bound risk estimates for potential vapor intrusion from groundwater into residences in the neighborhood, using the approach in Section 6.5.2 of the ADEQ-approved RRMP which was also used in the 2016 risk assessment. The calculation of and input parameters for these risk estimates are included as Appendix C. As shown in Table 4, the calculations resulted in upper-bound cumulative cancer risk and non-cancer hazard index (HI) estimates of 3×10^{-6} and 0.5, respectively. These risk estimates are below ADEQ's risk management limits of 10^{-4} and 1, respectively, for reasonable maximum exposure (RME) risks (ADEQ 2005). The calculations for risk estimates discussed in this section are included in Appendix C. Toxicity values used in the risk calculations are current as of October 2020.

Soil vapor monitoring points and nearby groundwater monitoring wells were installed at five parcels in January 2015 and one additional parcel in June 2015 to provide additional lines of evidence to evaluate the potential for vapor intrusion from groundwater. Where soil vapor data could not be collected but perched water samples could be collected from the soil vapor monitoring points, data from these samples were used to confirm the conclusions of the groundwater vapor intrusion risk assessment.

The following sections describe the evaluation of groundwater, soil vapor and perched water data from the co-located vapor points and monitoring wells at each of the three parcels sampled for vapor intrusion assessment in October 2020 per the RGWMP. Perched water data from Parcel 4 are also evaluated, even though Parcel 4 was excluded from the vapor intrusion

assessment (Ramboll Environ 2016g). The parcels within the neighborhood are discussed in Section 3.2.1 and the parcel south of the neighborhood is discussed in Section 3.2.2.

3.2.1 Parcels in the Neighborhood

3.2.1.1 Parcel 2

At Parcel 2, vapor intrusion risks were estimated based on the groundwater data from MW-175 and the approach discussed above for groundwater. As shown in Table 5, the upper-bound cumulative cancer risk and non-cancer HI estimates for groundwater water at MW-175 are 3 x 10^{-7} and 0.05, respectively, which are within ADEQ's risk management limits for RME risks.

Upper-bound risk estimates were also calculated using the perched water data from VP-7 and VP-8 as an additional line of evidence for assessing the degree of vapor intrusion from groundwater. The risk estimates were calculated using the approach discussed above for groundwater, except the depth to water was decreased to 5.5 feet below ground surface (bgs) for VP-7 and 10.5 feet bgs for VP-8. As shown in Table 5, the upper-bound cumulative cancer risk and non-cancer HI estimates for perched water at VP-7 are 4 x 10^{-9} and 0.00004, respectively; the upper-bound cumulative cancer risk and non-cancer HI estimates for perched water at VP-8 are 7 x 10^{-10} and 0.00003, respectively. These risk estimates are well within ADEQ's risk management limits for RME risks.

These results confirm that vapor intrusion from groundwater does not pose an unacceptable risk at Parcel 2. Only perched water data were evaluated at Parcel 2 because a soil vapor sample could not be collected from the vapor monitoring points at this Parcel.

3.2.1.2 Parcel 3

At Parcel 3, vapor intrusion risks were estimated based on the groundwater data from MW-176 and the approach discussed above for groundwater. As shown in Table 5, the upper-bound cumulative cancer risk and non-cancer HI estimates for groundwater at MW-176 are 2 x 10^{-6} and 0.3, respectively, which are well within ADEQ's risk management limits for RME risks.

Vapor intrusion risks were also calculated based on the perched water data from VP-10, which is located adjacent to MW-176, as an additional line of evidence. The risk estimates were calculated using the approach discussed above for groundwater, except the depth to water was decreased to 11 feet bgs. As shown in Table 5, the upper-bound cumulative cancer risk and non-cancer HI estimates for water at VP-10 are 4 x 10^{-7} and 0.09, respectively, which are within ADEQ's risk management limits for RME risks.

In previous sampling events, soil vapor concentrations from VP-9 were used to calculate upper-bound risk estimates. However, no sample was collected from VP-9 during this sampling event. Since the concentrations at MW-176 and VP-10 have not dramatically increased during this sampling event, risk estimates from these two locations are sufficient evidence that

quantitative risks at this parcel within ADEQ's risk management targets. The following paragraphs in this section describe multiple lines of evidence collected during previous sampling rounds.

The highest TCE concentration at VP-9 was detected in 2015. In November 2015, TCE was detected at a concentration of 1,200 micrograms per meters cubed (µg/m^3) in the vapor at VP-9. Because of the large increase in the TCE soil vapor concentration in November 2015, outdoor, crawl space and indoor air samples were collected at Parcel 3 on November 4-5, 2015. As discussed in Section 3.2.1.3 of the Fourth Quarter 2015 Soil Vapor Monitoring and Vapor Intrusion Assessment Report, the low TCE concentrations detected in the outdoor (< 0.034 µ/m^3), crawl space (< 0.062 µg/m^3) and indoor air (< 0.032 µg/m^3) samples were determined to not be associated with groundwater conditions related to the Site (Ramboll Environ 2015). The absence of detectable plume-related concentrations in the air data indicated an incomplete vapor intrusion pathway from the groundwater plume. This determination is the same as that based on the outdoor, crawl space and indoor air data collected at Parcel 3 in April 2015 (all TCE concentrations were below detection limits of 0.039 µg/m^3 or less) at the request of the resident (when VP-9 had a TCE vapor concentration of 0.25 µg/m^3).

The findings from the November 2015 vapor intrusion assessment are still considered to be valid. Since the current TCE soil vapor sampling location at VP-9 is water-flooded vapor diffusion is expected to be much slower in this location than in November 2015 when air sampling data demonstrated that the vapor intrusion pathway from groundwater did not actually exist.

Although the upper-bound risk estimates for soil vapor from VP-9 have been sometimes higher than the risk estimates based on the perched water data from VP-10, they should not be interpreted as an indication that the risk estimates from the water data are not adequately conservative. Rather, the interpretation should be that the risk estimates based on applying USEPA's generic attenuation factor to the soil vapor data are upper-bound rather than reasonable worst-case and thus are more conservative than necessary. As discussed in Section 6.8.2 of the RRMP, these risk estimates ignore the substantial attenuation due to the approximately 5 feet of silty clay between the soil vapor sample depth and ground surface. Accounting for such attenuation would result in risk estimates for VP-9 that are substantially lower than those shown in Table 5.

Using multiple lines of evidence that include crawl space and indoor air data, the past four years of assessment results do not indicate vapor intrusion from groundwater is posing an unacceptable risk at Parcel 3.

Since the shallow groundwater at Parcel 3 has had the highest TCE concentrations in the plume under the neighborhood, the 2015 crawl space and indoor air results at Parcel 3 also provide a relevant line of evidence for other residential properties in the neighborhood overlying the plume. As shown in Table 6, the highest TCE concentrations in shallow groundwater in the neighborhood since 2015 were at MW-176 and VP-10 which are located at Parcel 3. Since the

crawl space and indoor air data at Parcel 3 do not show evidence of a complete vapor intrusion pathway, it is reasonable to expect the same findings at properties where TCE concentrations in shallow groundwater are lower.

3.2.1.3 Parcel 4

At Parcel 4, vapor intrusion risks were estimated based on the perched water data from VP-12 and the approach discussed above for groundwater, except the depth to water was increased to 12.5 feet bgs. As shown in Table 5, the upper-bound cumulative cancer risk and non-cancer HI estimates from groundwater at VP-12 are 6×10^{-9} and 0.00002, respectively, which are well within ADEQ's risk management limits for RME risks.

The results from VP-12 confirm that vapor intrusion from groundwater does not pose an unacceptable risk at Parcel 4. Only perched water data were evaluated at Parcel 4 because a soil vapor sample could not be collected from the vapor monitoring point at this location.

3.2.2 South of the Neighborhood – Parcel 5

Risk estimates for potential vapor intrusion from groundwater into residential buildings were estimated based on the data collected at Parcel 5, which is a vacant non-residential property located south of Ingersoll Avenue and the residential neighborhood. Groundwater vapor intrusion risks were calculated using the groundwater data from MW-179 and the approach discussed above for groundwater. As shown in Table 7, the upper-bound cumulative cancer risk and non-cancer HI estimates from groundwater at MW-179 are 8×10^{-8} and 0.02, respectively, which are below ADEQ's risk management limits for RME risks.

Upper-bound risk estimates were also calculated using the perched water data from VP-14 and MW-178, which are located adjacent to MW-179. The risk estimates were calculated using the approach discussed above for groundwater, except the depth to water was decreased to 7.5 feet bgs and 10.5 feet bgs, respectively. As shown in Table 7, the upper-bound cumulative cancer risk and non-cancer HI estimates for groundwater at VP-14 are 1×10^{-7} and 0.03, respectively; the upper-bound cumulative cancer risk and non-cancer HI estimates for groundwater at MW-178 are 7×10^{-9} and 0.002, respectively; the risk estimates at these sample points are well within ADEQ's risk management limits for RME risks.

In previous monitoring events, vapor intrusion risk was also calculated using groundwater data from MW-33R as an additional line of evidence (see Table 1b). However, MW-33R was abandoned during the 2016 annual event due to road construction.

The results from MW-179, VP-14 and MW-178 confirm that vapor intrusion from groundwater would not pose an unacceptable risk if there was a residence at Parcel 5.

4 Summary and Conclusion

- The concentrations of TCE in groundwater are stable or decreasing compared to previous reporting periods and historic results;
- Risk estimates for vapor intrusion from groundwater in the neighborhood are below ADEQ's risk management limits of 10^{-4} and 1 for cumulative cancer risk and non-cancer hazards, respectively; and
- Vapor intrusion modeling using perched water confirms the modeling results using VOC concentrations in water collected from groundwater monitoring wells. In addition, data from outdoor, crawl space and indoor air sampling demonstrated that vapor intrusion from groundwater has not been occurring.

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Tables

TABLE 1a
SUMMARY OF MATRICES ENCOUNTERED AND SAMPLED AT SOIL VAPOR MONITORING POINTS
Whirlpool Facility - Fort Smith, Arkansas

Quarter of Collection	Date of Collection	In Neighborhood										South of Neighborhood	
		Parcel 1		Parcel 2		Parcel 3			Parcel 4		Parcel 6	Parcel 5	
		VP-5	VP-6	VP-7	VP-8	OA/CS/IA~	VP-9	VP-10	VP-1S+	VP-1D / VP-12#	VP-15	VP-2S+	VP-2D / VP-14#
Annual 2020	10/2020	--	--	**Water**	**Water**	NS	NS	**Water**	--	**Water**	--	--	**Water**
Semi-Annual 2020	5/2020	--	--	**Water**	**Water**	NS	NS	**Water**	--	**Water**	--	--	**Water**
Annual 2019	10/2019	--	--	**Water**	**Water**	NS	NS	**Water**	--	**Water**	--	--	**Water**
Semi-Annual 2019	4/2019	--	--	**Water**	**Water**	NS	**Air**	**Water**	--	**Water**	--	--	**Water**
Annual 2018	11/2018	--	--	**Water**	**Water**	NS	**Air**	**Water**	--	**Water**	--	--	**Water**
Semi-Annual 2018	4/2018	--	--	**Water**	**Water**	NS	**Air**	**Water**	--	**Water**	--	--	**Water**
Annual 2017	10/2017	--	--	**Water**	**Water**	NS	**Air**	**Water**	--	**Water**	--	--	**Water**
Semi-Annual 2017	5/2017	--	--	**Water**	**Water**	NS	**Air**	**Water**	--	**Water**	--	--	**Water**
Annual 2016	11/2016	**Water**	**Water**	**Water**	**Water**	NS	**Air**	**Water**	--	**Water**	NS	--	NS
2nd Q 2016	5/2016	**Water**	**Water**	**Water**	**Water**	NS	NS	**Water**	--	**Water**	**Water**	--	**Water**
1st Q 2016	1/2016	**Water**	**Water**	**Water**	**Water**	NS	NS	**Water**	--	**Water**	**Water**	--	**Water**
4th Q 2015	10/2015	**Water**	**Water**	**Air**	**Water**	**Air**	**Air**	**Water**	--	**Water**	**Water**	--	**Water**
3rd Q 2015	7/2015	**Water**	**Water**	**Air**	**Water**	NS	**Water**	**Water**	--	**Water**	**Water**	--	**Water**
2nd Q 2015	4/2015	**Water**	**Water**	**Air**	**Water**	**Air**	**Air**	**Water**	--	**Water**	--	--	*Water*
1st Q 2015	1/2015	**Air**	**Water**	**Air**	*Water*	--	**Air**	**Water**	--	**Water**	--	--	**Air**
4th Q 2014	10/2014	--	--	--	--	--	--	--	**Water**	*Air*	--	**Water**	**Water**
3rd Q 2014	9/2014	--	--	--	--	--	--	--	**Water**	*Air**	--	**Water**	**Water**
3rd Q 2014	7/2014	--	--	--	--	--	--	--	*Water*	*Water*	--	**Water**	**Water**
2nd Q 2014	5/2014	--	--	--	--	--	--	--	Water	**Air**	--	Water	Water
1st Q 2014	3/2014	--	--	--	--	--	--	--	**Air**	**Air**	--	Water	**Air**

Notes:

Shaded and **bolded** cells indicate that a sample was collected.

Italicized cells indicate that insufficient volume was available for sample collection.

Dashes ("--") indicate the location was not installed or was abandoned during this sampling event.

Prior to the Third Quarter 2014, water encountered in the soil vapor monitoring points was not sampled per the quarterly sampling plan.

Per the September 2016 RMP, only vapor points associated with groundwater wells MW-175 through MW-179 will be sampled. In the Semi-Annual 2017 sampling, VP-12 was sampled.

"NS" indicates the location was not sampled during this sampling event.

* During the September 2014 sampling event, no air or water sample could be collected at VP-1D; a water sample was collected at the nearby port SV-04D to characterize VOC concentrations in the area.

~ Outdoor ("OA"), crawl space ("CS"), and indoor air ("IA") samples were collected in the Second Quarter 2015 and Fourth Quarter 2015 at Parcel 3 at the request of the property owner

+ During the First Quarter 2015, VP-1S and VP-2S were abandoned and installation of VP-11 and VP-13 was attempted in Parcels 4 and 5, respectively. However, because of water in the borings for VP-11 and VP-13, monitoring wells MW-181 and MW-180, respectively, were installed.

During the First Quarter 2015, locations VP-1D and VP-2D were replaced by VP-12 and VP-14, respectively.

TABLE 1b
SUMMARY OF SCREEN INTERVALS AT SOIL VAPOR MONITORING POINTS
Whirlpool Facility - Fort Smith, Arkansas

Area	Parcel	Location	Screen Interval (ft bgs)	Included in 2016 Revised Groundwater Sampling Plan for Vapor Intrusion Assessment	Notes
In Neighborhood	1	MW-173	5-6	No	
In Neighborhood	1	VP-5	7.25-7.75	No	
In Neighborhood	1	MW-174	10-11	No	
In Neighborhood	1	VP-6	13.75-14.25	No	
In Neighborhood	2	VP-7	5.25-5.75	Yes	Water in VP
In Neighborhood	2	VP-8	10.25-10.75	Yes	Water in VP
In Neighborhood	2	MW-175	14-15	Yes	
In Neighborhood	3	VP-9	5.25-5.75	Yes	No air or water available
In Neighborhood	3	VP-10	10.75-11.25	Yes	Water in VP
In Neighborhood	3	MW-176	13.5-14.5	Yes	
In Neighborhood	4	MW-181 (VP-11)+	5.5-6.5	No	
In Neighborhood	4	MW-177	9-10	No	
In Neighborhood	4	MW-71	12#	No	
In Neighborhood	4	VP-12 (VP-1D)*	12.25-12.75	No	Water in VP
In Neighborhood	6	VP-15	5.25-5.75	No	
In Neighborhood	6	MW-55R	19-21	No&	
South of Neighborhood	5	MW-180 (VP-13)+	6-7	No	
South of Neighborhood	5	MW-178	7-8	Yes	
South of Neighborhood	5	VP-14 (VP-2D)*	10.25-10.75	Yes	Water in VP
South of Neighborhood	5	MW-179	12-13	Yes	
South of Neighborhood	5	MW-33R^	19-21	No	

Notes:

Italicized cells indicate that insufficient volume was available for sample collection.

Dashes ("--") indicate the location was not installed or was abandoned during this sampling event.

Prior to the Third Quarter 2014, water encountered in the soil vapor monitoring points was not sampled per the quarterly sampling plan.

"NS" indicates the location was not sampled during this sampling event.

* During the First Quarter 2015, locations VP-1D and VP-2D were replaced by VP-12 and VP-14, respectively.

+ During the First Quarter 2015, VP-1S and VP-2S were abandoned and installation of VP-11 and VP-13 was attempted in Parcels 4 and 5, respectively. However, because of water in the borings for VP-11 and VP-13, monitoring wells MW-181 and MW-180, respectively, were installed.

Well screen information is not available for MW-71. The typical depth to groundwater of 12 feet bgs was substituted for the screen depth.

& MW-55R is included in the Revised Groundwater Monitoring Plan for purposes other than the Vapor Intrusion Assessment.

^ MW-33R was abandoned in April 2016.

TABLE 2a
ANNUAL 2020 GROUNDWATER VOC DATA FOR MONITORING WELLS IN THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Location	MW-178	MW-179
Field Sample ID	MW-178-202010	MW-179-202010
Lab Sample ID	60350715033	60350822043
Sample Date	10/07/2020	10/08/2020
Comments		
VOC		
Acetone	U (4.7)	8.9 J (4.7)
Benzene	U (0.088)	U (0.088)
2-Butanone	U (2.4)	U (2.4)
Carbon Disulfide	U (0.24)	U (0.24)
Chloroform	U (0.17)	U (0.17)
Chloromethane	U (0.44)	U (0.44)
1,1-Dichloroethene	U (0.21)	0.36 J (0.21)
cis-1,2-Dichloroethene	0.66 J (0.15)	1.0 (0.15)
trans-1,2-Dichloroethene	U (0.15)	U (0.15)
2-Hexanone	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)
Toluene	U (0.18)	U (0.18)
Trichloroethene	1.9 (0.25)	22.9 (0.25)
Vinyl Chloride	U (0.25)	U (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 2b
ANNUAL 2020 GROUNDWATER VOC DATA FOR MONITORING WELLS SOUTH OF THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Location	MW-39R	MW-40R	MW-46R	MW-50R	MW-55R	MW-56R
Field Sample ID	MW-39R-202010	MW-40R-202010	MW-46R-202010	MW-50R-202010	MW-55R-202010	MW-56R-202010
Lab Sample ID	60350519016	60350519007	60350822027	60350359003	60350519013	60350519026
Sample Date	10/06/2020	10/06/2020	10/08/2020	10/05/2020	10/06/2020	10/06/2020
Comments						
VOC						
Acetone	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)
2-Butanone	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Chloromethane	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
1,1-Dichloroethene	U (0.21)	U (0.21)	1.6 (0.21)	U (0.21)	0.32 J (0.21)	2.0 (0.21)
cis-1,2-Dichloroethene	U (0.15)	U (0.15)	14.6 (0.15)	U (0.15)	1.0 (0.15)	16.8 (0.15)
trans-1,2-Dichloroethene	U (0.15)	U (0.15)	0.35 J (0.15)	U (0.15)	U (0.15)	0.28 J (0.15)
2-Hexanone	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Trichloroethene	U (0.25)	U (0.25)	460 (2.5)	0.98 J (0.25)	29.9 (0.25)	706 (2.5)
Vinyl Chloride	U (0.25)	U (0.25)	2.1 (0.25)	U (0.25)	U (0.25)	0.36 J (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 2b
ANNUAL 2020 GROUNDWATER VOC DATA FOR MONITORING WELLS SOUTH OF THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Location	MW-57R	MW-57R	MW-58R	MW-60R	MW-61R	MW-62R
Field Sample ID	MW-57R-202010	DUP-02-202010	MW-58R-202010	MW-60R-202010	MW-61R-202010	MW-62R-202010
Lab Sample ID	60350715011	60350715012	60350715020	60350519004	60350519002	60350519010
Sample Date	10/07/2020	10/07/2020	10/07/2020	10/06/2020	10/06/2020	10/06/2020
Comments		Field Duplicate				
VOC						
Acetone	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)
2-Butanone	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Chloromethane	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
1,1-Dichloroethene	1.8 (0.21)	1.7 (0.21)	2.0 (0.21)	U (0.21)	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	14.2 (0.15)	14.4 (0.15)	9.7 (0.15)	U (0.15)	1.1 (0.15)	U (0.15)
trans-1,2-Dichloroethene	0.22 J (0.15)	0.24 J (0.15)	0.22 J (0.15)	U (0.15)	U (0.15)	U (0.15)
2-Hexanone	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Trichloroethene	327 (2.5)	326 (2.5)	298 (2.5)	U (0.25)	15.8 (0.25)	U (0.25)
Vinyl Chloride	0.41 J (0.25)	0.37 J (0.25)	0.61 J (0.25)	U (0.25)	U (0.25)	U (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 2b
ANNUAL 2020 GROUNDWATER VOC DATA FOR MONITORING WELLS SOUTH OF THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Location	MW-63R	MW-68	MW-82	MW-96
Field Sample ID	MW-63R-202010	MW-68-202010	MW-82-202010	MW-96-202010
Lab Sample ID	60350519014	60350519024	60350715027	60350822040
Sample Date	10/06/2020	10/06/2020	10/07/2020	10/08/2020
Comments				
VOC				
Acetone	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	U (0.088)	U (0.088)	U (0.088)	U (0.088)
2-Butanone	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	U (0.24)	0.26 J (0.24)	U (0.24)	U (0.24)
Chloromethane	U (0.44)	0.62 J (0.44)	U (0.44)	U (0.44)
1,1-Dichloroethene	U (0.21)	U (0.21)	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	0.81 J (0.15)	U (0.15)	1.3 (0.15)	U (0.15)
trans-1,2-Dichloroethene	U (0.15)	U (0.15)	U (0.15)	U (0.15)
2-Hexanone	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Trichloroethene	7.1 (0.25)	0.57 J (0.25)	55.1 (0.25)	U (0.25)
Vinyl Chloride	U (0.25)	U (0.25)	U (0.25)	U (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 2b
ANNUAL 2020 GROUNDWATER VOC DATA FOR MONITORING WELLS SOUTH OF THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Location	MW-97	MW-97	MW-98	MW-99	MW-175	MW-176
Field Sample ID	MW-97-202010	DUP-10-202010	MW-98-202010	MW-99-202010	MW-175-202010	MW-176-202010
Lab Sample ID	60350822041	60350822042	60350715038	60350715001	60350519019	60350519003
Sample Date	10/08/2020	10/08/2020	10/07/2020	10/07/2020	10/06/2020	10/06/2020
Comments		Field Duplicate				
VOC						
Acetone	U (4.7)	U (4.7)	U (4.7)	330 J+ (4.7)	U (4.7)	12.6 J+ (4.7)
Benzene	U (0.088)	U (0.088)	U (0.088)	0.16 J (0.088)	U (0.088)	0.13 J (0.088)
2-Butanone	U (2.4)	U (2.4)	U (2.4)	1360 (24.0)	U (2.4)	3.2 J (2.4)
Carbon Disulfide	U (0.24)	U (0.24)	U (0.24)	1.1 J (0.24)	U (0.24)	U (0.24)
Chloromethane	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
1,1-Dichloroethene	U (0.21)	U (0.21)	U (0.21)	U (0.21)	0.26 J (0.21)	2.8 (0.21)
cis-1,2-Dichloroethene	U (0.15)	U (0.15)	U (0.15)	5.0 (0.15)	1.7 (0.15)	28.2 (0.15)
trans-1,2-Dichloroethene	U (0.15)	0.18 J (0.15)	U (0.15)	U (0.15)	U (0.15)	0.90 J (0.15)
2-Hexanone	U (1.5)	U (1.5)	U (1.5)	32.5 (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)	U (1.4)	1.6 J (1.4)	U (1.4)	U (1.4)
Trichloroethene	U (0.25)	U (0.25)	U (0.25)	0.85 J (0.25)	69.5 (0.25)	359 (2.5)
Vinyl Chloride	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)	29.4 (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 2b
ANNUAL 2020 GROUNDWATER VOC DATA FOR MONITORING WELLS SOUTH OF THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Location	MW-184	MW-184	MW-194	MW-195	MW-196
Field Sample ID	MW-184-202010	DUP-05-202010	MW-194-202010	MW-195-202010	MW-196-202010
Lab Sample ID	60350715031	60350715032	60350715006	60350519009	60350519022
Sample Date	10/07/2020	10/07/2020	10/07/2020	10/06/2020	10/06/2020
Comments		Field Duplicate			
VOC					
Acetone	U (4.7)	U (4.7)	U (4.7)	U (4.7)	U (4.7)
Benzene	U (0.088)	U (0.088)	U (0.088)	U (0.088)	U (0.088)
2-Butanone	U (2.4)	U (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Chloromethane	U (0.44)	U (0.44)	U (0.44)	U (0.44)	U (0.44)
1,1-Dichloroethene	U (0.21)	U (0.21)	U (0.21)	U (0.21)	U (0.21)
cis-1,2-Dichloroethene	U (0.15)	U (0.15)	0.78 J (0.15)	U (0.15)	U (0.15)
trans-1,2-Dichloroethene	U (0.15)	U (0.15)	U (0.15)	U (0.15)	U (0.15)
2-Hexanone	U (1.5)	U (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Trichloroethene	0.40 J (0.25)	0.29 J (0.25)	5.6 (0.25)	0.35 J (0.25)	0.54 J (0.25)
Vinyl Chloride	U (0.25)	U (0.25)	U (0.25)	U (0.25)	U (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 3
ANNUAL 2020 WATER DATA FROM SOIL VAPOR MONITORING POINTS
Whirlpool Facility - Fort Smith, Arkansas

Parcel	Parcel 2	Parcel 2	Parcel 3	Parcel 4	Parcel 5
Location	VP-7	VP-8	VP-10	VP-12	VP-14
Field Sample ID	VP-07-202010	VP-08-202010	VP-10-202010	VP-12-202010	VP-14-202010
Lab Sample ID	60350720002	60350720001	60350720004	60350720003	60350855001
Sample Date	10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/08/2020
Comments					
VOC					
Acetone	63.2 (4.7)	142 (4.7)	U (4.7)	5.5 J (4.7)	U (4.7)
Benzene	0.87 J (0.088)	0.15 J (0.088)	0.31 J (0.088)	0.23 J (0.088)	0.14 J (0.088)
2-Butanone	7.7 J (2.4)	12.6 (2.4)	U (2.4)	U (2.4)	U (2.4)
Carbon Disulfide	U (0.24)	U (0.24)	U (0.24)	U (0.24)	U (0.24)
Chloroform	U (0.17)	U (0.17)	0.64 J (0.17)	0.44 J (0.17)	0.26 J (0.17)
Chloromethane	U (0.44)	U (0.44)	U (0.44)	U (0.44)	0.53 J (0.44)
1,1-Dichloroethene	U (0.21)	U (0.21)	1.8 (0.21)	U (0.21)	0.79 J (0.21)
cis-1,2-Dichloroethene	U (0.15)	U (0.15)	12.5 (0.15)	U (0.15)	1.9 (0.15)
trans-1,2-Dichloroethene	U (0.15)	U (0.15)	0.48 J (0.15)	U (0.15)	0.15 J (0.15)
2-Hexanone	U (1.5)	2.1 J (1.5)	U (1.5)	U (1.5)	U (1.5)
4-Methyl-2-pentanone	U (1.4)	U (1.4)	U (1.4)	U (1.4)	U (1.4)
Toluene	0.23 J (0.18)	0.26 J (0.18)	0.40 J (0.18)	U (0.18)	U (0.18)
Trichloroethene	U (0.25)	U (0.25)	110 (1.2)	U (0.25)	38.3 (0.25)
Vinyl Chloride	U (0.25)	U (0.25)	0.48 J (0.25)	U (0.25)	U (0.25)

Notes:

1 All concentrations are presented in µg/L (ppb).

2 Only chemicals with at least one detection in any water or soil vapor sample are shown.

U = Not detected

J = Estimated concentration

( ) = Detection limit

µg/L = Micrograms per liter

TABLE 4
UPPER-BOUND VAPOR INTRUSION RISK ESTIMATES
BASED ON ANNUAL 2019 GROUNDWATER DATA IN THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Chem Group	Chemical	CASRN	Maximum Detected Concentration in Groundwater in Neighborhood (mg/L)	Location of Maximum Detected Concentration in Groundwater in Neighborhood	Residential VI	
					Risk	HQ
VOC	Acetone	67-64-1	3.30E-01	MW-99		2.2E-06
VOC	Benzene	71-43-2	1.60E-04	MW-99	7.1E-10	7.0E-06
VOC	2-Butanone	78-93-3	1.36E+00	MW-99		5.3E-05
VOC	Carbon Disulfide	75-15-0	1.10E-03	MW-99		4.4E-06
VOC	Chloromethane	74-87-3	6.20E-04	MW-68		1.1E-05
VOC	1,1-Dichloroethene	75-35-4	2.80E-03	MW-176		3.6E-05
VOC	cis-1,2-Dichloroethene	156-59-2	2.82E-02	MW-176		
VOC	trans-1,2-Dichloroethene	156-60-5	9.00E-04	MW-176		
VOC	2-Hexanone	591-78-6	3.25E-02	MW-99		2.4E-04
VOC	4-Methyl-2-pentanone	108-10-1	1.60E-03	MW-99		1.2E-07
VOC	Trichloroethene	79-01-6	7.06E-01	MW-56R	2.6E-06	5.4E-01
VOC	Vinyl Chloride	75-01-4	2.94E-02	MW-176	6.0E-07	9.3E-04
				Cumulative Risk and HI:	3E-06	5E-01

Note:
Only COCs detected in monitoring wells in the neighborhood are shown.
Detected concentrations are from samples collected from groundwater monitoring wells in the 2020 Annual Sampling Event.
Risks were calculated using the model derived by Johnson & Ettinger (1991), as discussed in Section 3.3.1 of the April 2013 Revised Risk Management Plan.

TABLE 5
EVALUATION OF VOCS IN WATER AT PARCELS IN THE NEIGHBORHOOD
Whirlpool Facility - Fort Smith, Arkansas

Chem Group	Chemical	CASRN	Parcel 2									Parcel 3						Parcel 4		
			5.5 ft bgs			10.5 ft bgs			12 ft bgs			11 ft bgs			12 ft bgs			12.5 ft bgs		
			VP-7			VP-8			MW-175			VP-10			MW-176			VP-12		
			Perched Water			Perched Water			Groundwater			Perched Water			Groundwater			Groundwater		
			Conc	Risk	HQ	Conc	Risk	HQ	Conc	Risk	HQ	Conc	Risk	HQ	Conc	Risk	HQ	Conc	Risk	HQ
VOC	Acetone	67-64-1	6.32E-02		9.4E-07	1.42E-01		1.1E-06							1.26E-02		8.3E-08	5.50E-03		3.5E-08
VOC	Benzene	71-43-2	8.70E-04	4.3E-09	4.3E-05	1.5E-04	6.7E-10	6.7E-06				3.10E-04	1.4E-09	1.4E-05	1.30E-04	5.7E-10	5.7E-06	2.30E-04	1.0E-09	1.0E-05
VOC	2-Butanone	78-93-3	7.70E-03		6.7E-07	1.3E-02		5.6E-07							3.20E-03		1.3E-07			
VOC	Chloroform	67-66-3										6.40E-04	7.8E-09	1.6E-05				4.40E-04	5.2E-09	1.1E-05
VOC	1,1-Dichloroethene	75-35-4							2.60E-04		3.4E-06	1.80E-03		2.3E-05	2.80E-03		3.6E-05			
VOC	cis-1,2-Dichloroethene	156-59-2							1.70E-03			1.25E-02			2.82E-02					
VOC	trans-1,2-Dichloroethene	156-60-5										4.80E-04			9.00E-04					
VOC	2-Hexanone	591-78-6				2.1E-03		1.7E-05												
VOC	Toluene	108-88-3	2.30E-04		6.5E-08	2.6E-04		6.7E-08				4.00E-04		1.0E-07						
VOC	Trichloroethene	79-01-6							6.95E-02	2.6E-07	5.3E-02	1.10E-01	4.1E-07	8.5E-02	3.59E-01	1.3E-06	2.8E-01			
VOC	Vinyl Chloride	75-01-4										4.80E-04	9.9E-09	1.5E-05	2.94E-02	6.0E-07	9.3E-04			
	Cumulative Risk and HI:		--	4E-09	4E-05	--	7E-10	3E-05	--	3E-07	5E-02	--	4E-07	9E-02	--	2E-06	3E-01	--	6E-09	2E-05

Notes:

Groundwater and perched water concentrations are in mg/L; soil vapor concentrations are in mg/m^3.

Only COCs detected in the 2019 Annual Sampling Event samples at locations listed on the table are shown.

Risk and HQ estimates were not calculated for detected chemicals with inadequate toxicity or physical/chemical parameters or where chemical concentrations were non-detect.

Risks based on soil vapor data were calculated using USEPA's default attenuation factor for subslab gas to indoor air of 0.03, as discussed in Section 6.8.2 of the April 2013 Revised Risk Management Plan.

Risks based on concentrations measured in groundwater were calculated using the model derived by Johnson & Ettinger (1991), as discussed in Section 3.3.1 of the April 2013 Revised Risk Management Plan.

Risks based on concentrations measured in water from the soil vapor ports or shallow groundwater were calculated using the same approach used for groundwater, except the depth was assumed to be the depth of the port or the depth of the screen, respectively, as discussed in Section 3 of the Annual 2016 Vapor Intrusion Report.

Upper-bound cumulative cancer risk and HI estimates in excess of Arkansas Department of Environmental Quality (ADEQ)'s RME cumulative cancer and noncancer risk limits (1E-4 and 1, respectively) are shaded in bold.

Table 6: Summary of Groundwater Concentrations for TCE in Shallow Wells and at Vapor Points in the Neighborhood from 2015 to Present
Whirlpool: Fort Smith, Fort Smith, AR.

Sampling Quarter	Sample Date	MW-176 Groundwater 13.5-14.5 ft bgs (ug/L)	VP-10 Groundwater 10.75-11.25 ft bgs (ug/L)	VP-9 Groundwater 5.25-5.75 ft bgs (ug/L)	VP-9 Soil Gas 5.25-5.75 ft bgs (ug/m^3)	Crawl Space (ug/m^3)	Indoor Air (ug/m^3)	Outdoor Air (ug/m^3)
2015Q1	Jan-15	720 (5.0)	636 (5.0)	--	31 (0.011)	--	--	--
2015Q2	Apr-15	528 (1.7)	395 (1.7)	--	0.25 (0.012)	U (0.011)	U (0.013)	U (0.012)
2015Q3	Jul-15	575 (1.7)	6.1 (0.17)	2.4 (0.17)	--	--	--	--
2015Q4	Oct-15	420 (1.7)	198 (0.17)	--	360 (0.79)	--	--	--
2015Q4	Nov-15	--	--	--	1200 (1.8)	U (0.011)	0.062 (0.011)	U (0.011)
2016Q1	Jan-16	306 (1.7)	823 (0.85)	--	--	--	--	--
2016Q2	May-16	389 (1.7)	376 (0.85)	--	--	--	--	--
2016Q4	Nov-16	320 (1.7)	278 (0.85)	--	464 (7.7)	--	--	--
2017Q2	Apr-17	355 (1.7)	198 (0.85)	--	400 D (0.14)	--	--	--
2017Q4	Oct-17	281 (1.7)	211 (0.85)	--	400 D (1.5)	--	--	--
2018Q2	Apr-18	426 (1.7)	357 (0.85)	--	540 D (0.27)	--	--	--
2018Q4	Nov-18	397 (1.7)	250 (0.85)	--	230 (8.4)	--	--	--
2019Q2	Apr-19	503 (1.7)	211 (0.48)	--	2.5 (0.36)	--	--	--
2019Q4	Oct-19	317 (1.7)	3.3 J (0.85)	--	--	--	--	--
2020Q2	May-20	323 (0.90)	27.5 (0.17)	--	--	--	--	--
2020Q4	Oct-20	359 (2.5)	110 (1.2)	--	--	--	--	--

Notes:

1. The VP-9 soil gas sample was collected in May 2017.
2. VP-10 was installed as a vapor sampling point but was flooded during all of the sampling events shown.
3. VP-9 was flooded in July 2015; a groundwater sample was collected.
4. Neither a soil gas sample or water sample was able to be collected at VP-9 in all samples after April 2019.

Abbreviations:

U -- Not Detected.
D -- Compound Quantitated on a Diluted Sample.
( ) -- Detection Limit.
-- -- Sample Not Collected.

TABLE 7
EVALUATION OF VOCS IN WATER AT PARCEL 5 (SOUTH OF NEIGHBORHOOD)
Whirlpool Facility - Fort Smith, Arkansas

Chem Group	Chemical	CASRN	7.5 ft bgs MW-178 Perched Water			10.5 ft bgs VP-14 Perched Water			12 ft bgs MW-179 Groundwater		
			Conc	Risk	HQ	Conc	Risk	HQ	Conc	Risk	HQ
VOC	Acetone	67-64-1							8.9E-03		5.6E-08
VOC	Benzene	71-43-2				1.4E-04	6.2E-10	6.2E-06			
VOC	Chloroform	67-66-3				2.6E-04	3.2E-09	6.4E-06			
VOC	Chloromethane	74-87-3				5.3E-04		9.2E-06			
VOC	1,1-Dichloroethene	75-35-4				7.9E-04		1.0E-05	3.6E-04		4.6E-06
VOC	cis-1,2-Dichloroethene	156-59-2	6.6E-04			1.9E-03			1.0E-03		
VOC	trans-1,2-Dichloroethene	156-60-5				1.5E-04					
VOC	Trichloroethene	79-01-6	1.9E-03	7.3E-09	1.5E-03	3.8E-02	1.4E-07	3.0E-02	2.3E-02	8.5E-08	1.8E-02
	Cumulative Risk and HI:		--	7E-09	2E-03	--	1E-07	3E-02	--	8E-08	2E-02

Notes:

Groundwater and perched water concentrations are in mg/L.

Only COCs detected in the 2019 Annual Samping Event samples at locations listed on the table are shown.

Risk and HQ estimates were not calculated for detected chemicals with inadequate toxicity or physical/chemical parameters or where chemical concentrations were non-detect.

Risks based on concentrations measured in groundwater were calculated using the model derived by Johnson & Ettinger (1991), as discussed in Section 3.3.1 of the April 2013 Revised Risk Management Plan.

Risks based on concentrations measured in shallow groundwater were calculated using the same approach used for groundwater, except the depth was assumed to be the depth of the screen, as discussed in Section 3 of the Annual 2017 Vapor Intrusion Report.

Cumulative cancer risk and HI estimates were below Arkansas Department of Environmental Quality (ADEQ)'s risk limits (1E-4 and 1, respectively).

Figures



FILE: I:\Loop Project Files\Whirlpool Fort Smith\2019 Semi-Annual M&R\mxd\Figure 1_2019 Semi-Annual Shallow GW & VP Locations_20190703.mxd

RAMBOLL

DRAFTED BY: FK | DATE: 07/03/2019

SHALLOW GROUNDWATER MONITORING WELLS AND VAPOR POINTS SAMPLED DURING 2020 ANNUAL SAMPLING

Whirlpool Facility - Fort Smith, Arkansas

Figure 1

PROJECT: 1690012820



RAMBOLL

DRAFTED BY: FK | DATE: 07/03/2019

GROUNDWATER MONITORING WELL LOCATIONS

Whirlpool Facility - Fort Smith, Arkansas

Figure 2

PROJECT: 1690012820

FILE: L:\Loop Project Files\Whirlpool Fort Smith\2019 Semi Annual M&R\mxd\Figure 2_GW Monitoring Well Locations_20190703.mxd

Appendix A

Laboratory Analytical Data

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

November 02, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

REV-1, 10/29/20: Change sample ID TMW-20-202010 to ITMW-20-202010.

REV-2, 11/2/20: % Recoveries for MS/MSD that were missing have been populated for 8260.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350519001	MW-187-202010	Water	10/06/20 09:25	10/07/20 06:40
60350519002	MW-61R-202010	Water	10/06/20 09:53	10/07/20 06:40
60350519003	MW-176-202010	Water	10/06/20 10:14	10/07/20 06:40
60350519004	MW-60R-202010	Water	10/06/20 09:50	10/07/20 06:40
60350519005	MW-189-202010	Water	10/06/20 10:15	10/07/20 06:40
60350519006	MW-188-202010	Water	10/06/20 10:50	10/07/20 06:40
60350519007	MW-40R-202010	Water	10/06/20 14:00	10/07/20 06:40
60350519008	MW-91-202010	Water	10/06/20 14:20	10/07/20 06:40
60350519009	MW-195-202010	Water	10/06/20 14:15	10/07/20 06:40
60350519010	MW-62R-202010	Water	10/06/20 15:30	10/07/20 06:40
60350519011	TMW-20-202010	Water	10/06/20 15:10	10/07/20 06:40
60350519012	MW-29-202010	Water	10/06/20 15:40	10/07/20 06:40
60350519013	MW-55R-202010	Water	10/06/20 15:26	10/07/20 06:40
60350519014	MW-63R-202010	Water	10/06/20 11:25	10/07/20 06:40
60350519015	MW-197-202010	Water	10/06/20 10:42	10/07/20 06:40
60350519016	MW-39R-202010	Water	10/06/20 11:40	10/07/20 06:40
60350519017	TMW-22R-202010	Water	10/06/20 12:06	10/07/20 06:40
60350519018	ITMW-20-202010	Water	10/06/20 12:33	10/07/20 06:40
60350519019	MW-175-202010	Water	10/06/20 12:05	10/07/20 06:40
60350519020	MW-199-202010	Water	10/06/20 12:45	10/07/20 06:40
60350519021	TMW-35-202010	Water	10/06/20 12:45	10/07/20 06:40
60350519022	MW-196-202010	Water	10/06/20 13:41	10/07/20 06:40
60350519023	RW-69-202010	Water	10/06/20 16:27	10/07/20 06:40
60350519024	MW-68-202010	Water	10/06/20 16:45	10/07/20 06:40
60350519025	TMW-21-202010	Water	10/06/20 17:00	10/07/20 06:40
60350519026	MW-56R-202010	Water	10/06/20 17:10	10/07/20 06:40
60350519027	MW-84-202010	Water	10/06/20 17:12	10/07/20 06:40
60350519028	TMW-24-202010	Water	10/06/20 17:31	10/07/20 06:40
60350519029	TB-02-202010	Water	10/06/20 08:00	10/07/20 06:40
60350519030	TB-03-202010	Water	10/06/20 08:00	10/07/20 06:40
60350519031	TB-04-202010	Water	10/06/20 08:00	10/07/20 06:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350519001	**MW-187-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519002	**MW-61R-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK, VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519003	**MW-176-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350519004	**MW-60R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519005	**MW-189-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	EAG, PGH	37	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519006	**MW-188-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519007	**MW-40R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519008	**MW-91-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		EPA 300.0	MJK, VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519009	**MW-195-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519010	**MW-62R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519011	**TMW-20-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519012	**MW-29-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519013	**MW-55R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519014	**MW-63R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519015	**MW-197-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519016	**MW-39R-202010**	EPA 5030B/8260	PGH	38	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350519017	**TMW-22R-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519018	**ITMW-20-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519019	**MW-175-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519020	**MW-199-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519021	**TMW-35-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519022	**MW-196-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519023	**RW-69-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	VRP	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350519024	**MW-68-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519025	**TMW-21-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519026	**MW-56R-202010**	EPA 5030B/8260	EAG	38	PASI-K
60350519027	**MW-84-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519028	**TMW-24-202010**	EPA 5030B/8260	EAG	38	PASI-K
60350519029	**TB-02-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519030	**TB-03-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519031	**TB-04-202010**	EPA 5030B/8260	CJC	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: November 02, 2020

General Information:
6 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: November 02, 2020

General Information:
6 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: November 02, 2020

General Information:
31 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 682080

S0: Surrogate recovery outside laboratory control limits.

- MW-196-202010 (Lab ID: 60350519022)
  - 1,2-Dichloroethane-d4 (S)
- MW-84-202010 (Lab ID: 60350519027)
  - 1,2-Dichloroethane-d4 (S)
- RW-69-202010 (Lab ID: 60350519023)
  - 1,2-Dichloroethane-d4 (S)
- TMW-21-202010 (Lab ID: 60350519025)
  - 1,2-Dichloroethane-d4 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 681636

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2755238)
  - Acetone

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: November 02, 2020

QC Batch: 682080

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2757494)
  - Acetone

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681636

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519005,60350519006,60350519007,60350519009

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2755240)
  - Acetone
- MS (Lab ID: 2755242)
  - Acetone
- MS (Lab ID: 2755244)
  - Acetone
- MS (Lab ID: 2755246)
  - Acetone
- MSD (Lab ID: 2755241)
  - Acetone
- MSD (Lab ID: 2755243)
  - Acetone
- MSD (Lab ID: 2755245)
  - Acetone

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 2755247)
  - Styrene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2755247)
  - Styrene

QC Batch: 682080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2757510)
  - Tetrachloroethene
  - Trichloroethene
  - trans-1,2-Dichloroethene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2757511)
  - Carbon disulfide

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: November 02, 2020

QC Batch: 682464

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: November 02, 2020

General Information:
1 sample was analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: November 02, 2020

General Information:
6 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 683228

B: Analyte was detected in the associated method blank.

- BLANK for HBN 683228 [WETA/724 (Lab ID: 2765218)
  - Chloride

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683228

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519005,60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2761796)
  - Chloride
- MS (Lab ID: 2761798)
  - Chloride
  - Sulfate
- MSD (Lab ID: 2761797)
  - Chloride
- MSD (Lab ID: 2761799)
  - Chloride
  - Sulfate

R1: RPD value was outside control limits.

- MSD (Lab ID: 2761797)
  - Chloride

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: November 02, 2020

Analyte Comments:

QC Batch: 683228

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2761796)
  - Chloride
- MSD (Lab ID: 2761797)
  - Chloride

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(913)599-5665

PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: November 02, 2020

General Information:
6 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.
- MW-61R-202010 (Lab ID: 60350519002)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681487

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350513004,60350519005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 2754709)
  - Nitrogen, Nitrite

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: November 02, 2020

General Information:
6 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683781

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519005,60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2764417)
  - Total Organic Carbon

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: November 02, 2020

General Information:
5 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: November 02, 2020

General Information:
5 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-187-202010 **Lab ID: 60350519001** Collected: 10/06/20 09:25 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 08:29	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 08:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 08:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 08:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 08:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 08:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 08:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 08:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 08:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 08:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 08:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 08:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 08:29	124-48-1	
1,1-Dichloroethane	**0.67J**	ug/L	1.0	0.098	1		10/09/20 08:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 08:29	107-06-2	
1,1-Dichloroethene	**0.50J**	ug/L	1.0	0.21	1		10/09/20 08:29	75-35-4	
cis-1,2-Dichloroethene	**3.7**	ug/L	1.0	0.15	1		10/09/20 08:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 08:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 08:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 08:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 08:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 08:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 08:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 08:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 08:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 08:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 08:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:29	79-00-5	
Trichloroethene	**9.8**	ug/L	1.0	0.25	1		10/09/20 08:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 08:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 08:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 08:29	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/09/20 08:29	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 08:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 08:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-61R-202010 **Lab ID: 60350519002** Collected: 10/06/20 09:53 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/16/20 18:46	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/16/20 18:46	74-85-1	
Methane	**1900**	ug/L	5.0	2.5	1		10/16/20 18:46	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**11000**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:23	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 08:44	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 08:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 08:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 08:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 08:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 08:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 08:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 08:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 08:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 08:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 08:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 08:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 08:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 08:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 08:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 08:44	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/09/20 08:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 08:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 08:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 08:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 08:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 08:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 08:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 08:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 08:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 08:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 08:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:44	79-00-5	
Trichloroethene	**15.8**	ug/L	1.0	0.25	1		10/09/20 08:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 08:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 08:44	1330-20-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-61R-202010 **Lab ID: 60350519002** Collected: 10/06/20 09:53 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 08:44	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/09/20 08:44	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 08:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 08:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**112**	mg/L	20.0	7.8	20		10/16/20 18:32	16887-00-6	
Sulfate	**10.8**	mg/L	1.0	0.28	1		10/19/20 12:13	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 13:54		H1
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 13:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 13:54	14797-65-0	H1
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.50J**	mg/L	1.0	0.36	1		10/24/20 09:29	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.60J**	mg/L	1.0	0.36	1		10/26/20 11:35		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**14**	mg/L	5.0	1.2	10		10/13/20 00:12	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 00:12	107-92-6	
Formic acid	**45**	mg/L	5.0	0.55	10		10/13/20 00:12	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 00:12	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 00:12	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 00:12	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/13/20 00:12	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 00:12	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 00:12	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 00:12	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-176-202010 **Lab ID: 60350519003** Collected: 10/06/20 10:14 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**12.6**	ug/L	10.0	4.7	1		10/09/20 12:50	67-64-1	L1
Benzene	**0.13J**	ug/L	1.0	0.088	1		10/09/20 12:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:50	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:50	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:50	74-83-9	
2-Butanone (MEK)	**3.2J**	ug/L	10.0	2.4	1		10/09/20 12:50	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 12:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 12:50	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 12:50	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:50	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 12:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:50	107-06-2	
1,1-Dichloroethene	**2.8**	ug/L	1.0	0.21	1		10/09/20 12:50	75-35-4	
cis-1,2-Dichloroethene	**28.2**	ug/L	1.0	0.15	1		10/09/20 12:50	156-59-2	
trans-1,2-Dichloroethene	**0.90J**	ug/L	1.0	0.15	1		10/09/20 12:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:50	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:50	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 12:50	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:50	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 12:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:50	79-00-5	
Trichloroethene	**359**	ug/L	10.0	2.5	10		10/13/20 19:29	79-01-6	
Vinyl chloride	**29.4**	ug/L	1.0	0.25	1		10/09/20 12:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/09/20 12:50	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 12:50	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:50	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:50		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-60R-202010 **Lab ID: 60350519004** Collected: 10/06/20 09:50 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 08:58	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 08:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 08:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 08:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 08:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 08:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 08:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 08:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 08:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 08:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 08:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 08:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 08:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 08:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 08:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 08:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 08:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 08:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 08:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 08:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 08:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 08:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 08:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 08:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 08:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 08:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 08:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 08:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 08:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 08:58	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 08:58	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/09/20 08:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 08:58		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-189-202010 **Lab ID: 60350519005** Collected: 10/06/20 10:15 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/16/20 18:57	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/16/20 18:57	74-85-1	
Methane	**5.1**	ug/L	5.0	2.5	1		10/16/20 18:57	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**28.2J**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:26	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:01	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:01	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:01	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:01	75-00-3	
Chloroform	**0.32J**	ug/L	1.0	0.17	1		10/13/20 20:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:01	124-48-1	
1,1-Dichloroethane	**0.69J**	ug/L	1.0	0.098	1		10/13/20 20:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:01	107-06-2	
1,1-Dichloroethene	**0.85J**	ug/L	1.0	0.21	1		10/13/20 20:01	75-35-4	
cis-1,2-Dichloroethene	**7.2**	ug/L	1.0	0.15	1		10/13/20 20:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:01	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:01	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:01	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:01	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:01	79-00-5	
Trichloroethene	**359**	ug/L	10.0	2.5	10		10/09/20 13:04	79-01-6	
Vinyl chloride	**0.44J**	ug/L	1.0	0.25	1		10/13/20 20:01	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		10/13/20 20:01	460-00-4	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-189-202010 **Lab ID: 60350519005** Collected: 10/06/20 10:15 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/13/20 20:01	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 20:01	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**192**	mg/L	10.0	3.9	10		10/19/20 12:27	16887-00-6	M1,R1
Sulfate	**78.0**	mg/L	10.0	2.8	10		10/19/20 12:27	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**24.9**	mg/L	1.0	0.58	10		10/08/20 07:59		
Nitrogen, Nitrate	**24.9**	mg/L	1.0	0.63	10		10/08/20 07:59	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	0.63	10		10/08/20 07:59	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.46J**	mg/L	1.0	0.36	1		10/24/20 09:42	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.50J**	mg/L	1.0	0.36	1		10/27/20 15:03		D9
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**10**	mg/L	5.0	1.2	10		10/13/20 02:52	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 02:52	107-92-6	
Formic acid	**50**	mg/L	5.0	0.55	10		10/13/20 02:52	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 02:52	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 02:52	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 02:52	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/13/20 02:52	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 02:52	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 02:52	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 02:52	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-188-202010 **Lab ID: 60350519006** Collected: 10/06/20 10:50 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:12	67-64-1	L1,M0
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:12	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:12	75-35-4	
cis-1,2-Dichloroethene	**1.3**	ug/L	1.0	0.15	1		10/09/20 09:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:12	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:12	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:12	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:12	79-00-5	
Trichloroethene	**11.7**	ug/L	1.0	0.25	1		10/09/20 09:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/09/20 09:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/09/20 09:12	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 09:12	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:12		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-40R-202010 **Lab ID: 60350519007** Collected: 10/06/20 14:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:27	67-64-1	L1,M0
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 09:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 09:27	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 09:27	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/09/20 09:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-91-202010 **Lab ID: 60350519008** Collected: 10/06/20 14:20 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.80J**	ug/L	1.0	0.075	1		10/16/20 19:10	74-84-0	
Ethene	**2.6**	ug/L	1.0	0.12	1		10/16/20 19:10	74-85-1	
Methane	**6900**	ug/L	5.0	2.5	1		10/16/20 19:10	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**24200**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:41	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**77.5**	ug/L	10.0	4.7	1		10/13/20 19:45	67-64-1	
Benzene	**0.19J**	ug/L	1.0	0.088	1		10/09/20 12:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:35	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:35	74-83-9	
2-Butanone (MEK)	**131**	ug/L	10.0	2.4	1		10/09/20 12:35	78-93-3	
Carbon disulfide	**1.3J**	ug/L	5.0	0.24	1		10/09/20 12:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 12:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 12:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:35	124-48-1	
1,1-Dichloroethane	**0.21J**	ug/L	1.0	0.098	1		10/09/20 12:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:35	107-06-2	
1,1-Dichloroethene	**0.76J**	ug/L	1.0	0.21	1		10/09/20 12:35	75-35-4	
cis-1,2-Dichloroethene	**136**	ug/L	1.0	0.15	1		10/09/20 12:35	156-59-2	
trans-1,2-Dichloroethene	**0.41J**	ug/L	1.0	0.15	1		10/09/20 12:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	**8.5J**	ug/L	10.0	1.4	1		10/09/20 12:35	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:35	79-34-5	
Tetrachloroethene	**0.37J**	ug/L	1.0	0.15	1		10/09/20 12:35	127-18-4	
Toluene	**2.2**	ug/L	1.0	0.18	1		10/09/20 12:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:35	79-00-5	
Trichloroethene	**51.9**	ug/L	1.0	0.25	1		10/09/20 12:35	79-01-6	
Vinyl chloride	**0.67J**	ug/L	1.0	0.25	1		10/09/20 12:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:35	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-91-202010 **Lab ID: 60350519008** Collected: 10/06/20 14:20 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/09/20 12:35	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/09/20 12:35	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:35	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**127**	mg/L	20.0	7.8	20		10/19/20 13:39	16887-00-6	
Sulfate	**1.3**	mg/L	1.0	0.28	1		10/16/20 20:42	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:10		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:10	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**68.5**	mg/L	10.0	3.6	10		10/24/20 10:22	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**52.9**	mg/L	5.0	1.8	5		10/27/20 15:57		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**24**	mg/L	5.0	1.2	10		10/13/20 03:45	64-19-7	
Butyric Acid	**1.8J**	mg/L	5.0	0.58	10		10/13/20 03:45	107-92-6	
Formic acid	**45**	mg/L	5.0	0.55	10		10/13/20 03:45	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 03:45	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 03:45	50-21-5	
Pentanoic Acid	**0.87J**	mg/L	5.0	0.56	10		10/13/20 03:45	109-52-4	
Propionic Acid	**32**	mg/L	5.0	0.53	10		10/13/20 03:45	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 03:45	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 03:45	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 03:45	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-195-202010 **Lab ID: 60350519009** Collected: 10/06/20 14:15 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:41	67-64-1	L1,M0
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:41	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:41	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:41	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:41	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:41	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:41	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:41	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:41	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:41	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:41	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:41	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:41	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:41	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:41	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:41	100-42-5	M1,R1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:41	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:41	79-00-5	
Trichloroethene	**0.35J**	ug/L	1.0	0.25	1		10/09/20 09:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 09:41	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 09:41	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 09:41	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:41		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-62R-202010 **Lab ID: 60350519010** Collected: 10/06/20 15:30 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:56	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 09:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/09/20 09:56	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 09:56	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 09:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-20-202010 **Lab ID: 60350519011** Collected: 10/06/20 15:10 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:10	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 10:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:10	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:10	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 10:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:10	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:10	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 10:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:10	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:10	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:10	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 10:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 10:10	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 10:10	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:10	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:10		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-29-202010 **Lab ID: 60350519012** Collected: 10/06/20 15:40 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:25	67-64-1	L1
Benzene	**0.17J**	ug/L	1.0	0.088	1		10/09/20 10:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:25	56-23-5	
Chlorobenzene	**9.0**	ug/L	1.0	0.23	1		10/09/20 10:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:25	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 10:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:25	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 10:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		10/09/20 10:25	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 10:25	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:25		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-55R-202010 **Lab ID: 60350519013** Collected: 10/06/20 15:26 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:39	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 10:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:39	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:39	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:39	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 10:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:39	107-06-2	
1,1-Dichloroethene	**0.32J**	ug/L	1.0	0.21	1		10/09/20 10:39	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	1.0	0.15	1		10/09/20 10:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:39	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:39	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:39	79-00-5	
Trichloroethene	**29.9**	ug/L	1.0	0.25	1		10/09/20 10:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 10:39	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 10:39	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:39	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:39		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-63R-202010 **Lab ID: 60350519014** Collected: 10/06/20 11:25 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:54	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 10:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 10:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 10:54	75-35-4	
cis-1,2-Dichloroethene	**0.81J**	ug/L	1.0	0.15	1		10/09/20 10:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:54	79-00-5	
Trichloroethene	**7.1**	ug/L	1.0	0.25	1		10/09/20 10:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 10:54	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 10:54	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:54		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-197-202010 **Lab ID: 60350519015** Collected: 10/06/20 10:42 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 12:06	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 12:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 12:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 12:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:06	56-23-5	
Chlorobenzene	**1.7**	ug/L	1.0	0.23	1		10/09/20 12:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 12:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 12:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 12:06	75-35-4	
cis-1,2-Dichloroethene	**8.4**	ug/L	1.0	0.15	1		10/09/20 12:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 12:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 12:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:06	79-00-5	
Trichloroethene	**20.1**	ug/L	1.0	0.25	1		10/09/20 12:06	79-01-6	
Vinyl chloride	**0.96J**	ug/L	1.0	0.25	1		10/09/20 12:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		10/09/20 12:06	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 12:06	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-39R-202010 **Lab ID: 60350519016** Collected: 10/06/20 11:40 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:08	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 11:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 11:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 11:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:08	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 11:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 11:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 11:08	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 11:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/09/20 11:08	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 11:08	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 11:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:08		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-22R-202010 **Lab ID: 60350519017** Collected: 10/06/20 12:06 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**4.8**	ug/L	1.0	0.075	1		10/16/20 19:21	74-84-0	
Ethene	**12**	ug/L	1.0	0.12	1		10/16/20 19:21	74-85-1	
Methane	**5500**	ug/L	5.0	2.5	1		10/16/20 19:21	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**13700**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:43	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 12:20	67-64-1	L1
Benzene	**0.17J**	ug/L	1.0	0.088	1		10/09/20 12:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:20	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:20	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 12:20	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 12:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 12:20	108-90-7	
Chloroethane	**3.3**	ug/L	1.0	0.38	1		10/09/20 12:20	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:20	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 12:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:20	107-06-2	
1,1-Dichloroethene	**0.42J**	ug/L	1.0	0.21	1		10/09/20 12:20	75-35-4	
cis-1,2-Dichloroethene	**70.3**	ug/L	1.0	0.15	1		10/09/20 12:20	156-59-2	
trans-1,2-Dichloroethene	**1.2**	ug/L	1.0	0.15	1		10/09/20 12:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:20	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:20	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 12:20	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:20	127-18-4	
Toluene	**0.28J**	ug/L	1.0	0.18	1		10/09/20 12:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:20	79-00-5	
Trichloroethene	**56.6**	ug/L	1.0	0.25	1		10/09/20 12:20	79-01-6	
Vinyl chloride	**15.4**	ug/L	1.0	0.25	1		10/09/20 12:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:20	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-22R-202010 **Lab ID: 60350519017** Collected: 10/06/20 12:06 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 12:20	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 12:20	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:20	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**199**	mg/L	50.0	19.4	50		10/16/20 21:25	16887-00-6	B
Sulfate	**2.1**	mg/L	1.0	0.28	1		10/16/20 21:10	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:02		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:02	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:02	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.62J**	mg/L	1.0	0.36	1		10/26/20 08:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**1.0**	mg/L	1.0	0.36	1		10/27/20 16:10		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**11**	mg/L	5.0	1.2	10		10/13/20 04:39	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 04:39	107-92-6	
Formic acid	**43**	mg/L	5.0	0.55	10		10/13/20 04:39	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 04:39	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 04:39	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 04:39	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/13/20 04:39	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 04:39	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 04:39	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 04:39	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: ITMW-20-202010 **Lab ID: 60350519018** Collected: 10/06/20 12:33 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:22	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 11:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 11:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 11:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 11:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 11:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 11:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 11:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 11:22	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/09/20 11:22	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/09/20 11:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-175-202010 **Lab ID: 60350519019** Collected: 10/06/20 12:05 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:37	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 11:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:37	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:37	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 11:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:37	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 11:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:37	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 11:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:37	107-06-2	
1,1-Dichloroethene	**0.26J**	ug/L	1.0	0.21	1		10/09/20 11:37	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	0.15	1		10/09/20 11:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:37	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:37	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:37	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:37	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:37	79-00-5	
Trichloroethene	**69.5**	ug/L	1.0	0.25	1		10/09/20 11:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 11:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 11:37	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 11:37	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/09/20 11:37	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:37		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-199-202010 **Lab ID: 60350519020** Collected: 10/06/20 12:45 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:51	67-64-1	L1
Benzene	**0.15J**	ug/L	1.0	0.088	1		10/09/20 11:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:51	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:51	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:51	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:51	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:51	56-23-5	
Chlorobenzene	**0.62J**	ug/L	1.0	0.23	1		10/09/20 11:51	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:51	75-00-3	
Chloroform	**0.22J**	ug/L	1.0	0.17	1		10/09/20 11:51	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:51	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:51	124-48-1	
1,1-Dichloroethane	**0.24J**	ug/L	1.0	0.098	1		10/09/20 11:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:51	107-06-2	
1,1-Dichloroethene	**0.49J**	ug/L	1.0	0.21	1		10/09/20 11:51	75-35-4	
cis-1,2-Dichloroethene	**6.7**	ug/L	1.0	0.15	1		10/09/20 11:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:51	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:51	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:51	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:51	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:51	79-00-5	
Trichloroethene	**92.3**	ug/L	1.0	0.25	1		10/09/20 11:51	79-01-6	
Vinyl chloride	**0.35J**	ug/L	1.0	0.25	1		10/09/20 11:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 11:51	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/09/20 11:51	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 11:51	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:51		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-35-202010 **Lab ID: 60350519021** Collected: 10/06/20 12:45 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 14:58	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 14:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 14:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 14:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 14:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 14:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 14:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 14:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 14:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 14:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 14:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 14:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 14:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 14:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 14:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 14:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 14:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 14:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 14:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 14:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 14:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 14:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 14:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 14:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 14:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 14:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 14:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 14:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 14:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 14:58	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/13/20 14:58	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 14:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 14:58		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-196-202010 **Lab ID: 60350519022** Collected: 10/06/20 13:41 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 15:13	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 15:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 15:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 15:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 15:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 15:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 15:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 15:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 15:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 15:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 15:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 15:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 15:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 15:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 15:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 15:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 15:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 15:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 15:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 15:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 15:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 15:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 15:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 15:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 15:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 15:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:13	79-00-5	
Trichloroethene	**0.54J**	ug/L	1.0	0.25	1		10/13/20 15:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 15:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 15:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	80-120		1		10/13/20 15:13	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	86-117		1		10/13/20 15:13	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 15:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 15:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: RW-69-202010 **Lab ID: 60350519023** Collected: 10/06/20 16:27 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/16/20 19:33	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/16/20 19:33	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/16/20 19:33	74-85-1	
Methane	**67**	ug/L	5.0	2.5	1		10/16/20 19:33	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**1280**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:46	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 15:28	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 15:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 15:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 15:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 15:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 15:28	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 15:28	75-15-0	R1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 15:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 15:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 15:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 15:28	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 15:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 15:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 15:28	75-34-3	
1,2-Dichloroethane	**0.25J**	ug/L	1.0	0.23	1		10/13/20 15:28	107-06-2	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.21	1		10/13/20 15:28	75-35-4	
cis-1,2-Dichloroethene	**4.6**	ug/L	1.0	0.15	1		10/13/20 15:28	156-59-2	
trans-1,2-Dichloroethene	**0.16J**	ug/L	1.0	0.15	1		10/13/20 15:28	156-60-5	M1
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 15:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 15:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 15:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 15:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 15:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 15:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 15:28	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 15:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:28	127-18-4	M1
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 15:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 15:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:28	79-00-5	
Trichloroethene	**101**	ug/L	1.0	0.25	1		10/13/20 15:28	79-01-6	M1
Vinyl chloride	**0.60J**	ug/L	1.0	0.25	1		10/13/20 15:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 15:28	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: RW-69-202010 **Lab ID: 60350519023** Collected: 10/06/20 16:27 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 15:28	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	86-117		1		10/13/20 15:28	17060-07-0	S0
Toluene-d8 (S)	105	%	80-120		1		10/13/20 15:28	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 15:28		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/09/20 12:50	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**1.6**	mg/L	1.0	0.28	1		10/16/20 21:39	14808-79-8	M1
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:22		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:22	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	ND	mg/L	1.0	0.36	1		10/24/20 10:49	7440-44-0	M1

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-68-202010 **Lab ID: 60350519024** Collected: 10/06/20 16:45 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 16:13	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 16:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 16:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 16:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 16:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 16:13	78-93-3	
Carbon disulfide	**0.26J**	ug/L	5.0	0.24	1		10/13/20 16:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 16:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 16:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 16:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 16:13	67-66-3	
Chloromethane	**0.62J**	ug/L	1.0	0.44	1		10/13/20 16:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 16:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 16:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 16:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 16:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 16:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 16:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 16:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 16:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 16:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 16:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 16:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 16:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 16:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 16:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:13	79-00-5	
Trichloroethene	**0.57J**	ug/L	1.0	0.25	1		10/13/20 16:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 16:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 16:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	80-120		1		10/13/20 16:13	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 16:13	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 16:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 16:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-21-202010 **Lab ID: 60350519025** Collected: 10/06/20 17:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.62J**	ug/L	1.0	0.075	1		10/16/20 19:45	74-84-0	
Ethene	**1.2**	ug/L	1.0	0.12	1		10/16/20 19:45	74-85-1	
Methane	**7600**	ug/L	5.0	2.5	1		10/16/20 19:45	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**11100**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:51	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 16:28	67-64-1	L1
Benzene	**0.10J**	ug/L	1.0	0.088	1		10/13/20 16:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 16:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 16:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 16:28	74-83-9	
2-Butanone (MEK)	**21.8**	ug/L	10.0	2.4	1		10/13/20 16:28	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 16:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 16:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 16:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 16:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 16:28	67-66-3	
Chloromethane	**0.57J**	ug/L	1.0	0.44	1		10/13/20 16:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 16:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 16:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 16:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 16:28	75-35-4	
cis-1,2-Dichloroethene	**3.2**	ug/L	1.0	0.15	1		10/13/20 16:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 16:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 16:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 16:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 16:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 16:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 16:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 16:28	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 16:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:28	127-18-4	
Toluene	**4.0**	ug/L	1.0	0.18	1		10/13/20 16:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 16:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:28	79-00-5	
Trichloroethene	**7.2**	ug/L	1.0	0.25	1		10/13/20 16:28	79-01-6	
Vinyl chloride	**1.9**	ug/L	1.0	0.25	1		10/13/20 16:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 16:28	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-21-202010 **Lab ID: 60350519025** Collected: 10/06/20 17:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	107	%	80-120		1		10/13/20 16:28	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	86-117		1		10/13/20 16:28	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 16:28	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 16:28		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**197**	mg/L	50.0	19.4	50		10/16/20 23:48	16887-00-6	B
Sulfate	**16.0**	mg/L	1.0	0.28	1		10/16/20 23:34	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:24		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:24	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**28.2**	mg/L	5.0	1.8	5		10/24/20 11:29	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**21.0**	mg/L	2.0	0.72	2		10/27/20 16:50		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**13**	mg/L	5.0	1.2	10		10/13/20 05:32	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 05:32	107-92-6	
Formic acid	**46**	mg/L	5.0	0.55	10		10/13/20 05:32	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 05:32	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 05:32	50-21-5	
Pentanoic Acid	**0.94J**	mg/L	5.0	0.56	10		10/13/20 05:32	109-52-4	
Propionic Acid	**20**	mg/L	5.0	0.53	10		10/13/20 05:32	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 05:32	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 05:32	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 05:32	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-56R-202010 **Lab ID: 60350519026** Collected: 10/06/20 17:10 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:17	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:17	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:17	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:17	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:17	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:17	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:17	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:17	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:17	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:17	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:17	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:17	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:17	107-06-2	
1,1-Dichloroethene	**2.0**	ug/L	1.0	0.21	1		10/13/20 20:17	75-35-4	
cis-1,2-Dichloroethene	**16.8**	ug/L	1.0	0.15	1		10/13/20 20:17	156-59-2	
trans-1,2-Dichloroethene	**0.28J**	ug/L	1.0	0.15	1		10/13/20 20:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:17	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:17	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:17	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:17	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:17	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:17	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:17	79-00-5	
Trichloroethene	**706**	ug/L	10.0	2.5	10		10/13/20 20:33	79-01-6	
Vinyl chloride	**0.36J**	ug/L	1.0	0.25	1		10/13/20 20:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:17	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/13/20 20:17	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/13/20 20:17	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 20:17	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:17		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-84-202010 **Lab ID: 60350519027** Collected: 10/06/20 17:12 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.7J**	ug/L	10.0	4.7	1		10/13/20 16:43	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 16:43	71-43-2	
Bromodichloromethane	**0.13J**	ug/L	1.0	0.12	1		10/13/20 16:43	75-27-4	
Bromoform	**6.6**	ug/L	1.0	0.38	1		10/13/20 16:43	75-25-2	
Bromomethane	**1.7J**	ug/L	5.0	0.99	1		10/13/20 16:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 16:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 16:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 16:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 16:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 16:43	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 16:43	67-66-3	
Chloromethane	**2.5**	ug/L	1.0	0.44	1		10/13/20 16:43	74-87-3	
Dibromochloromethane	**0.45J**	ug/L	1.0	0.17	1		10/13/20 16:43	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 16:43	75-34-3	
1,2-Dichloroethane	**0.29J**	ug/L	1.0	0.23	1		10/13/20 16:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 16:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 16:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 16:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 16:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 16:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 16:43	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 16:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 16:43	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 16:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:43	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 16:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 16:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:43	79-00-5	
Trichloroethene	**1.6**	ug/L	1.0	0.25	1		10/13/20 16:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 16:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 16:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 16:43	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	86-117		1		10/13/20 16:43	17060-07-0	S0
Toluene-d8 (S)	95	%	80-120		1		10/13/20 16:43	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 16:43		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-24-202010 **Lab ID: 60350519028** Collected: 10/06/20 17:31 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:49	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:49	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:49	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:49	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:49	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:49	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:49	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:49	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:49	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:49	107-06-2	
1,1-Dichloroethene	**1.4**	ug/L	1.0	0.21	1		10/13/20 20:49	75-35-4	
cis-1,2-Dichloroethene	**11.1**	ug/L	1.0	0.15	1		10/13/20 20:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:49	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:49	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:49	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:49	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:49	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:49	79-00-5	
Trichloroethene	**495**	ug/L	10.0	2.5	10		10/13/20 21:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 20:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 20:49	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 20:49	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/13/20 20:49	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:49		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TB-02-202010 **Lab ID: 60350519029** Collected: 10/06/20 08:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 13:57	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 13:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 13:57	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 13:57	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 13:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 13:57	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 13:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 13:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 13:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 13:57	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 13:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 13:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 13:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 13:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 13:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 13:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 13:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 13:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 13:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 13:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 13:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 13:57	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 13:57	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 13:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 13:57	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 13:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 13:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 13:57	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 13:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 13:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 13:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 13:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 13:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 13:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 13:57	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	86-117		1		10/13/20 13:57	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 13:57	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 13:57		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TB-03-202010 **Lab ID: 60350519030** Collected: 10/06/20 08:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 14:12	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 14:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 14:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 14:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 14:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 14:12	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 14:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 14:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 14:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 14:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 14:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 14:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 14:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 14:12	75-34-3	
1,2-Dichloroethane	**0.26J**	ug/L	1.0	0.23	1		10/13/20 14:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 14:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 14:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 14:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 14:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 14:12	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 14:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 14:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 14:12	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 14:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:12	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 14:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 14:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 14:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 14:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 14:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 14:12	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	86-117		1		10/13/20 14:12	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 14:12	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 14:12		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TB-04-202010 **Lab ID: 60350519031** Collected: 10/06/20 08:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 14:27	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 14:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 14:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 14:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 14:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 14:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 14:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 14:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 14:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 14:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 14:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 14:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 14:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 14:27	75-34-3	
1,2-Dichloroethane	**0.29J**	ug/L	1.0	0.23	1		10/13/20 14:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 14:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 14:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 14:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 14:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 14:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 14:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 14:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 14:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 14:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 14:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 14:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 14:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 14:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 14:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	86-117		1		10/13/20 14:27	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 14:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 14:27		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 694863
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2097192 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/16/20 17:10	
Ethane	ug/L	ND	1.0	0.075	10/16/20 17:10	
Ethene	ug/L	ND	1.0	0.12	10/16/20 17:10	
Methane	ug/L	2.8J	5.0	2.5	10/16/20 17:10	B0

LABORATORY CONTROL SAMPLE & LCSD: 2097193 2097194

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	33	34	86	90	70-130	4	20	
Ethane	ug/L	100	87	94	86	93	70-130	8	20	
Ethene	ug/L	140	130	140	89	96	70-130	8	20	
Methane	ug/L	490	410	440	84	90	70-130	6	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 683682
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2764180 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/21/20 17:21	

LABORATORY CONTROL SAMPLE: 2764181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4980	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764182 2764183

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	28.2J	5000	5000	5160	5120	103	102	75-125	1	20	

MATRIX SPIKE SAMPLE: 2764184

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	1280	5000	6440	103	75-125	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681636
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519001, 60350519002, 60350519003, 60350519004, 60350519005, 60350519006, 60350519007, 60350519008, 60350519009, 60350519010, 60350519011, 60350519012, 60350519013, 60350519014, 60350519015, 60350519016, 60350519017, 60350519018, 60350519019, 60350519020

METHOD BLANK: 2755237
Matrix: Water
Associated Lab Samples: 60350519001, 60350519002, 60350519003, 60350519004, 60350519005, 60350519006, 60350519007, 60350519008, 60350519009, 60350519010, 60350519011, 60350519012, 60350519013, 60350519014, 60350519015, 60350519016, 60350519017, 60350519018, 60350519019, 60350519020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/09/20 08:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/09/20 08:15	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/09/20 08:15	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/09/20 08:15	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/09/20 08:15	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/09/20 08:15	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/09/20 08:15	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/09/20 08:15	
2-Hexanone	ug/L	ND	10.0	1.5	10/09/20 08:15	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/09/20 08:15	
Acetone	ug/L	ND	10.0	4.7	10/09/20 08:15	
Benzene	ug/L	ND	1.0	0.088	10/09/20 08:15	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/09/20 08:15	
Bromoform	ug/L	ND	1.0	0.38	10/09/20 08:15	
Bromomethane	ug/L	ND	5.0	0.99	10/09/20 08:15	
Carbon disulfide	ug/L	ND	5.0	0.24	10/09/20 08:15	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/09/20 08:15	
Chlorobenzene	ug/L	ND	1.0	0.23	10/09/20 08:15	
Chloroethane	ug/L	ND	1.0	0.38	10/09/20 08:15	
Chloroform	ug/L	ND	1.0	0.17	10/09/20 08:15	
Chloromethane	ug/L	ND	1.0	0.44	10/09/20 08:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 08:15	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/09/20 08:15	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/09/20 08:15	
Ethylbenzene	ug/L	ND	1.0	0.18	10/09/20 08:15	
Methylene Chloride	ug/L	ND	1.0	0.81	10/09/20 08:15	
Styrene	ug/L	ND	1.0	0.17	10/09/20 08:15	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/09/20 08:15	
Toluene	ug/L	ND	1.0	0.18	10/09/20 08:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 08:15	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/09/20 08:15	
Trichloroethene	ug/L	ND	1.0	0.25	10/09/20 08:15	
Vinyl chloride	ug/L	ND	1.0	0.25	10/09/20 08:15	
Xylene (Total)	ug/L	ND	3.0	0.54	10/09/20 08:15	
1,2-Dichloroethane-d4 (S)	%	103	86-117		10/09/20 08:15	
4-Bromofluorobenzene (S)	%	100	80-120		10/09/20 08:15	
Toluene-d8 (S)	%	98	80-120		10/09/20 08:15	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2755238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.9	105	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	21.7	108	78-118	
1,1,2-Trichloroethane	ug/L	20	21.9	109	82-117	
1,1-Dichloroethane	ug/L	20	22.2	111	85-120	
1,1-Dichloroethene	ug/L	20	22.0	110	81-124	
1,2-Dichloroethane	ug/L	20	21.8	109	79-118	
1,2-Dichloropropane	ug/L	20	21.5	108	85-117	
2-Butanone (MEK)	ug/L	100	121	121	70-125	
2-Hexanone	ug/L	100	123	123	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	123	123	73-131	
Acetone	ug/L	100	160	160	59-135	L1
Benzene	ug/L	20	20.9	105	82-115	
Bromodichloromethane	ug/L	20	21.5	108	82-123	
Bromoform	ug/L	20	20.0	100	66-133	
Bromomethane	ug/L	20	18.7	93	27-179	
Carbon disulfide	ug/L	20	24.4	122	72-134	
Carbon tetrachloride	ug/L	20	21.2	106	80-121	
Chlorobenzene	ug/L	20	20.9	104	80-120	
Chloroethane	ug/L	20	21.9	109	78-145	
Chloroform	ug/L	20	20.9	104	84-116	
Chloromethane	ug/L	20	18.9	94	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.7	108	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.9	105	85-117	
Dibromochloromethane	ug/L	20	21.1	106	82-122	
Ethylbenzene	ug/L	20	19.5	98	79-115	
Methylene Chloride	ug/L	20	21.6	108	80-126	
Styrene	ug/L	20	21.7	109	80-117	
Tetrachloroethene	ug/L	20	20.5	102	83-119	
Toluene	ug/L	20	20.9	105	83-115	
trans-1,2-Dichloroethene	ug/L	20	21.5	107	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	83-117	
Trichloroethene	ug/L	20	20.8	104	80-118	
Vinyl chloride	ug/L	20	23.6	118	76-144	
Xylene (Total)	ug/L	60	63.0	105	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755240 2755241

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	200	200	212	213	106	107	74-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	200	200	218	207	109	103	60-128	5	19	
1,1,2-Trichloroethane	ug/L	ND	200	200	213	212	106	106	66-125	0	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755240 2755241

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	0.69J	200	200	218	221	109	110	81-124	1	23	
1,1-Dichloroethene	ug/L	0.85J	200	200	217	225	109	112	64-141	3	21	
1,2-Dichloroethane	ug/L	ND	200	200	218	209	108	104	64-135	4	22	
1,2-Dichloropropane	ug/L	ND	200	200	200	206	100	103	73-125	3	19	
2-Butanone (MEK)	ug/L	ND	1000	1000	1140	1090	109	104	58-121	4	22	
2-Hexanone	ug/L	ND	1000	1000	1160	1110	116	111	61-125	5	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	1000	1000	1210	1170	121	117	67-125	4	20	
Acetone	ug/L	ND	1000	1000	1340	1290	133	127	49-113	4	32	M0
Benzene	ug/L	ND	200	200	209	208	104	104	49-140	0	25	
Bromodichloromethane	ug/L	ND	200	200	212	211	106	106	71-124	1	19	
Bromoform	ug/L	ND	200	200	191	183	96	92	56-113	4	18	
Bromomethane	ug/L	ND	200	200	146	179	73	90	12-165	21	43	
Carbon disulfide	ug/L	ND	200	200	250	260	125	130	66-145	4	18	
Carbon tetrachloride	ug/L	ND	200	200	210	208	105	104	84-130	1	21	
Chlorobenzene	ug/L	ND	200	200	201	199	100	100	68-126	1	14	
Chloroethane	ug/L	ND	200	200	222	215	111	107	67-145	3	28	
Chloroform	ug/L	0.32J	200	200	204	205	102	103	72-123	1	17	
Chloromethane	ug/L	ND	200	200	178	187	89	94	31-175	5	34	
cis-1,2-Dichloroethene	ug/L	7.2	200	200	217	211	104	101	69-127	3	18	
cis-1,3-Dichloropropene	ug/L	ND	200	200	184	182	92	91	60-124	1	20	
Dibromochloromethane	ug/L	ND	200	200	205	189	102	95	68-123	8	24	
Ethylbenzene	ug/L	ND	200	200	191	193	96	97	52-140	1	28	
Methylene Chloride	ug/L	ND	200	200	211	216	106	108	68-125	2	24	
Styrene	ug/L	ND	200	200	211	209	106	104	56-136	1	20	
Tetrachloroethene	ug/L	ND	200	200	196	196	98	98	59-133	0	28	
Toluene	ug/L	ND	200	200	205	205	102	103	56-137	0	21	
trans-1,2-Dichloroethene	ug/L	ND	200	200	218	219	109	110	70-130	0	24	
trans-1,3-Dichloropropene	ug/L	ND	200	200	187	187	94	93	69-121	0	24	
Trichloroethene	ug/L	359	200	200	583	576	112	109	68-128	1	23	
Vinyl chloride	ug/L	0.44J	200	200	232	241	115	120	51-148	4	23	
Xylene (Total)	ug/L	ND	600	600	610	600	102	100	59-139	2	22	
1,2-Dichloroethane-d4 (S)	%						107	107	86-117			
4-Bromofluorobenzene (S)	%						99	99	80-120			
Toluene-d8 (S)	%						99	100	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755242 2755243

Parameter	Units	60350519006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	20.8	21.7	104	108	74-130	4	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.3	19.6	97	98	60-128	2	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.2	20.4	101	102	66-125	1	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755242 2755243

Parameter	Units	60350519006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	21.1	22.0	105	110	81-124	4	23	
1,1-Dichloroethene	ug/L	ND	20	20	22.1	23.0	110	115	64-141	4	21	
1,2-Dichloroethane	ug/L	ND	20	20	19.4	20.5	97	102	64-135	6	22	
1,2-Dichloropropane	ug/L	ND	20	20	19.6	20.6	98	103	73-125	5	19	
2-Butanone (MEK)	ug/L	ND	100	100	99.7	104	100	104	58-121	4	22	
2-Hexanone	ug/L	ND	100	100	104	108	104	108	61-125	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	109	114	109	114	67-125	5	20	
Acetone	ug/L	ND	100	100	115	121	115	121	49-113	5	32	M0
Benzene	ug/L	ND	20	20	20.0	21.0	100	105	49-140	5	25	
Bromodichloromethane	ug/L	ND	20	20	19.9	20.2	100	101	71-124	1	19	
Bromoform	ug/L	ND	20	20	17.3	18.8	86	94	56-113	9	18	
Bromomethane	ug/L	ND	20	20	16.5	17.7	82	88	12-165	7	43	
Carbon disulfide	ug/L	ND	20	20	24.9	25.8	125	129	66-145	3	18	
Carbon tetrachloride	ug/L	ND	20	20	21.0	22.0	105	110	84-130	5	21	
Chlorobenzene	ug/L	ND	20	20	19.1	20.0	96	100	68-126	5	14	
Chloroethane	ug/L	ND	20	20	22.3	23.7	112	119	67-145	6	28	
Chloroform	ug/L	ND	20	20	19.6	20.5	98	102	72-123	5	17	
Chloromethane	ug/L	ND	20	20	16.7	18.0	83	90	31-175	8	34	
cis-1,2-Dichloroethene	ug/L	1.3	20	20	21.5	22.0	101	104	69-127	2	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.0	18.5	85	92	60-124	9	20	
Dibromochloromethane	ug/L	ND	20	20	18.9	19.9	94	100	68-123	5	24	
Ethylbenzene	ug/L	ND	20	20	18.4	19.0	92	95	52-140	3	28	
Methylene Chloride	ug/L	ND	20	20	20.1	21.1	100	105	68-125	5	24	
Styrene	ug/L	ND	20	20	19.9	20.0	100	100	56-136	0	20	
Tetrachloroethene	ug/L	ND	20	20	18.6	19.9	93	99	59-133	7	28	
Toluene	ug/L	ND	20	20	19.6	20.2	98	101	56-137	3	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.2	21.4	101	107	70-130	6	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.6	18.0	88	90	69-121	2	24	
Trichloroethene	ug/L	11.7	20	20	31.2	32.0	98	102	68-128	2	23	
Vinyl chloride	ug/L	ND	20	20	24.4	24.3	122	121	51-148	1	23	
Xylene (Total)	ug/L	ND	60	60	57.7	59.7	96	100	59-139	3	22	
1,2-Dichloroethane-d4 (S)	%						105	107	86-117			
4-Bromofluorobenzene (S)	%						99	96	80-120			
Toluene-d8 (S)	%						100	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755244 2755245

Parameter	Units	60350519007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	21.3	21.5	106	107	74-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.2	19.7	96	99	60-128	2	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.0	19.6	100	98	66-125	2	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2755244			2755245							
Parameter	Units	60350519007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	20.9	21.2	105	106	81-124	1	23	
1,1-Dichloroethene	ug/L	ND	20	20	22.2	21.8	111	109	64-141	2	21	
1,2-Dichloroethane	ug/L	ND	20	20	20.0	19.5	99	97	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	19.9	19.7	100	98	73-125	1	19	
2-Butanone (MEK)	ug/L	ND	100	100	102	99.4	102	99	58-121	2	22	
2-Hexanone	ug/L	ND	100	100	103	104	103	104	61-125	2	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	109	109	109	109	67-125	0	20	
Acetone	ug/L	ND	100	100	117	117	117	117	49-113	0	32	M0
Benzene	ug/L	ND	20	20	20.3	20.3	101	102	49-140	0	25	
Bromodichloromethane	ug/L	ND	20	20	19.5	19.5	98	97	71-124	0	19	
Bromoform	ug/L	ND	20	20	17.3	17.2	87	86	56-113	0	18	
Bromomethane	ug/L	ND	20	20	18.4	19.1	92	96	12-165	4	43	
Carbon disulfide	ug/L	ND	20	20	25.2	25.1	126	126	66-145	0	18	
Carbon tetrachloride	ug/L	ND	20	20	21.2	21.2	106	106	84-130	0	21	
Chlorobenzene	ug/L	ND	20	20	19.7	19.7	99	98	68-126	0	14	
Chloroethane	ug/L	ND	20	20	22.2	22.1	111	110	67-145	0	28	
Chloroform	ug/L	ND	20	20	20.1	19.8	100	99	72-123	2	17	
Chloromethane	ug/L	ND	20	20	17.5	17.1	87	86	31-175	2	34	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.3	20.0	102	100	69-127	2	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.0	17.6	85	88	60-124	3	20	
Dibromochloromethane	ug/L	ND	20	20	19.4	19.6	97	98	68-123	1	24	
Ethylbenzene	ug/L	ND	20	20	19.4	19.0	97	95	52-140	2	28	
Methylene Chloride	ug/L	ND	20	20	20.6	20.3	103	102	68-125	1	24	
Styrene	ug/L	ND	20	20	20.2	20.3	101	102	56-136	0	20	
Tetrachloroethene	ug/L	ND	20	20	19.8	19.4	99	97	59-133	2	28	
Toluene	ug/L	ND	20	20	19.9	20.3	99	102	56-137	2	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.7	20.8	104	104	70-130	0	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.1	18.0	90	90	69-121	0	24	
Trichloroethene	ug/L	ND	20	20	19.8	20.0	99	100	68-128	1	23	
Vinyl chloride	ug/L	ND	20	20	24.1	24.2	121	121	51-148	0	23	
Xylene (Total)	ug/L	ND	60	60	59.9	60.7	100	101	59-139	1	22	
1,2-Dichloroethane-d4 (S)	%						105	103	86-117			
4-Bromofluorobenzene (S)	%						98	100	80-120			
Toluene-d8 (S)	%						99	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2755246			2755247							
Parameter	Units	60350519009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	21.5	18.8	107	94	74-130	13	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.0	16.7	95	83	60-128	13	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.3	17.5	96	88	66-125	10	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755246 2755247

Parameter	Units	60350519009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	21.0	18.6	105	93	81-124	12	23	
1,1-Dichloroethene	ug/L	ND	20	20	22.4	19.9	112	100	64-141	12	21	
1,2-Dichloroethane	ug/L	ND	20	20	19.5	17.7	97	88	64-135	10	22	
1,2-Dichloropropane	ug/L	ND	20	20	19.9	17.9	99	89	73-125	11	19	
2-Butanone (MEK)	ug/L	ND	100	100	98.0	87.8	98	88	58-121	11	22	
2-Hexanone	ug/L	ND	100	100	100	90.8	100	91	61-125	10	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	104	97.1	104	97	67-125	7	20	
Acetone	ug/L	ND	100	100	117	110	117	110	49-113	7	32	M0
Benzene	ug/L	ND	20	20	20.2	18.0	101	90	49-140	12	25	
Bromodichloromethane	ug/L	ND	20	20	19.6	16.7	98	83	71-124	16	19	
Bromoform	ug/L	ND	20	20	17.3	14.6	86	73	56-113	17	18	
Bromomethane	ug/L	ND	20	20	18.8	16.3	94	82	12-165	14	43	
Carbon disulfide	ug/L	ND	20	20	25.0	22.4	125	112	66-145	11	18	
Carbon tetrachloride	ug/L	ND	20	20	21.3	19.0	107	95	84-130	12	21	
Chlorobenzene	ug/L	ND	20	20	19.5	17.3	97	87	68-126	12	14	
Chloroethane	ug/L	ND	20	20	21.3	19.0	106	95	67-145	12	28	
Chloroform	ug/L	ND	20	20	19.6	17.8	98	89	72-123	10	17	
Chloromethane	ug/L	ND	20	20	18.4	15.2	92	76	31-175	19	34	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.3	17.6	102	88	69-127	14	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.0	15.4	85	77	60-124	10	20	
Dibromochloromethane	ug/L	ND	20	20	19.2	16.6	96	83	68-123	14	24	
Ethylbenzene	ug/L	ND	20	20	18.5	16.2	93	81	52-140	14	28	
Methylene Chloride	ug/L	ND	20	20	20.6	17.9	103	89	68-125	14	24	
Styrene	ug/L	ND	20	20	12.0	6.1	60	30	56-136	66	20	M1,R1
Tetrachloroethene	ug/L	ND	20	20	19.1	17.3	95	86	59-133	10	28	
Toluene	ug/L	ND	20	20	19.6	17.6	98	88	56-137	11	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.8	18.6	104	93	70-130	11	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.1	15.0	86	75	69-121	13	24	
Trichloroethene	ug/L	0.35J	20	20	20.2	18.1	99	89	68-128	11	23	
Vinyl chloride	ug/L	ND	20	20	23.7	21.2	118	106	51-148	11	23	
Xylene (Total)	ug/L	ND	60	60	59.3	50.9	99	85	59-139	15	22	
1,2-Dichloroethane-d4 (S)	%						105	105	86-117			
4-Bromofluorobenzene (S)	%						98	101	80-120			
Toluene-d8 (S)	%						99	99	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 682080
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519021, 60350519022, 60350519023, 60350519024, 60350519025, 60350519027, 60350519029, 60350519030, 60350519031

METHOD BLANK: 2757493
Matrix: Water
Associated Lab Samples: 60350519021, 60350519022, 60350519023, 60350519024, 60350519025, 60350519027, 60350519029, 60350519030, 60350519031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 13:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 13:42	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 13:42	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 13:42	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 13:42	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 13:42	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 13:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 13:42	
Acetone	ug/L	ND	10.0	4.7	10/13/20 13:42	
Benzene	ug/L	ND	1.0	0.088	10/13/20 13:42	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 13:42	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 13:42	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 13:42	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 13:42	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 13:42	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 13:42	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 13:42	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 13:42	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 13:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 13:42	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 13:42	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 13:42	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 13:42	
Styrene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
Toluene	ug/L	ND	1.0	0.18	10/13/20 13:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 13:42	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 13:42	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 13:42	
1,2-Dichloroethane-d4 (S)	%	116	86-117		10/13/20 13:42	
4-Bromofluorobenzene (S)	%	111	80-120		10/13/20 13:42	
Toluene-d8 (S)	%	96	80-120		10/13/20 13:42	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2757494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	97	78-118	
1,1,2-Trichloroethane	ug/L	20	18.8	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	20.3	101	81-124	
1,2-Dichloroethane	ug/L	20	21.9	110	79-118	
1,2-Dichloropropane	ug/L	20	18.6	93	85-117	
2-Butanone (MEK)	ug/L	100	106	106	70-125	
2-Hexanone	ug/L	100	96.2	96	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	73-131	
Acetone	ug/L	100	146	146	59-135	L1
Benzene	ug/L	20	19.2	96	82-115	
Bromodichloromethane	ug/L	20	21.8	109	82-123	
Bromoform	ug/L	20	19.1	95	66-133	
Bromomethane	ug/L	20	25.2	126	27-179	
Carbon disulfide	ug/L	20	23.3	116	72-134	
Carbon tetrachloride	ug/L	20	20.9	104	80-121	
Chlorobenzene	ug/L	20	18.0	90	80-120	
Chloroethane	ug/L	20	19.3	97	78-145	
Chloroform	ug/L	20	20.2	101	84-116	
Chloromethane	ug/L	20	16.9	84	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.9	100	85-117	
Dibromochloromethane	ug/L	20	19.4	97	82-122	
Ethylbenzene	ug/L	20	17.5	87	79-115	
Methylene Chloride	ug/L	20	18.9	95	80-126	
Styrene	ug/L	20	19.0	95	80-117	
Tetrachloroethene	ug/L	20	17.2	86	83-119	
Toluene	ug/L	20	18.4	92	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	83-117	
Trichloroethene	ug/L	20	19.1	96	80-118	
Vinyl chloride	ug/L	20	19.0	95	76-144	
Xylene (Total)	ug/L	60	53.9	90	82-120	
1,2-Dichloroethane-d4 (S)	%			109	86-117	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	18.8	19.9	94	99	74-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.6	17.7	88	89	60-128	1	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	15.7	16.7	79	83	66-125	6	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	17.2	17.9	86	90	81-124	4	23	
1,1-Dichloroethene	ug/L	1.8	20	20	17.9	20.6	81	94	64-141	14	21	
1,2-Dichloroethane	ug/L	0.25J	20	20	19.6	20.0	97	99	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	15.8	17.2	79	86	73-125	9	19	
2-Butanone (MEK)	ug/L	ND	100	100	85.3	70.2	85	70	58-121	19	22	
2-Hexanone	ug/L	ND	100	100	80.9	81.3	81	81	61-125	0	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	87.9	90.2	88	90	67-125	3	20	
Acetone	ug/L	ND	100	100	113	109	113	109	49-113	4	32	
Benzene	ug/L	ND	20	20	16.5	17.7	83	88	49-140	7	25	
Bromodichloromethane	ug/L	ND	20	20	18.1	19.0	90	95	71-124	5	19	
Bromoform	ug/L	ND	20	20	15.4	15.8	77	79	56-113	2	18	
Bromomethane	ug/L	ND	20	20	21.9	22.7	110	114	12-165	3	43	
Carbon disulfide	ug/L	ND	20	20	14.2	20.3	71	101	66-145	35	18	R1
Carbon tetrachloride	ug/L	ND	20	20	18.4	20.1	92	100	84-130	9	21	
Chlorobenzene	ug/L	ND	20	20	13.8	15.4	69	77	68-126	11	14	
Chloroethane	ug/L	ND	20	20	17.5	19.7	87	99	67-145	12	28	
Chloroform	ug/L	ND	20	20	17.7	18.7	89	94	72-123	5	17	
Chloromethane	ug/L	ND	20	20	16.1	18.1	79	89	31-175	11	34	
cis-1,2-Dichloroethene	ug/L	4.6	20	20	19.9	21.5	76	84	69-127	8	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	15.0	15.6	75	78	60-124	4	20	
Dibromochloromethane	ug/L	ND	20	20	16.0	16.8	80	84	68-123	5	24	
Ethylbenzene	ug/L	ND	20	20	13.1	15.0	66	75	52-140	13	28	
Methylene Chloride	ug/L	ND	20	20	15.8	17.1	79	86	68-125	8	24	
Styrene	ug/L	ND	20	20	13.9	15.8	69	79	56-136	13	20	
Tetrachloroethene	ug/L	ND	20	20	11.6	14.6	58	73	59-133	23	28	M1
Toluene	ug/L	ND	20	20	15.0	16.4	75	82	56-137	9	21	
trans-1,2-Dichloroethene	ug/L	0.16J	20	20	13.8	17.3	68	86	70-130	23	24	M1
trans-1,3-Dichloropropene	ug/L	ND	20	20	15.3	15.7	76	79	69-121	3	24	
Trichloroethene	ug/L	101	20	20	114	120	67	98	68-128	5	23	M1
Vinyl chloride	ug/L	0.60J	20	20	16.4	18.6	79	90	51-148	13	23	
Xylene (Total)	ug/L	ND	60	60	40.6	45.2	68	75	59-139	11	22	
1,2-Dichloroethane-d4 (S)	%						115	113	86-117			
4-Bromofluorobenzene (S)	%						107	107	80-120			
Toluene-d8 (S)	%						97	96	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 682464
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519003, 60350519005, 60350519008, 60350519026, 60350519028

METHOD BLANK: 2758667 Matrix: Water
Associated Lab Samples: 60350519003, 60350519005, 60350519008, 60350519026, 60350519028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 18:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 18:41	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 18:41	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 18:41	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 18:41	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 18:41	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 18:41	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 18:41	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 18:41	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 18:41	
Acetone	ug/L	ND	10.0	4.7	10/13/20 18:41	
Benzene	ug/L	ND	1.0	0.088	10/13/20 18:41	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 18:41	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 18:41	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 18:41	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 18:41	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 18:41	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 18:41	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 18:41	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 18:41	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 18:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 18:41	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 18:41	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 18:41	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 18:41	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 18:41	
Styrene	ug/L	ND	1.0	0.17	10/13/20 18:41	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 18:41	
Toluene	ug/L	ND	1.0	0.18	10/13/20 18:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 18:41	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 18:41	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 18:41	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 18:41	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 18:41	
1,2-Dichloroethane-d4 (S)	%	104	86-117		10/13/20 18:41	
4-Bromofluorobenzene (S)	%	104	80-120		10/13/20 18:41	
Toluene-d8 (S)	%	98	80-120		10/13/20 18:41	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2758668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.4	92	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	78-118	
1,1,2-Trichloroethane	ug/L	20	19.3	96	82-117	
1,1-Dichloroethane	ug/L	20	19.7	98	85-120	
1,1-Dichloroethene	ug/L	20	19.8	99	81-124	
1,2-Dichloroethane	ug/L	20	18.8	94	79-118	
1,2-Dichloropropane	ug/L	20	19.5	97	85-117	
2-Butanone (MEK)	ug/L	100	101	101	70-125	
2-Hexanone	ug/L	100	100	100	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	73-131	
Acetone	ug/L	100	104	104	59-135	
Benzene	ug/L	20	18.9	95	82-115	
Bromodichloromethane	ug/L	20	19.1	96	82-123	
Bromoform	ug/L	20	18.3	92	66-133	
Bromomethane	ug/L	20	20.2	101	27-179	
Carbon disulfide	ug/L	20	24.1	121	72-134	
Carbon tetrachloride	ug/L	20	19.7	99	80-121	
Chlorobenzene	ug/L	20	18.8	94	80-120	
Chloroethane	ug/L	20	21.0	105	78-145	
Chloroform	ug/L	20	18.8	94	84-116	
Chloromethane	ug/L	20	17.7	89	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.9	95	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.5	98	85-117	
Dibromochloromethane	ug/L	20	18.6	93	82-122	
Ethylbenzene	ug/L	20	18.5	92	79-115	
Methylene Chloride	ug/L	20	19.8	99	80-126	
Styrene	ug/L	20	20.1	100	80-117	
Tetrachloroethene	ug/L	20	17.9	90	83-119	
Toluene	ug/L	20	18.5	92	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.0	95	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.1	96	83-117	
Trichloroethene	ug/L	20	18.8	94	80-118	
Vinyl chloride	ug/L	20	21.6	108	76-144	
Xylene (Total)	ug/L	60	57.8	96	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681761
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519023

METHOD BLANK: 2755908 Matrix: Water
Associated Lab Samples: 60350519023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/09/20 11:47	

LABORATORY CONTROL SAMPLE: 2755909

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	99	80-120	

MATRIX SPIKE SAMPLE: 2755911

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.5	0.44	88	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756466 2756467

Parameter	Units	60350560003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.52	0.52	96	97	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756468 2756469

Parameter	Units	60350562001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.50	0.50	97	96	75-125	2	20	

SAMPLE DUPLICATE: 2755912

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 683228
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2761794 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/16/20 15:54	
Sulfate	mg/L	ND	1.0	0.28	10/16/20 15:54	

METHOD BLANK: 2763752 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/19/20 09:07	
Sulfate	mg/L	ND	1.0	0.28	10/19/20 09:07	

METHOD BLANK: 2765218 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.41J	1.0	0.39	10/20/20 09:38	
Sulfate	mg/L	ND	1.0	0.28	10/20/20 09:38	

LABORATORY CONTROL SAMPLE: 2761795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

LABORATORY CONTROL SAMPLE: 2763753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.2	105	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2763779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	105	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

LABORATORY CONTROL SAMPLE: 2765219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	105	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2761796 2761797

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	192	50	50	254	253	125	124	80-120	0	15	E,M1, R1
Sulfate	mg/L	78.0	50	50	132	132	108	107	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2761798 2761799

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	270	250	250	749	741	192	188	80-120	1	15	M1
Sulfate	mg/L	1.6	5	5	11.0	11.2	189	193	80-120	2	15	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681487
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519005, 60350519008, 60350519017

METHOD BLANK: 2754705 Matrix: Water
Associated Lab Samples: 60350519005, 60350519008, 60350519017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/08/20 07:38	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/08/20 07:38	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/08/20 07:38	

LABORATORY CONTROL SAMPLE: 2754706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	0.97	97	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	100	90-110	

MATRIX SPIKE SAMPLE: 2754707

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	24.9	10	32.6	77	70-130	
Nitrogen, Nitrite	mg/L	ND	10	10.8	108	90-110	
Nitrogen, NO2 plus NO3	mg/L	24.9	20	43.4	93	90-110	

MATRIX SPIKE SAMPLE: 2754709

Parameter	Units	60350513004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	109	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	112	90-110	M1
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	110	90-110	

SAMPLE DUPLICATE: 2754708

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	24.9	24.7	1	20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	24.9	24.7	1	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

SAMPLE DUPLICATE: 2754710

Parameter	Units	60350513004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681488
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519023, 60350519025

METHOD BLANK: 2754711 Matrix: Water
Associated Lab Samples: 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/08/20 08:10	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/08/20 08:10	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/08/20 08:10	

LABORATORY CONTROL SAMPLE: 2754712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	100	70-130	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	99	90-110	

MATRIX SPIKE SAMPLE: 2754713

Parameter	Units	60350513010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	107	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	109	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 2754714

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	106	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	106	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.1	106	90-110	

SAMPLE DUPLICATE: 2754715

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681663
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002

METHOD BLANK: 2755313 Matrix: Water
Associated Lab Samples: 60350519002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/08/20 13:52	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/08/20 13:52	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/08/20 13:52	

LABORATORY CONTROL SAMPLE: 2755314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 2755315

Parameter	Units	60350687002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	<0.063	1	1.1	105	70-130	
Nitrogen, Nitrite	mg/L	<0.063	1	1.1	106	90-110	
Nitrogen, NO2 plus NO3	mg/L	<0.058	2	2.1	106	90-110	

SAMPLE DUPLICATE: 2755316

Parameter	Units	60350700001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	1.7	1.7	0	20	
Nitrogen, Nitrite	mg/L	<0.063	ND		20	
Nitrogen, NO2 plus NO3	mg/L	1.7	1.7	0	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 683781
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2764413 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/19/20 23:31	

METHOD BLANK: 2764568 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/24/20 09:02	

LABORATORY CONTROL SAMPLE: 2764414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	106	80-120	

LABORATORY CONTROL SAMPLE: 2764569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	106	80-120	

MATRIX SPIKE SAMPLE: 2764415

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	0.46J	5	4.6	82	80-120	

MATRIX SPIKE SAMPLE: 2764417

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	5	4.2	78	80-120	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

SAMPLE DUPLICATE: 2764416

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	0.46J	0.46J		25	

SAMPLE DUPLICATE: 2764418

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 684936
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002

METHOD BLANK: 2768895 Matrix: Water
Associated Lab Samples: 60350519002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 01:05	

LABORATORY CONTROL SAMPLE: 2768896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.5	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2768897 2768899

Parameter	Units	10534691004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	1.6	5	5	7.1	6.9	109	106	80-120	3	25	

SAMPLE DUPLICATE: 2768898

Parameter	Units	10534691004 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	1.6	1.6	1	25	

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REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 685224
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519005, 60350519008, 60350519017, 60350519025

METHOD BLANK: 2770142 Matrix: Water
Associated Lab Samples: 60350519005, 60350519008, 60350519017, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 14:10	

LABORATORY CONTROL SAMPLE: 2770143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	104	80-120	

MATRIX SPIKE SAMPLE: 2770145

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	5	4.5	81	80-120	

SAMPLE DUPLICATE: 2770144

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	0.48J		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 694427
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519025

METHOD BLANK: 2095206 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/12/20 15:18	
Butyric Acid	mg/L	ND	0.50	0.058	10/12/20 15:18	
Formic acid	mg/L	ND	0.50	0.055	10/12/20 15:18	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/12/20 15:18	
Lactic Acid	mg/L	ND	0.50	0.053	10/12/20 15:18	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/12/20 15:18	
Propionic Acid	mg/L	ND	0.50	0.053	10/12/20 15:18	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/12/20 15:18	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/12/20 15:18	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/12/20 15:18	

LABORATORY CONTROL SAMPLE & LCSD: 2095207 2095208

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetic Acid	mg/L	2	2.3	2.3	116	115	70-130	1	20	
Butyric Acid	mg/L	2	2.1	2.0	105	102	70-130	3	20	
Formic acid	mg/L	2	2.0	2.0	101	100	70-130	0	20	
Hexanoic Acid	mg/L	2	2.0	2.0	102	100	70-130	2	20	
Lactic Acid	mg/L	2	2.0	1.9	98	97	70-130	1	20	
Pentanoic Acid	mg/L	2	2.0	2.0	100	98	70-130	2	20	
Propionic Acid	mg/L	2	2.0	2.0	103	102	70-130	0	20	
Pyruvic Acid	mg/L	2	1.6	1.7	83	86	70-130	5	20	
i-Hexanoic Acid	mg/L	2	2.1	2.0	103	101	70-130	2	20	
i-Pentanoic Acid	mg/L	2	2.1	2.0	104	102	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 682464

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350519002	**MW-61R-202010**	AM20GAX	694863		
60350519005	**MW-189-202010**	AM20GAX	694863		
60350519008	**MW-91-202010**	AM20GAX	694863		
60350519017	**TMW-22R-202010**	AM20GAX	694863		
60350519023	**RW-69-202010**	AM20GAX	694863		
60350519025	**TMW-21-202010**	AM20GAX	694863		
60350519002	**MW-61R-202010**	EPA 3010	683682	EPA 6010	683851
60350519005	**MW-189-202010**	EPA 3010	683682	EPA 6010	683851
60350519008	**MW-91-202010**	EPA 3010	683682	EPA 6010	683851
60350519017	**TMW-22R-202010**	EPA 3010	683682	EPA 6010	683851
60350519023	**RW-69-202010**	EPA 3010	683682	EPA 6010	683851
60350519025	**TMW-21-202010**	EPA 3010	683682	EPA 6010	683851
60350519001	**MW-187-202010**	EPA 5030B/8260	681636		
60350519002	**MW-61R-202010**	EPA 5030B/8260	681636		
60350519003	**MW-176-202010**	EPA 5030B/8260	681636		
60350519003	**MW-176-202010**	EPA 5030B/8260	682464		
60350519004	**MW-60R-202010**	EPA 5030B/8260	681636		
60350519005	**MW-189-202010**	EPA 5030B/8260	681636		
60350519005	**MW-189-202010**	EPA 5030B/8260	682464		
60350519006	**MW-188-202010**	EPA 5030B/8260	681636		
60350519007	**MW-40R-202010**	EPA 5030B/8260	681636		
60350519008	**MW-91-202010**	EPA 5030B/8260	681636		
60350519008	**MW-91-202010**	EPA 5030B/8260	682464		
60350519009	**MW-195-202010**	EPA 5030B/8260	681636		
60350519010	**MW-62R-202010**	EPA 5030B/8260	681636		
60350519011	**TMW-20-202010**	EPA 5030B/8260	681636		
60350519012	**MW-29-202010**	EPA 5030B/8260	681636		
60350519013	**MW-55R-202010**	EPA 5030B/8260	681636		
60350519014	**MW-63R-202010**	EPA 5030B/8260	681636		
60350519015	**MW-197-202010**	EPA 5030B/8260	681636		
60350519016	**MW-39R-202010**	EPA 5030B/8260	681636		
60350519017	**TMW-22R-202010**	EPA 5030B/8260	681636		
60350519018	**ITMW-20-202010**	EPA 5030B/8260	681636		
60350519019	**MW-175-202010**	EPA 5030B/8260	681636		
60350519020	**MW-199-202010**	EPA 5030B/8260	681636		
60350519021	**TMW-35-202010**	EPA 5030B/8260	682080		
60350519022	**MW-196-202010**	EPA 5030B/8260	682080		
60350519023	**RW-69-202010**	EPA 5030B/8260	682080		
60350519024	**MW-68-202010**	EPA 5030B/8260	682080		
60350519025	**TMW-21-202010**	EPA 5030B/8260	682080		
60350519026	**MW-56R-202010**	EPA 5030B/8260	682464		
60350519027	**MW-84-202010**	EPA 5030B/8260	682080		
60350519028	**TMW-24-202010**	EPA 5030B/8260	682464		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350519029	**TB-02-202010**	EPA 5030B/8260	682080		
60350519030	**TB-03-202010**	EPA 5030B/8260	682080		
60350519031	**TB-04-202010**	EPA 5030B/8260	682080		
60350519023	**RW-69-202010**	SM 4500-S-2 D	681761		
60350519002	**MW-61R-202010**	EPA 300.0	683228		
60350519005	**MW-189-202010**	EPA 300.0	683228		
60350519008	**MW-91-202010**	EPA 300.0	683228		
60350519017	**TMW-22R-202010**	EPA 300.0	683228		
60350519023	**RW-69-202010**	EPA 300.0	683228		
60350519025	**TMW-21-202010**	EPA 300.0	683228		
60350519002	**MW-61R-202010**	EPA 353.2	681663		
60350519005	**MW-189-202010**	EPA 353.2	681487		
60350519008	**MW-91-202010**	EPA 353.2	681487		
60350519017	**TMW-22R-202010**	EPA 353.2	681487		
60350519023	**RW-69-202010**	EPA 353.2	681488		
60350519025	**TMW-21-202010**	EPA 353.2	681488		
60350519002	**MW-61R-202010**	SM 5310C	683781		
60350519005	**MW-189-202010**	SM 5310C	683781		
60350519008	**MW-91-202010**	SM 5310C	683781		
60350519017	**TMW-22R-202010**	SM 5310C	683781		
60350519023	**RW-69-202010**	SM 5310C	683781		
60350519025	**TMW-21-202010**	SM 5310C	683781		
60350519002	**MW-61R-202010**	SM 5310C	684936		
60350519005	**MW-189-202010**	SM 5310C	685224		
60350519008	**MW-91-202010**	SM 5310C	685224		
60350519017	**TMW-22R-202010**	SM 5310C	685224		
60350519025	**TMW-21-202010**	SM 5310C	685224		
60350519002	**MW-61R-202010**	AM23G	694427		
60350519005	**MW-189-202010**	AM23G	694427		
60350519008	**MW-91-202010**	AM23G	694427		
60350519017	**TMW-22R-202010**	AM23G	694427		
60350519025	**TMW-21-202010**	AM23G	694427		

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LAB USE ONLY- Affix WO# : 60350519 MTJL Log-in

ALL S 60350519

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print): Haley Ahlers	Purchase Order # / DW PWS ID #:
Collected by (signature): Haley Ahlers	Quote # / DW Location Code #:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: _____ / Immediately Packed on Ice? [ ] Yes [ ] No
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	LAB USE ONLY: Lab Sample # / Comments
MW-187-202010	GW	G	10/6/20	0925	n/a	n/a		3	X							~~X~~		
MW-61R-202010				0953				12		X	X	X	X	X	X	X	X	
MW-176-202010				1014				3										
MW-60R-202010				0950				3										
MW-189-202010-MS				1015				3										
MW-189-202010-~~MSD~~				1015				12		X	X	X	X	X	X	X	X	
MW-189-202010-MSD				1015				3										
MW-188-202010				1050				3										
MW-188-202010-MS				1050				3										
MW-188-202010-MSD				1050				3										

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	~~N~~	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

10/7/20 SR

Customer Remarks/ Special Conditions/ Possible Hazards:
-no MEE sample for MW-187

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: 2pic, bubble bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N (X) NA

Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.5, 1.0c 1.4

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.7, 1.2c 1.6

Comments: _____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s) YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/6/20 1830	[illegible] / Pace	10/7/20 0640
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 3 of 87

Page 1 of 5

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6035051 9

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
	Quote # / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Lab Sample # / Comments
MW-40R-202010-MS	GW	G	10/6/20	1400	n/a	1400		3	X									
MW-40R-202010-MSD				1400		1400		3	X									
MW-91-202010				1420		1420		12	X	X	X	X	X	X	X	X	X	
MW-195-202010				1415		1415		3										
MW-195-202010-MS				1415		1415		3										
MW-195-202010-MSD				1415		1415		3										
MW-62R-202010				1530		n/a		3										
MW-20-202010				1510				3										
MW-29-202010				1540				3										
MW-55R-202010				1526				3										

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA 10/7/20 SLC
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet X Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: 2pk, Bubble Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID#: T290

Cooler Temp Upon Receipt 1.5 1.0 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.2 1.6

Comments:

Trip Blank Received: Y N N/A

HCl MeOH TSP Other

NonConformance(s) YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See Page 1		SRoads/Pace	10/7/20 0040
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

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ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: / Email:	Site/Facility ID #: / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Lab Sample # / Comments
3 MW-63R-202010	GW	G	10/6/20	1125	n/a	n/a		3	X									
3 MW-197-202010				1042				3										
2 MW-39R-202010				1140				3										
3 TMW-22R-202010				1206				12		X	X	X	X	X	X	X	X	
4 TMW-20-202010				1233				3										
3 MW-175-202010				1205				3										
3 MW-199-202010				1245				3										
3 TMW-35-202010				1245				3										
2 MW-196-202010				1341				3										
3 MW-40R-202010				1400				3										

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	(N)	NA 10/7/20 SC
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	(Y)	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: Zplc Bub. Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N (X) NA

Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID#: T299

Cooler Temp Upon Receipt 1.5 1.9 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.2c 1.6

Comments:

Trip Blank Received: Y N N/A

HCl MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See Page 1		S Woods/Pace	10/7/20 0040
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 3 of 5

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6035 0519

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / Quote # / DW PWS ID #: / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:_____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate / Sulfide (RW-69 only)	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene
*10	RW-69-202010	GW	G	10/6/20	1627				10	X		X	X	X		X	X		X
3	RW-69-202010-MS				1627				3	X									
3	RW-69-202010-MSD				1627				3	X									
3	MW-68-202010				1645				3	X									
*1	TMW-21-202010				1700				12	X	X	X	X	X	X	X	X	X	
*1	MW-56R-202010				1710				3	X									
1	MW-84-202010				1712				3	X									
2	TMW-24-202010				1731				3	X									
3	TB-02-202010								2	X									
2	TB-03-202010								2	X									

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	(N)	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	(Y)	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

10/7/20 SR

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

* only run Sulfide for RW-69, ran out of Columns for analytes

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (N) N N/A

Packing Material Used: Zplc Bub. bags

LAB Tracking #:

Radchem sample(s) screened (<500 cpm): [ ] Y [ ] N (X) NA

Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.5 1.6 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.8 1.6

Comments:

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See page 1		B Woods/Pace	10/7/20 0740
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 4 of 5

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6075-0519

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID #
Collected by (print):	Purchase Order #
Collected by (signature):	Quote #
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: _____ RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [ ] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
#1 TB-04-202010								2	X									

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: 2pk, Bub bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.5 1.0 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.2 1.6

Comments: _____

Trip Blank Received: (Y) N N/A

HCL MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See Page1		S Woods/Pace	10/7/20 0640

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 27, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350715001	MW-99-202010	Water	10/07/20 08:00	10/08/20 01:50
60350715002	MW-191-202010	Water	10/07/20 08:50	10/08/20 01:50
60350715003	MW-182-202010	Water	10/07/20 08:51	10/08/20 01:50
60350715004	MW-190-202010	Water	10/07/20 09:08	10/08/20 01:50
60350715005	TMW-30-202010	Water	10/07/20 10:25	10/08/20 01:50
60350715006	MW-194-202010	Water	10/07/20 09:15	10/08/20 01:50
60350715007	TMW-23-202010	Water	10/07/20 10:41	10/08/20 01:50
60350715008	MW-192-202010	Water	10/07/20 10:00	10/08/20 01:50
60350715009	TMW-27-202010	Water	10/07/20 10:00	10/08/20 01:50
60350715010	TMW-26-202010	Water	10/07/20 11:10	10/08/20 01:50
60350715011	MW-57R-202010	Water	10/07/20 11:35	10/08/20 01:50
60350715012	DUP-02-202010	Water	10/07/20 11:35	10/08/20 01:50
60350715013	MW-183R-202010	Water	10/07/20 11:15	10/08/20 01:50
60350715014	DUP-03-202010	Water	10/07/20 10:41	10/08/20 01:50
60350715015	ITMW-9-202010	Water	10/07/20 12:15	10/08/20 01:50
60350715016	TMW-12-202010	Water	10/07/20 12:48	10/08/20 01:50
60350715017	TMW-14-202010	Water	10/07/20 11:37	10/08/20 01:50
60350715018	DUP-04-202010	Water	10/07/20 10:00	10/08/20 01:50
60350715019	IW-73-202010	Water	10/07/20 13:45	10/08/20 01:50
60350715020	MW-58R-202010	Water	10/07/20 12:37	10/08/20 01:50
60350715021	MW-83-202010	Water	10/07/20 14:36	10/08/20 01:50
60350715022	DUP-01-202010	Water	10/07/20 14:36	10/08/20 01:50
60350715023	MW-38-202010	Water	10/07/20 14:03	10/08/20 01:50
60350715024	TMW-34-202010	Water	10/07/20 14:45	10/08/20 01:50
60350715025	MW-185-202010	Water	10/07/20 12:55	10/08/20 01:50
60350715026	IW-78-202010	Water	10/07/20 16:00	10/08/20 01:50
60350715027	MW-82-202010	Water	10/07/20 13:55	10/08/20 01:50
60350715028	MW-201-202010	Water	10/07/20 16:09	10/08/20 01:50
60350715029	MW-27-202010	Water	10/07/20 16:19	10/08/20 01:50
60350715030	IW-147-202010	Water	10/07/20 16:00	10/08/20 01:50
60350715031	MW-184-202010	Water	10/07/20 16:25	10/08/20 01:50
60350715032	DUP-05-202010	Water	10/07/20 16:25	10/08/20 01:50
60350715033	MW-178-202010	Water	10/07/20 16:49	10/08/20 01:50
60350715034	MW-26-202010	Water	10/07/20 17:10	10/08/20 01:50
60350715035	EB-01-202010	Water	10/07/20 17:28	10/08/20 01:50
60350715036	EB-02-202010	Water	10/07/20 17:25	10/08/20 01:50
60350715037	EB-03-202010	Water	10/07/20 17:22	10/08/20 01:50

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350715038	**MW-98-202010**	Water	10/07/20 17:28	10/08/20 01:50
60350715039	**TMW-25-202010**	Water	10/07/20 17:50	10/08/20 01:50
60350715040	**TB-05-202010**	Water	10/07/20 08:00	10/08/20 01:50
60350715041	**TB-06-202010**	Water	10/07/20 08:00	10/08/20 01:50
60350715042	**TB-07-202010**	Water	10/07/20 08:00	10/08/20 01:50
60350715043	**DUP-06-202010**	Water	10/07/20 10:00	10/08/20 01:50

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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350715001	**MW-99-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715002	**MW-191-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350715003	**MW-182-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715004	**MW-190-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715005	**TMW-30-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715006	**MW-194-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715007	**TMW-23-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350715008	**MW-192-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715009	**TMW-27-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715010	**TMW-26-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		AM23G	MOS	10	GCLA
60350715011	MW-57R-202010	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350715012	DUP-02-202010	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350715013	MW-183R-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715014	DUP-03-202010	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350715015	ITMW-9-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715016	TMW-12-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715017	TMW-14-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715018	DUP-04-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715019	IW-73-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715020	MW-58R-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715021	MW-83-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715022	DUP-01-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715023	MW-38-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	LDB	1	PASI-K
60350715024	TMW-34-202010	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715025	MW-185-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715026	IW-78-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715027	MW-82-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715028	MW-201-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715029	MW-27-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715030	IW-147-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715031	MW-184-202010	EPA 5030B/8260	EAG	38	PASI-K
60350715032	DUP-05-202010	EPA 5030B/8260	EAG	38	PASI-K
60350715033	MW-178-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715034	MW-26-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715035	EB-01-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715036	EB-02-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715037	EB-03-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715038	MW-98-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715039	TMW-25-202010	EPA 5030B/8260	CJC	38	PASI-K
60350715040	TB-05-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715041	TB-06-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715042	TB-07-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715043	DUP-06-202010	EPA 5030B/8260	CJC	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 695115

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2098802)
  - Methane

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683767

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350715001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2764380)
  - Iron
- MSD (Lab ID: 2764381)
  - Iron

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 27, 2020

General Information:
43 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- MW-99-202010 (Lab ID: 60350715001)
- TMW-30-202010 (Lab ID: 60350715005)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 682488

S0: Surrogate recovery outside laboratory control limits.
- MW-38-202010 (Lab ID: 60350715023)
  - 1,2-Dichloroethane-d4 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 681805

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- LCS (Lab ID: 2756057)
  - Acetone

QC Batch: 681810

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- LCS (Lab ID: 2756067)
  - Acetone

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 27, 2020

QC Batch: 682488

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2758836)
  - 2-Butanone (MEK)

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681805

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 681810

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 681957

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2757510)
  - Trichloroethene

QC Batch: 682464

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682488

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682998

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350921001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2760915)
  - Acetone
  - Carbon disulfide
  - Methylene Chloride

Additional Comments:

Analyte Comments:

QC Batch: 681805

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- TMW-30-202010 (Lab ID: 60350715005)
  - 4-Bromofluorobenzene (S)

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 27, 2020

Analyte Comments:

QC Batch: 682488

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- IW-147-202010 (Lab ID: 60350715030)
  - Vinyl chloride

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: October 27, 2020

General Information:
5 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683744

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350715006,60350977032

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2764361)
  - Chloride
- MSD (Lab ID: 2764360)
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: October 27, 2020

General Information:
5 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 685224

1e: Dissolved result is greater than the total. Data is within laboratory control limits.
- TMW-34-202010 (Lab ID: 60350715024)
  - Dissolved Organic Carbon

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: October 27, 2020

General Information:
5 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-99-202010 **Lab ID: 60350715001** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.2**	ug/L	1.0	0.075	1		10/20/20 12:36	74-84-0	
Ethene	**2.5**	ug/L	1.0	0.12	1		10/20/20 12:36	74-85-1	
Methane	**12000**	ug/L	5.0	2.5	1		10/20/20 12:36	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**130000**	ug/L	500	268	10	10/19/20 18:38	10/20/20 20:58	7439-89-6	M1
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**330**	ug/L	10.0	4.7	1		10/09/20 16:12	67-64-1	L1
Benzene	**0.16J**	ug/L	1.0	0.088	1		10/09/20 16:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:12	74-83-9	
2-Butanone (MEK)	**1360**	ug/L	100	24.0	10		10/13/20 22:25	78-93-3	
Carbon disulfide	**1.1J**	ug/L	5.0	0.24	1		10/09/20 16:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 16:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 16:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 16:12	75-35-4	
cis-1,2-Dichloroethene	**5.0**	ug/L	1.0	0.15	1		10/09/20 16:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:12	100-41-4	
2-Hexanone	**32.5**	ug/L	10.0	1.5	1		10/09/20 16:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.6J**	ug/L	10.0	1.4	1		10/09/20 16:12	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:12	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:12	79-00-5	
Trichloroethene	**0.85J**	ug/L	1.0	0.25	1		10/09/20 16:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:12	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-99-202010 **Lab ID: 60350715001** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 16:12	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 16:12	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 16:12	2037-26-5	
Preservation pH	**5.0**		0.10		1		10/09/20 16:12		pH
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**137**	mg/L	20.0	7.8	20		10/19/20 21:19	16887-00-6	
Sulfate	**24.7**	mg/L	2.0	0.56	2		10/20/20 15:52	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:46		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:46	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**2850**	mg/L	500	180	500		10/26/20 22:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**2920**	mg/L	500	180	500		10/27/20 17:03		D9
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Hexanoic Acid	**37**	mg/L	10	1.2	20		10/20/20 11:09	142-62-1	
Propionic Acid	**3300**	mg/L	250	26	500		10/21/20 10:50	79-09-4	
Acetic Acid	**940**	mg/L	50	12	100		10/20/20 20:03	64-19-7	
Pyruvic Acid	**21**	mg/L	10	1.2	20		10/20/20 11:09	127-17-3	
Butyric Acid	**450**	mg/L	50	5.8	100		10/20/20 20:03	107-92-6	
Formic acid	**110**	mg/L	50	5.5	100		10/20/20 20:03	64-18-6	
i-Hexanoic Acid	ND	mg/L	10	1.1	20		10/20/20 11:09	646-07-1	
Lactic Acid	ND	mg/L	50	5.3	100		10/20/20 20:03	50-21-5	
i-Pentanoic Acid	**23**	mg/L	10	1.2	20		10/20/20 11:09	503-74-2	
Pentanoic Acid	**250**	mg/L	50	5.6	100		10/20/20 20:03	109-52-4	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-191-202010 **Lab ID: 60350715002** Collected: 10/07/20 08:50 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:41	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 16:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:26	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:26	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:41	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 16:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 16:26	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:26	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:26	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:26	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:26	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 16:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 16:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:26	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:26	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:26	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 16:26	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 16:26	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:26	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:26	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 16:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:26	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 16:26	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 16:26	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 16:26	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 16:26		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-182-202010 **Lab ID: 60350715003** Collected: 10/07/20 08:51 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 16:40	67-64-1	L1
Benzene	**0.16J**	ug/L	1.0	0.088	1		10/09/20 16:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:40	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 16:40	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 16:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:40	56-23-5	
Chlorobenzene	**7.3**	ug/L	1.0	0.23	1		10/09/20 16:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:40	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:40	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:40	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 16:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 16:40	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	0.15	1		10/09/20 16:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:40	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 16:40	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 16:40	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:40	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:40	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:40	79-00-5	
Trichloroethene	**24.9**	ug/L	1.0	0.25	1		10/09/20 16:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/09/20 16:40	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 16:40	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 16:40	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 16:40		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-190-202010 **Lab ID: 60350715004** Collected: 10/07/20 09:08 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 16:54	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 16:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 16:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 16:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 16:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:54	124-48-1	
1,1-Dichloroethane	**0.21J**	ug/L	1.0	0.098	1		10/09/20 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:54	107-06-2	
1,1-Dichloroethene	**0.49J**	ug/L	1.0	0.21	1		10/09/20 16:54	75-35-4	
cis-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		10/09/20 16:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 16:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 16:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:54	79-00-5	
Trichloroethene	**14.5**	ug/L	1.0	0.25	1		10/09/20 16:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 16:54	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 16:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 16:54		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-30-202010 **Lab ID: 60350715005** Collected: 10/07/20 10:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.1**	ug/L	1.0	0.075	1		10/20/20 12:48	74-84-0	
Ethene	**2.3**	ug/L	1.0	0.12	1		10/20/20 12:48	74-85-1	
Methane	**14000**	ug/L	5.0	2.5	1		10/20/20 12:48	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**101000**	ug/L	500	268	10	10/19/20 18:38	10/20/20 21:06	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	200	94.0	20		10/09/20 18:50	67-64-1	L1
Benzene	ND	ug/L	20.0	1.8	20		10/09/20 18:50	71-43-2	
Bromodichloromethane	ND	ug/L	20.0	2.4	20		10/09/20 18:50	75-27-4	
Bromoform	ND	ug/L	20.0	7.6	20		10/09/20 18:50	75-25-2	
Bromomethane	ND	ug/L	100	19.8	20		10/09/20 18:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	200	48.0	20		10/09/20 18:50	78-93-3	
Carbon disulfide	**8.7J**	ug/L	100	4.8	20		10/09/20 18:50	75-15-0	
Carbon tetrachloride	ND	ug/L	20.0	3.8	20		10/09/20 18:50	56-23-5	
Chlorobenzene	ND	ug/L	20.0	4.6	20		10/09/20 18:50	108-90-7	
Chloroethane	ND	ug/L	20.0	7.6	20		10/09/20 18:50	75-00-3	
Chloroform	ND	ug/L	20.0	3.4	20		10/09/20 18:50	67-66-3	
Chloromethane	ND	ug/L	20.0	8.8	20		10/09/20 18:50	74-87-3	
Dibromochloromethane	ND	ug/L	20.0	3.4	20		10/09/20 18:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	20.0	2.0	20		10/09/20 18:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	20.0	4.6	20		10/09/20 18:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	20.0	4.2	20		10/09/20 18:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	20.0	3.0	20		10/09/20 18:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	20.0	3.0	20		10/09/20 18:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	20.0	3.2	20		10/09/20 18:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	20.0	2.6	20		10/09/20 18:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	20.0	3.4	20		10/09/20 18:50	10061-02-6	
Ethylbenzene	ND	ug/L	20.0	3.6	20		10/09/20 18:50	100-41-4	
2-Hexanone	ND	ug/L	200	30.0	20		10/09/20 18:50	591-78-6	
Methylene Chloride	ND	ug/L	20.0	16.2	20		10/09/20 18:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	28.0	20		10/09/20 18:50	108-10-1	
Styrene	ND	ug/L	20.0	3.4	20		10/09/20 18:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	20.0	5.6	20		10/09/20 18:50	79-34-5	
Tetrachloroethene	ND	ug/L	20.0	3.0	20		10/09/20 18:50	127-18-4	
Toluene	ND	ug/L	20.0	3.6	20		10/09/20 18:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	20.0	2.6	20		10/09/20 18:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	20.0	5.6	20		10/09/20 18:50	79-00-5	
Trichloroethene	**12.7J**	ug/L	20.0	5.0	20		10/09/20 18:50	79-01-6	
Vinyl chloride	ND	ug/L	20.0	5.0	20		10/09/20 18:50	75-01-4	
Xylene (Total)	ND	ug/L	60.0	10.8	20		10/09/20 18:50	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-30-202010 **Lab ID: 60350715005** Collected: 10/07/20 10:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		20		10/09/20 18:50	460-00-4	D3
1,2-Dichloroethane-d4 (S)	107	%	86-117		20		10/09/20 18:50	17060-07-0	
Toluene-d8 (S)	100	%	80-120		20		10/09/20 18:50	2037-26-5	
Preservation pH	**6.0**		0.10		20		10/09/20 18:50		pH
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**188**	mg/L	20.0	7.8	20		10/19/20 21:34	16887-00-6	
Sulfate	**14.4**	mg/L	1.0	0.28	1		10/20/20 16:37	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:50		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:50	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**284**	mg/L	100	36.0	100		10/27/20 09:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**195**	mg/L	100	36.0	100		10/27/20 17:03		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**15**	mg/L	10	2.5	20		10/20/20 12:02	64-19-7	
Butyric Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	107-92-6	
Formic acid	**93**	mg/L	10	1.1	20		10/20/20 12:02	64-18-6	
Hexanoic Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	142-62-1	
Lactic Acid	ND	mg/L	10	1.1	20		10/20/20 12:02	50-21-5	
Pentanoic Acid	ND	mg/L	10	1.1	20		10/20/20 12:02	109-52-4	
Propionic Acid	**15**	mg/L	10	1.1	20		10/20/20 12:02	79-09-4	
Pyruvic Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	127-17-3	
i-Hexanoic Acid	ND	mg/L	10	1.1	20		10/20/20 12:02	646-07-1	
i-Pentanoic Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-194-202010 **Lab ID: 60350715006** Collected: 10/07/20 09:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.39J**	ug/L	1.0	0.075	1		10/20/20 12:59	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 12:59	74-85-1	
Methane	**6400**	ug/L	5.0	2.5	1		10/20/20 12:59	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**6200**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:09	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 17:09	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:09	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:09	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:09	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 17:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:09	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:09	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:09	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:09	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:09	75-35-4	
cis-1,2-Dichloroethene	**0.78J**	ug/L	1.0	0.15	1		10/09/20 17:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:09	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:09	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:09	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:09	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:09	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:09	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 17:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:09	79-00-5	
Trichloroethene	**5.6**	ug/L	1.0	0.25	1		10/09/20 17:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 17:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:09	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-194-202010 **Lab ID: 60350715006** Collected: 10/07/20 09:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/09/20 17:09	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 17:09	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 17:09	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**165**	mg/L	20.0	7.8	20		10/19/20 22:18	16887-00-6	M1
Sulfate	**11.4**	mg/L	1.0	0.28	1		10/19/20 21:49	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:49		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:49	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:49	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.64J**	mg/L	1.0	0.36	1		10/26/20 23:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.63J**	mg/L	1.0	0.36	1		10/27/20 17:30		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**2.0J**	mg/L	2.5	0.62	5		10/20/20 12:56	64-19-7	
Butyric Acid	ND	mg/L	2.5	0.29	5		10/20/20 12:56	107-92-6	
Formic acid	**23**	mg/L	2.5	0.27	5		10/20/20 12:56	64-18-6	
Hexanoic Acid	ND	mg/L	2.5	0.29	5		10/20/20 12:56	142-62-1	
Lactic Acid	ND	mg/L	2.5	0.26	5		10/20/20 12:56	50-21-5	
Pentanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 12:56	109-52-4	
Propionic Acid	**0.30J**	mg/L	2.5	0.26	5		10/20/20 12:56	79-09-4	
Pyruvic Acid	ND	mg/L	2.5	0.30	5		10/20/20 12:56	127-17-3	
i-Hexanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 12:56	646-07-1	
i-Pentanoic Acid	ND	mg/L	2.5	0.30	5		10/20/20 12:56	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-23-202010 **Lab ID: 60350715007** Collected: 10/07/20 10:41 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 18:35	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 18:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 18:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 18:35	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 18:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 18:35	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 18:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 18:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 18:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 18:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 18:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 18:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 18:35	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 18:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 18:35	107-06-2	
1,1-Dichloroethene	**0.41J**	ug/L	1.0	0.21	1		10/09/20 18:35	75-35-4	
cis-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		10/09/20 18:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 18:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 18:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 18:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 18:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 18:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 18:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 18:35	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 18:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:35	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 18:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 18:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:35	79-00-5	
Trichloroethene	**168**	ug/L	5.0	1.2	5		10/13/20 17:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 18:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 18:35	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		10/09/20 18:35	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/09/20 18:35	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/09/20 18:35	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 18:35		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-192-202010 **Lab ID: 60350715008** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 17:23	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:23	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:23	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:23	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 17:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:23	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:23	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:23	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:23	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:23	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:23	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:23	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:23	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:23	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:23	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 17:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 17:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 17:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 17:23	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 17:23	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 17:23	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:23		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-27-202010 **Lab ID: 60350715009** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 17:38	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:38	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:38	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:38	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:38	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 17:38	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:38	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:38	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:38	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:38	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:38	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:38	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:38	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:38	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:38	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:38	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:38	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:38	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:38	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:38	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:38	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 17:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:38	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 17:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 17:38	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 17:38	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 17:38	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 17:38	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:38		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-26-202010 **Lab ID: 60350715010** Collected: 10/07/20 11:10 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.58J**	ug/L	1.0	0.075	1		10/20/20 13:11	74-84-0	
Ethene	**1.0**	ug/L	1.0	0.12	1		10/20/20 13:11	74-85-1	
Methane	**16000**	ug/L	5.0	2.5	1		10/20/20 13:11	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**34800**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:11	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.5J**	ug/L	10.0	4.7	1		10/09/20 17:52	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:52	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:52	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:52	78-93-3	
Carbon disulfide	**0.50J**	ug/L	5.0	0.24	1		10/09/20 17:52	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:52	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:52	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:52	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:52	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:52	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:52	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:52	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/09/20 17:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:52	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:52	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:52	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:52	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:52	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:52	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:52	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:52	127-18-4	
Toluene	**8.2**	ug/L	1.0	0.18	1		10/09/20 17:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:52	79-00-5	
Trichloroethene	**3.7**	ug/L	1.0	0.25	1		10/09/20 17:52	79-01-6	
Vinyl chloride	**0.99J**	ug/L	1.0	0.25	1		10/09/20 17:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:52	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-26-202010 **Lab ID: 60350715010** Collected: 10/07/20 11:10 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		10/09/20 17:52	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 17:52	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 17:52	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**196**	mg/L	20.0	7.8	20		10/19/20 23:18	16887-00-6	
Sulfate	**5.3**	mg/L	1.0	0.28	1		10/20/20 16:52	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.16**	mg/L	0.10	0.058	1		10/09/20 07:56		
Nitrogen, Nitrate	**0.16**	mg/L	0.10	0.063	1		10/09/20 07:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:56	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**58.7**	mg/L	50.0	18.0	50		10/26/20 23:32	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**58.7**	mg/L	10.0	3.6	10		10/27/20 17:43		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**12**	mg/L	10	2.5	20		10/20/20 13:49	64-19-7	
Butyric Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	107-92-6	
Formic acid	**90**	mg/L	10	1.1	20		10/20/20 13:49	64-18-6	
Hexanoic Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	142-62-1	
Lactic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	50-21-5	
Pentanoic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	109-52-4	
Propionic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	79-09-4	
Pyruvic Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	127-17-3	
i-Hexanoic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	646-07-1	
i-Pentanoic Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-57R-202010 **Lab ID: 60350715011** Collected: 10/07/20 11:35 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 18:21	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 18:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 18:21	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 18:21	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 18:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 18:21	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 18:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 18:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 18:21	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 18:21	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 18:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 18:21	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 18:21	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 18:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 18:21	107-06-2	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.21	1		10/09/20 18:21	75-35-4	
cis-1,2-Dichloroethene	**14.2**	ug/L	1.0	0.15	1		10/09/20 18:21	156-59-2	
trans-1,2-Dichloroethene	**0.22J**	ug/L	1.0	0.15	1		10/09/20 18:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 18:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 18:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 18:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 18:21	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 18:21	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 18:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 18:21	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 18:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:21	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 18:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 18:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:21	79-00-5	
Trichloroethene	**327**	ug/L	10.0	2.5	10		10/13/20 18:14	79-01-6	
Vinyl chloride	**0.41J**	ug/L	1.0	0.25	1		10/09/20 18:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 18:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 18:21	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 18:21	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 18:21	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 18:21		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-02-202010 **Lab ID: 60350715012** Collected: 10/07/20 11:35 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 18:06	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 18:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 18:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 18:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 18:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 18:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 18:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 18:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 18:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 18:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 18:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 18:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 18:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 18:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 18:06	107-06-2	
1,1-Dichloroethene	**1.7**	ug/L	1.0	0.21	1		10/09/20 18:06	75-35-4	
cis-1,2-Dichloroethene	**14.4**	ug/L	1.0	0.15	1		10/09/20 18:06	156-59-2	
trans-1,2-Dichloroethene	**0.24J**	ug/L	1.0	0.15	1		10/09/20 18:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 18:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 18:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 18:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 18:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 18:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 18:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 18:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 18:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 18:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 18:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:06	79-00-5	
Trichloroethene	**326**	ug/L	10.0	2.5	10		10/13/20 18:29	79-01-6	
Vinyl chloride	**0.37J**	ug/L	1.0	0.25	1		10/09/20 18:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 18:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 18:06	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/09/20 18:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 18:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-183R-202010 **Lab ID: 60350715013** Collected: 10/07/20 11:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:15	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 02:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 02:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 02:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 02:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:15	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:15	79-00-5	
Trichloroethene	**0.82J**	ug/L	1.0	0.25	1		10/10/20 02:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/10/20 02:15	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 02:15	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/10/20 02:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-03-202010 **Lab ID: 60350715014** Collected: 10/07/20 10:41 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:10	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 04:10	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:10	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:10	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 04:10	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:10	107-06-2	
1,1-Dichloroethene	**0.42J**	ug/L	1.0	0.21	1		10/10/20 04:10	75-35-4	
cis-1,2-Dichloroethene	**2.9**	ug/L	1.0	0.15	1		10/10/20 04:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:10	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:10	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:10	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:10	79-00-5	
Trichloroethene	**164**	ug/L	5.0	1.2	5		10/13/20 22:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 04:10	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 04:10	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 04:10	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:10		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: ITMW-9-202010 **Lab ID: 60350715015** Collected: 10/07/20 12:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 13:23	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 13:23	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 13:23	74-85-1	
Methane	**25**	ug/L	5.0	2.5	1		10/20/20 13:23	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	ND	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:14	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:15	67-64-1	
Benzene	**0.81J**	ug/L	1.0	0.088	1		10/13/20 22:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 22:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 22:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 22:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:15	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 22:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 22:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 22:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 22:15	75-00-3	
Chloroform	**0.60J**	ug/L	1.0	0.17	1		10/13/20 22:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 22:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 22:15	124-48-1	
1,1-Dichloroethane	**2.5**	ug/L	1.0	0.098	1		10/13/20 22:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 22:15	107-06-2	
1,1-Dichloroethene	**7.2**	ug/L	1.0	0.21	1		10/13/20 22:15	75-35-4	
cis-1,2-Dichloroethene	**67.6**	ug/L	1.0	0.15	1		10/13/20 22:15	156-59-2	
trans-1,2-Dichloroethene	**2.3**	ug/L	1.0	0.15	1		10/13/20 22:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 22:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 22:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 22:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 22:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 22:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 22:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 22:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 22:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:15	79-34-5	
Tetrachloroethene	**1.6**	ug/L	1.0	0.15	1		10/13/20 22:15	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 22:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 22:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:15	79-00-5	
Trichloroethene	**1770**	ug/L	50.0	12.5	50		10/10/20 06:20	79-01-6	
Vinyl chloride	**1.2**	ug/L	1.0	0.25	1		10/13/20 22:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 22:15	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: ITMW-9-202010 **Lab ID: 60350715015** Collected: 10/07/20 12:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 22:15	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	86-117		1		10/13/20 22:15	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 22:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 22:15		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**26.1**	mg/L	2.0	0.56	2		10/20/20 17:06	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**9.2**	mg/L	0.50	0.29	5		10/09/20 08:10		
Nitrogen, Nitrate	**9.2**	mg/L	0.50	0.32	5		10/09/20 08:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	0.32	5		10/09/20 08:10	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.85J**	mg/L	1.0	0.36	1		10/26/20 23:59	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-12-202010 **Lab ID: 60350715016** Collected: 10/07/20 12:48 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 05:22	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 05:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 05:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 05:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 05:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 05:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 05:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 05:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 05:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 05:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 05:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 05:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 05:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 05:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 05:22	107-06-2	
1,1-Dichloroethene	**1.6**	ug/L	1.0	0.21	1		10/10/20 05:22	75-35-4	
cis-1,2-Dichloroethene	**11.1**	ug/L	1.0	0.15	1		10/10/20 05:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 05:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 05:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 05:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 05:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 05:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 05:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 05:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 05:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 05:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 05:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:22	79-00-5	
Trichloroethene	**415**	ug/L	10.0	2.5	10		10/10/20 05:37	79-01-6	
Vinyl chloride	**0.32J**	ug/L	1.0	0.25	1		10/10/20 05:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 05:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 05:22	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/10/20 05:22	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 05:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 05:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-14-202010 **Lab ID: 60350715017** Collected: 10/07/20 11:37 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:29	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 02:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 02:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 02:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 02:29	75-35-4	
cis-1,2-Dichloroethene	**3.2**	ug/L	1.0	0.15	1		10/10/20 02:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:29	79-00-5	
Trichloroethene	**3.0**	ug/L	1.0	0.25	1		10/10/20 02:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	80-120		1		10/10/20 02:29	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/10/20 02:29	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/10/20 02:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:29		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-04-202010 **Lab ID: 60350715018** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:25	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 04:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:25	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 04:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 04:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:25	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:25	79-00-5	
Trichloroethene	**0.42J**	ug/L	1.0	0.25	1		10/10/20 04:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/10/20 04:25	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 04:25	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/10/20 04:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:25		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-73-202010 **Lab ID: 60350715019** Collected: 10/07/20 13:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 13:35	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 13:35	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 13:35	74-85-1	
Methane	**9.6**	ug/L	5.0	2.5	1		10/20/20 13:35	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**389**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:17	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 05:08	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 05:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 05:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 05:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 05:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 05:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 05:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 05:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 05:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 05:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 05:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 05:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 05:08	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 05:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 05:08	107-06-2	
1,1-Dichloroethene	**0.89J**	ug/L	1.0	0.21	1		10/10/20 05:08	75-35-4	
cis-1,2-Dichloroethene	**7.6**	ug/L	1.0	0.15	1		10/10/20 05:08	156-59-2	
trans-1,2-Dichloroethene	**0.16J**	ug/L	1.0	0.15	1		10/10/20 05:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 05:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 05:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 05:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 05:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 05:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 05:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 05:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 05:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 05:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 05:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:08	79-00-5	
Trichloroethene	**211**	ug/L	10.0	2.5	10		10/13/20 23:13	79-01-6	
Vinyl chloride	**0.27J**	ug/L	1.0	0.25	1		10/10/20 05:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 05:08	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-73-202010 **Lab ID: 60350715019** Collected: 10/07/20 13:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/10/20 05:08	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/10/20 05:08	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 05:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 05:08		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**4.0**	mg/L	1.0	0.28	1		10/20/20 17:21	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.23**	mg/L	0.10	0.058	1		10/09/20 08:04		
Nitrogen, Nitrate	**0.23**	mg/L	0.10	0.063	1		10/09/20 08:04	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:04	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.38J**	mg/L	1.0	0.36	1		10/27/20 00:39	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-58R-202010 **Lab ID: 60350715020** Collected: 10/07/20 12:37 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 13:48	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 13:48	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 13:48	74-85-1	
Methane	**31**	ug/L	5.0	2.5	1		10/20/20 13:48	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**374**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:19	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 05:51	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 05:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 05:51	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 05:51	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 05:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 05:51	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 05:51	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 05:51	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 05:51	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 05:51	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 05:51	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 05:51	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 05:51	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 05:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 05:51	107-06-2	
1,1-Dichloroethene	**2.0**	ug/L	1.0	0.21	1		10/10/20 05:51	75-35-4	
cis-1,2-Dichloroethene	**9.7**	ug/L	1.0	0.15	1		10/10/20 05:51	156-59-2	
trans-1,2-Dichloroethene	**0.22J**	ug/L	1.0	0.15	1		10/10/20 05:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 05:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 05:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 05:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 05:51	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 05:51	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 05:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 05:51	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 05:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:51	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 05:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 05:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:51	79-00-5	
Trichloroethene	**298**	ug/L	10.0	2.5	10		10/10/20 06:06	79-01-6	
Vinyl chloride	**0.61J**	ug/L	1.0	0.25	1		10/10/20 05:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 05:51	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-58R-202010 **Lab ID: 60350715020** Collected: 10/07/20 12:37 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/10/20 05:51	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 05:51	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/10/20 05:51	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 05:51		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**2.2**	mg/L	1.0	0.28	1		10/20/20 17:36	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:59		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:59	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:59	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	ND	mg/L	1.0	0.36	1		10/27/20 00:52	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-83-202010 **Lab ID: 60350715021** Collected: 10/07/20 14:36 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:44	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:44	75-27-4	
Bromoform	**1.9**	ug/L	1.0	0.38	1		10/10/20 02:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:44	74-87-3	
Dibromochloromethane	**0.28J**	ug/L	1.0	0.17	1		10/10/20 02:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 02:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 02:44	75-35-4	
cis-1,2-Dichloroethene	**0.81J**	ug/L	1.0	0.15	1		10/10/20 02:44	156-59-2	
trans-1,2-Dichloroethene	**0.19J**	ug/L	1.0	0.15	1		10/10/20 02:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:44	79-00-5	
Trichloroethene	**40.5**	ug/L	1.0	0.25	1		10/10/20 02:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 02:44	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/10/20 02:44	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/10/20 02:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:44		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-01-202010 **Lab ID: 60350715022** Collected: 10/07/20 14:36 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:39	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:39	75-27-4	
Bromoform	**1.7**	ug/L	1.0	0.38	1		10/10/20 04:39	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:39	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:39	74-87-3	
Dibromochloromethane	**0.24J**	ug/L	1.0	0.17	1		10/10/20 04:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 04:39	75-35-4	
cis-1,2-Dichloroethene	**0.82J**	ug/L	1.0	0.15	1		10/10/20 04:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:39	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:39	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:39	79-00-5	
Trichloroethene	**40.9**	ug/L	1.0	0.25	1		10/10/20 04:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 04:39	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/10/20 04:39	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 04:39	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:39		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-38-202010 **Lab ID: 60350715023** Collected: 10/07/20 14:03 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 22:24	74-86-2	
Ethane	**0.26J**	ug/L	1.0	0.075	1		10/20/20 22:24	74-84-0	
Ethene	**14**	ug/L	1.0	0.12	1		10/20/20 22:24	74-85-1	
Methane	**9.8**	ug/L	5.0	2.5	1		10/20/20 22:24	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**5710**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:22	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:30	67-64-1	
Benzene	**0.21J**	ug/L	1.0	0.088	1		10/13/20 22:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 22:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 22:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 22:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:30	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 22:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 22:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 22:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 22:30	75-00-3	
Chloroform	**0.20J**	ug/L	1.0	0.17	1		10/13/20 22:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 22:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 22:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 22:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 22:30	107-06-2	
1,1-Dichloroethene	**3.4**	ug/L	1.0	0.21	1		10/13/20 22:30	75-35-4	
cis-1,2-Dichloroethene	**353**	ug/L	100	15.0	100		10/10/20 06:34	156-59-2	
trans-1,2-Dichloroethene	**2.6**	ug/L	1.0	0.15	1		10/13/20 22:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 22:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 22:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 22:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 22:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 22:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 22:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 22:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 22:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 22:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 22:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 22:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:30	79-00-5	
Trichloroethene	**1110**	ug/L	100	25.0	100		10/10/20 06:34	79-01-6	
Vinyl chloride	**237**	ug/L	100	25.0	100		10/10/20 06:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 22:30	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-38-202010 **Lab ID: 60350715023** Collected: 10/07/20 14:03 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	106	%	80-120		1		10/13/20 22:30	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	86-117		1		10/13/20 22:30	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 22:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 22:30		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**250**	mg/L	20.0	5.6	20		10/20/20 00:18	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.15**	mg/L	0.10	0.058	1		10/09/20 08:05		
Nitrogen, Nitrate	**0.15**	mg/L	0.10	0.063	1		10/09/20 08:05	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:05	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.62J**	mg/L	1.0	0.36	1		10/27/20 01:06	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-34-202010 **Lab ID: 60350715024** Collected: 10/07/20 14:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 22:37	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 22:37	74-85-1	
Methane	**3900**	ug/L	5.0	2.5	1		10/20/20 22:37	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**2260**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:24	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:58	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 02:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 02:58	124-48-1	
1,1-Dichloroethane	**0.44J**	ug/L	1.0	0.098	1		10/10/20 02:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:58	107-06-2	
1,1-Dichloroethene	**1.3**	ug/L	1.0	0.21	1		10/10/20 02:58	75-35-4	
cis-1,2-Dichloroethene	**46.0**	ug/L	1.0	0.15	1		10/10/20 02:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:58	79-34-5	
Tetrachloroethene	**0.15J**	ug/L	1.0	0.15	1		10/10/20 02:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:58	79-00-5	
Trichloroethene	**84.4**	ug/L	1.0	0.25	1		10/10/20 02:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:58	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-34-202010 **Lab ID: 60350715024** Collected: 10/07/20 14:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/10/20 02:58	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/10/20 02:58	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 02:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**35.8**	mg/L	5.0	1.9	5		10/20/20 17:51	16887-00-6	
Sulfate	**8.5**	mg/L	1.0	0.28	1		10/20/20 18:06	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**1.5**	mg/L	0.10	0.058	1		10/09/20 08:07		
Nitrogen, Nitrate	**1.5**	mg/L	0.10	0.063	1		10/09/20 08:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:07	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.48J**	mg/L	1.0	0.36	1		10/27/20 01:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.69J**	mg/L	1.0	0.36	1		10/27/20 17:56		1e
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.38J**	mg/L	0.50	0.12	1		10/20/20 14:42	64-19-7	
Butyric Acid	ND	mg/L	0.50	0.058	1		10/20/20 14:42	107-92-6	
Formic acid	**4.7**	mg/L	0.50	0.055	1		10/20/20 14:42	64-18-6	
Hexanoic Acid	ND	mg/L	0.50	0.058	1		10/20/20 14:42	142-62-1	
Lactic Acid	ND	mg/L	0.50	0.053	1		10/20/20 14:42	50-21-5	
Pentanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 14:42	109-52-4	
Propionic Acid	ND	mg/L	0.50	0.053	1		10/20/20 14:42	79-09-4	
Pyruvic Acid	ND	mg/L	0.50	0.060	1		10/20/20 14:42	127-17-3	
i-Hexanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 14:42	646-07-1	
i-Pentanoic Acid	ND	mg/L	0.50	0.061	1		10/20/20 14:42	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-185-202010 **Lab ID: 60350715025** Collected: 10/07/20 12:55 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 03:13	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 03:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 03:13	124-48-1	
1,1-Dichloroethane	**0.63J**	ug/L	1.0	0.098	1		10/10/20 03:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:13	107-06-2	
1,1-Dichloroethene	**1.4**	ug/L	1.0	0.21	1		10/10/20 03:13	75-35-4	
cis-1,2-Dichloroethene	**10.6**	ug/L	1.0	0.15	1		10/10/20 03:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:13	79-00-5	
Trichloroethene	**176**	ug/L	1.0	0.25	1		10/10/20 03:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/10/20 03:13	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 03:13	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/10/20 03:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-78-202010 **Lab ID: 60350715026** Collected: 10/07/20 16:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**8.3J**	ug/L	10.0	4.7	1		10/10/20 03:27	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:27	75-27-4	
Bromoform	**7.4**	ug/L	1.0	0.38	1		10/10/20 03:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:27	74-87-3	
Dibromochloromethane	**0.47J**	ug/L	1.0	0.17	1		10/10/20 03:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 03:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 03:27	75-35-4	
cis-1,2-Dichloroethene	**0.66J**	ug/L	1.0	0.15	1		10/10/20 03:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:27	79-00-5	
Trichloroethene	**25.0**	ug/L	1.0	0.25	1		10/10/20 03:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		10/10/20 03:27	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 03:27	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 03:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-82-202010 **Lab ID: 60350715027** Collected: 10/07/20 13:55 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 03:42	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 03:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 03:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 03:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 03:42	75-35-4	
cis-1,2-Dichloroethene	**1.3**	ug/L	1.0	0.15	1		10/10/20 03:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:42	79-00-5	
Trichloroethene	**55.1**	ug/L	1.0	0.25	1		10/10/20 03:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/10/20 03:42	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 03:42	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/10/20 03:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:42		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-201-202010 **Lab ID: 60350715028** Collected: 10/07/20 16:09 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:54	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 04:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 04:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 04:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/10/20 04:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/10/20 04:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/10/20 04:54	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 04:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:54		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-27-202010 **Lab ID: 60350715029** Collected: 10/07/20 16:19 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 03:56	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 03:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 03:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 03:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 03:56	75-35-4	
cis-1,2-Dichloroethene	**0.42J**	ug/L	1.0	0.15	1		10/10/20 03:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:56	79-00-5	
Trichloroethene	**10.2**	ug/L	1.0	0.25	1		10/10/20 03:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/10/20 03:56	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 03:56	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/10/20 03:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-147-202010 **Lab ID: 60350715030** Collected: 10/07/20 16:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	**3.3**	ug/L	0.74	0.11	1		10/20/20 22:49	74-86-2	
Ethane	**7.8**	ug/L	1.0	0.075	1		10/20/20 22:49	74-84-0	
Ethene	**0.37J**	ug/L	1.0	0.12	1		10/20/20 22:49	74-85-1	
Methane	**38**	ug/L	5.0	2.5	1		10/20/20 22:49	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**173**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:27	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:45	67-64-1	
Benzene	**0.42J**	ug/L	1.0	0.088	1		10/13/20 22:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 22:45	75-27-4	
Bromoform	**2.8**	ug/L	1.0	0.38	1		10/13/20 22:45	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 22:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:45	78-93-3	L2
Carbon disulfide	**0.73J**	ug/L	5.0	0.24	1		10/13/20 22:45	75-15-0	
Carbon tetrachloride	**0.86J**	ug/L	1.0	0.19	1		10/13/20 22:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 22:45	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 22:45	75-00-3	
Chloroform	**20.4**	ug/L	1.0	0.17	1		10/13/20 22:45	67-66-3	
Chloromethane	**0.91J**	ug/L	1.0	0.44	1		10/13/20 22:45	74-87-3	
Dibromochloromethane	**0.41J**	ug/L	1.0	0.17	1		10/13/20 22:45	124-48-1	
1,1-Dichloroethane	**3.4**	ug/L	1.0	0.098	1		10/13/20 22:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 22:45	107-06-2	
1,1-Dichloroethene	**72.7**	ug/L	1.0	0.21	1		10/13/20 22:45	75-35-4	
cis-1,2-Dichloroethene	**8340**	ug/L	1000	150	1000		10/10/20 06:49	156-59-2	
trans-1,2-Dichloroethene	**189**	ug/L	1.0	0.15	1		10/13/20 22:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 22:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 22:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 22:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 22:45	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 22:45	591-78-6	
Methylene Chloride	**4.3**	ug/L	1.0	0.81	1		10/13/20 22:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 22:45	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 22:45	100-42-5	
1,1,2,2-Tetrachloroethane	**52.6**	ug/L	1.0	0.28	1		10/13/20 22:45	79-34-5	
Tetrachloroethene	**27.7**	ug/L	1.0	0.15	1		10/13/20 22:45	127-18-4	
Toluene	**4.2**	ug/L	1.0	0.18	1		10/13/20 22:45	108-88-3	
1,1,1-Trichloroethane	**60.8**	ug/L	1.0	0.13	1		10/13/20 22:45	71-55-6	
1,1,2-Trichloroethane	**2.3**	ug/L	1.0	0.28	1		10/13/20 22:45	79-00-5	
Trichloroethene	**76800**	ug/L	1000	250	1000		10/10/20 06:49	79-01-6	
Vinyl chloride	**329**	ug/L	1.0	0.25	1		10/13/20 22:45	75-01-4	E
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 22:45	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-147-202010 **Lab ID: 60350715030** Collected: 10/07/20 16:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 22:45	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	86-117		1		10/13/20 22:45	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 22:45	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 22:45		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/14/20 14:54	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**501**	mg/L	50.0	13.9	50		10/20/20 18:21	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.099J**	mg/L	0.10	0.058	1		10/09/20 08:08		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 08:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:08	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**1.1**	mg/L	1.0	0.36	1		10/27/20 01:32	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-184-202010 **Lab ID: 60350715031** Collected: 10/07/20 16:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/15/20 14:21	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/15/20 14:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/15/20 14:21	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/15/20 14:21	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/15/20 14:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/15/20 14:21	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/15/20 14:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/15/20 14:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/15/20 14:21	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/15/20 14:21	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/15/20 14:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/15/20 14:21	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/15/20 14:21	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/15/20 14:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/15/20 14:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/15/20 14:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/15/20 14:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/15/20 14:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/15/20 14:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/15/20 14:21	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/15/20 14:21	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/15/20 14:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/15/20 14:21	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/15/20 14:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:21	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/15/20 14:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/15/20 14:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:21	79-00-5	
Trichloroethene	**0.40J**	ug/L	1.0	0.25	1		10/15/20 14:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/15/20 14:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/15/20 14:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/15/20 14:21	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/15/20 14:21	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/15/20 14:21	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/15/20 14:21		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-05-202010 **Lab ID: 60350715032** Collected: 10/07/20 16:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/15/20 14:53	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/15/20 14:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/15/20 14:53	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/15/20 14:53	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/15/20 14:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/15/20 14:53	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/15/20 14:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/15/20 14:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/15/20 14:53	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/15/20 14:53	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/15/20 14:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/15/20 14:53	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/15/20 14:53	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/15/20 14:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/15/20 14:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/15/20 14:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/15/20 14:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/15/20 14:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/15/20 14:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/15/20 14:53	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/15/20 14:53	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/15/20 14:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/15/20 14:53	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/15/20 14:53	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:53	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/15/20 14:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/15/20 14:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:53	79-00-5	
Trichloroethene	**0.29J**	ug/L	1.0	0.25	1		10/15/20 14:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/15/20 14:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/15/20 14:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	106	%	80-120		1		10/15/20 14:53	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/15/20 14:53	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/15/20 14:53	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/15/20 14:53		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-178-202010 **Lab ID: 60350715033** Collected: 10/07/20 16:49 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:42	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:42	75-35-4	
cis-1,2-Dichloroethene	**0.66J**	ug/L	1.0	0.15	1		10/12/20 17:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:42	79-00-5	
Trichloroethene	**1.9**	ug/L	1.0	0.25	1		10/12/20 17:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		10/12/20 17:42	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/12/20 17:42	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 17:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:42		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-26-202010 **Lab ID: 60350715034** Collected: 10/07/20 17:10 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:56	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 17:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 17:56	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 17:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: EB-01-202010 **Lab ID: 60350715035** Collected: 10/07/20 17:28 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 16:59	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 16:59	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 16:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:59		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: EB-02-202010 **Lab ID: 60350715036** Collected: 10/07/20 17:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:13	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 17:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 17:13	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 17:13	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 17:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: EB-03-202010 **Lab ID: 60350715037** Collected: 10/07/20 17:22 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:27	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 17:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 17:27	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 17:27	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 17:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-98-202010 **Lab ID: 60350715038** Collected: 10/07/20 17:28 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 18:10	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 18:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:10	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 18:10	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:10	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 18:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:10	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 18:10	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:10	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:10	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 18:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 18:10	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 18:10	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 18:10	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:10		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-25-202010 **Lab ID: 60350715039** Collected: 10/07/20 17:50 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:29	67-64-1	
Benzene	**0.15J**	ug/L	1.0	0.088	1		10/13/20 20:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:29	78-93-3	L2
Carbon disulfide	**0.54J**	ug/L	5.0	0.24	1		10/13/20 20:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:29	56-23-5	
Chlorobenzene	**2.9**	ug/L	1.0	0.23	1		10/13/20 20:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 20:29	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/13/20 20:29	156-59-2	
trans-1,2-Dichloroethene	**0.17J**	ug/L	1.0	0.15	1		10/13/20 20:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:29	127-18-4	
Toluene	**0.21J**	ug/L	1.0	0.18	1		10/13/20 20:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:29	79-00-5	
Trichloroethene	**3.1**	ug/L	1.0	0.25	1		10/13/20 20:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 20:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 20:29	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	86-117		1		10/13/20 20:29	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 20:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:29		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TB-05-202010 **Lab ID: 60350715040** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:15	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:15	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 16:15	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/12/20 16:15	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/12/20 16:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TB-06-202010 **Lab ID: 60350715041** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:30	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:30	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:30	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 16:30	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		10/12/20 16:30	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 16:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:30		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TB-07-202010 **Lab ID: 60350715042** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 16:44	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 16:44	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 16:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:44		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-06-202010 **Lab ID: 60350715043** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:44	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:44	75-34-3	
1,2-Dichloroethane	**0.26J**	ug/L	1.0	0.23	1		10/13/20 20:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 20:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 20:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 20:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 20:44	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	86-117		1		10/13/20 20:44	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 20:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:44		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695051
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020

METHOD BLANK: 2098533 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/20/20 09:47	
Ethane	ug/L	ND	1.0	0.075	10/20/20 09:47	
Ethene	ug/L	ND	1.0	0.12	10/20/20 09:47	
Methane	ug/L	2.8J	5.0	2.5	10/20/20 09:47	

LABORATORY CONTROL SAMPLE & LCSD: 2098534 2098535

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	31	35	80	90	70-130	11	20	
Ethane	ug/L	100	83	97	82	96	70-130	16	20	
Ethene	ug/L	140	120	140	82	96	70-130	15	20	
Methane	ug/L	490	400	460	82	94	70-130	13	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695115
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350715023, 60350715024, 60350715030

METHOD BLANK: 2098800 Matrix: Water
Associated Lab Samples: 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/20/20 21:25	
Ethane	ug/L	ND	1.0	0.075	10/20/20 21:25	
Ethene	ug/L	ND	1.0	0.12	10/20/20 21:25	
Methane	ug/L	3.0J	5.0	2.5	10/20/20 21:25	B0

LABORATORY CONTROL SAMPLE & LCSD: 2098801 2098802

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	31	37	81	97	70-130	18	20	
Ethane	ug/L	100	84	100	83	102	70-130	21	20	
Ethene	ug/L	140	120	150	85	105	70-130	21	20	
Methane	ug/L	490	390	480	79	99	70-130	23	20	R1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 683767
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2764378 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/20/20 20:53	

LABORATORY CONTROL SAMPLE: 2764379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4540	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764380 2764381

Parameter	Units	60350715001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	130000	5000	5000	132000	137000	54	156	75-125	4	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681805
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715002, 60350715003, 60350715004, 60350715005, 60350715006, 60350715007, 60350715008, 60350715009, 60350715010, 60350715011, 60350715012

METHOD BLANK: 2756056
Matrix: Water
Associated Lab Samples: 60350715001, 60350715002, 60350715003, 60350715004, 60350715005, 60350715006, 60350715007, 60350715008, 60350715009, 60350715010, 60350715011, 60350715012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/09/20 15:57	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/09/20 15:57	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/09/20 15:57	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/09/20 15:57	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/09/20 15:57	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/09/20 15:57	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/09/20 15:57	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/09/20 15:57	
2-Hexanone	ug/L	ND	10.0	1.5	10/09/20 15:57	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/09/20 15:57	
Acetone	ug/L	ND	10.0	4.7	10/09/20 15:57	
Benzene	ug/L	ND	1.0	0.088	10/09/20 15:57	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/09/20 15:57	
Bromoform	ug/L	ND	1.0	0.38	10/09/20 15:57	
Bromomethane	ug/L	ND	5.0	0.99	10/09/20 15:57	
Carbon disulfide	ug/L	ND	5.0	0.24	10/09/20 15:57	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/09/20 15:57	
Chlorobenzene	ug/L	ND	1.0	0.23	10/09/20 15:57	
Chloroethane	ug/L	ND	1.0	0.38	10/09/20 15:57	
Chloroform	ug/L	ND	1.0	0.17	10/09/20 15:57	
Chloromethane	ug/L	ND	1.0	0.44	10/09/20 15:57	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 15:57	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/09/20 15:57	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/09/20 15:57	
Ethylbenzene	ug/L	ND	1.0	0.18	10/09/20 15:57	
Methylene Chloride	ug/L	ND	1.0	0.81	10/09/20 15:57	
Styrene	ug/L	ND	1.0	0.17	10/09/20 15:57	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/09/20 15:57	
Toluene	ug/L	ND	1.0	0.18	10/09/20 15:57	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 15:57	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/09/20 15:57	
Trichloroethene	ug/L	ND	1.0	0.25	10/09/20 15:57	
Vinyl chloride	ug/L	ND	1.0	0.25	10/09/20 15:57	
Xylene (Total)	ug/L	ND	3.0	0.54	10/09/20 15:57	
1,2-Dichloroethane-d4 (S)	%	106	86-117		10/09/20 15:57	
4-Bromofluorobenzene (S)	%	100	80-120		10/09/20 15:57	
Toluene-d8 (S)	%	99	80-120		10/09/20 15:57	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2756057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.6	103	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	97	78-118	
1,1,2-Trichloroethane	ug/L	20	21.0	105	82-117	
1,1-Dichloroethane	ug/L	20	21.7	109	85-120	
1,1-Dichloroethene	ug/L	20	21.9	110	81-124	
1,2-Dichloroethane	ug/L	20	21.3	106	79-118	
1,2-Dichloropropane	ug/L	20	21.1	106	85-117	
2-Butanone (MEK)	ug/L	100	105	105	70-125	
2-Hexanone	ug/L	100	112	112	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	73-131	
Acetone	ug/L	100	137	137	59-135	L1
Benzene	ug/L	20	21.0	105	82-115	
Bromodichloromethane	ug/L	20	20.7	104	82-123	
Bromoform	ug/L	20	17.2	86	66-133	
Bromomethane	ug/L	20	18.2	91	27-179	
Carbon disulfide	ug/L	20	25.6	128	72-134	
Carbon tetrachloride	ug/L	20	21.0	105	80-121	
Chlorobenzene	ug/L	20	20.9	104	80-120	
Chloroethane	ug/L	20	21.6	108	78-145	
Chloroform	ug/L	20	20.3	101	84-116	
Chloromethane	ug/L	20	18.2	91	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.0	95	85-117	
Dibromochloromethane	ug/L	20	20.6	103	82-122	
Ethylbenzene	ug/L	20	19.7	98	79-115	
Methylene Chloride	ug/L	20	21.6	108	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.1	100	83-119	
Toluene	ug/L	20	20.5	102	83-115	
trans-1,2-Dichloroethene	ug/L	20	21.0	105	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	83-117	
Trichloroethene	ug/L	20	21.7	108	80-118	
Vinyl chloride	ug/L	20	23.4	117	76-144	
Xylene (Total)	ug/L	60	61.9	103	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681810
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715013, 60350715014, 60350715015, 60350715016, 60350715017, 60350715018, 60350715019, 60350715020, 60350715021, 60350715022, 60350715023, 60350715024, 60350715025, 60350715026, 60350715027, 60350715028, 60350715029, 60350715030

METHOD BLANK: 2756066
Matrix: Water
Associated Lab Samples: 60350715013, 60350715014, 60350715015, 60350715016, 60350715017, 60350715018, 60350715019, 60350715020, 60350715021, 60350715022, 60350715023, 60350715024, 60350715025, 60350715026, 60350715027, 60350715028, 60350715029, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/10/20 02:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/10/20 02:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/10/20 02:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/10/20 02:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/10/20 02:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/10/20 02:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/10/20 02:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/10/20 02:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/10/20 02:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/10/20 02:01	
Acetone	ug/L	ND	10.0	4.7	10/10/20 02:01	
Benzene	ug/L	ND	1.0	0.088	10/10/20 02:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/10/20 02:01	
Bromoform	ug/L	ND	1.0	0.38	10/10/20 02:01	
Bromomethane	ug/L	ND	5.0	0.99	10/10/20 02:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/10/20 02:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/10/20 02:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/10/20 02:01	
Chloroethane	ug/L	ND	1.0	0.38	10/10/20 02:01	
Chloroform	ug/L	ND	1.0	0.17	10/10/20 02:01	
Chloromethane	ug/L	ND	1.0	0.44	10/10/20 02:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/10/20 02:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/10/20 02:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/10/20 02:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/10/20 02:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/10/20 02:01	
Styrene	ug/L	ND	1.0	0.17	10/10/20 02:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/10/20 02:01	
Toluene	ug/L	ND	1.0	0.18	10/10/20 02:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/10/20 02:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/10/20 02:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/10/20 02:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/10/20 02:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/10/20 02:01	
1,2-Dichloroethane-d4 (S)	%	108	86-117		10/10/20 02:01	
4-Bromofluorobenzene (S)	%	98	80-120		10/10/20 02:01	
Toluene-d8 (S)	%	100	80-120		10/10/20 02:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2756067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.1	111	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	93	78-118	
1,1,2-Trichloroethane	ug/L	20	20.8	104	82-117	
1,1-Dichloroethane	ug/L	20	22.2	111	85-120	
1,1-Dichloroethene	ug/L	20	22.4	112	81-124	
1,2-Dichloroethane	ug/L	20	20.7	104	79-118	
1,2-Dichloropropane	ug/L	20	21.2	106	85-117	
2-Butanone (MEK)	ug/L	100	104	104	70-125	
2-Hexanone	ug/L	100	108	108	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	73-131	
Acetone	ug/L	100	137	137	59-135	L1
Benzene	ug/L	20	20.7	104	82-115	
Bromodichloromethane	ug/L	20	20.8	104	82-123	
Bromoform	ug/L	20	16.6	83	66-133	
Bromomethane	ug/L	20	17.2	86	27-179	
Carbon disulfide	ug/L	20	25.9	130	72-134	
Carbon tetrachloride	ug/L	20	21.6	108	80-121	
Chlorobenzene	ug/L	20	20.6	103	80-120	
Chloroethane	ug/L	20	22.6	113	78-145	
Chloroform	ug/L	20	20.7	103	84-116	
Chloromethane	ug/L	20	16.2	81	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.1	105	85-115	
cis-1,3-Dichloropropene	ug/L	20	18.5	93	85-117	
Dibromochloromethane	ug/L	20	19.5	98	82-122	
Ethylbenzene	ug/L	20	19.8	99	79-115	
Methylene Chloride	ug/L	20	21.4	107	80-126	
Styrene	ug/L	20	21.7	109	80-117	
Tetrachloroethene	ug/L	20	21.2	106	83-119	
Toluene	ug/L	20	21.1	105	83-115	
trans-1,2-Dichloroethene	ug/L	20	22.0	110	80-124	
trans-1,3-Dichloropropene	ug/L	20	18.7	93	83-117	
Trichloroethene	ug/L	20	23.1	115	80-118	
Vinyl chloride	ug/L	20	24.0	120	76-144	
Xylene (Total)	ug/L	60	62.9	105	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681957
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715033, 60350715034, 60350715035, 60350715036, 60350715037, 60350715038, 60350715040, 60350715041, 60350715042

METHOD BLANK: 2756627
Matrix: Water
Associated Lab Samples: 60350715033, 60350715034, 60350715035, 60350715036, 60350715037, 60350715038, 60350715040, 60350715041, 60350715042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 16:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 16:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 16:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 16:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 16:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 16:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 16:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 16:01	
Acetone	ug/L	ND	10.0	4.7	10/12/20 16:01	
Benzene	ug/L	ND	1.0	0.088	10/12/20 16:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 16:01	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 16:01	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 16:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 16:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 16:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 16:01	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 16:01	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 16:01	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 16:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 16:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 16:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 16:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 16:01	
Styrene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
Toluene	ug/L	ND	1.0	0.18	10/12/20 16:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 16:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 16:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 16:01	
1,2-Dichloroethane-d4 (S)	%	98	86-117		10/12/20 16:01	
4-Bromofluorobenzene (S)	%	100	80-120		10/12/20 16:01	
Toluene-d8 (S)	%	100	80-120		10/12/20 16:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2756628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	78-118	
1,1,2-Trichloroethane	ug/L	20	20.4	102	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	20.6	103	81-124	
1,2-Dichloroethane	ug/L	20	17.6	88	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	89.7	90	70-125	
2-Hexanone	ug/L	100	92.3	92	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	73-131	
Acetone	ug/L	100	99.8	100	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	15.5	77	66-133	
Bromomethane	ug/L	20	23.7	118	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	20.1	100	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	101	85-117	
Dibromochloromethane	ug/L	20	17.8	89	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.5	103	83-119	
Toluene	ug/L	20	20.2	101	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	83-117	
Trichloroethene	ug/L	20	21.2	106	80-118	
Vinyl chloride	ug/L	20	22.9	114	76-144	
Xylene (Total)	ug/L	60	62.2	104	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682080
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715007, 60350715011, 60350715012

METHOD BLANK: 2757493 Matrix: Water
Associated Lab Samples: 60350715007, 60350715011, 60350715012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 13:42	
1,2-Dichloroethane-d4 (S)	%	116	86-117		10/13/20 13:42	
4-Bromofluorobenzene (S)	%	111	80-120		10/13/20 13:42	
Toluene-d8 (S)	%	96	80-120		10/13/20 13:42	

LABORATORY CONTROL SAMPLE: 2757494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	19.1	96	80-118	
1,2-Dichloroethane-d4 (S)	%			109	86-117	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Trichloroethene	ug/L	101	20	20	114	120	67	98	68-128	5	23	M1
1,2-Dichloroethane-d4 (S)	%						115	113	86-117			
4-Bromofluorobenzene (S)	%						107	107	80-120			
Toluene-d8 (S)	%						97	96	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682464
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715002, 60350715014, 60350715019

METHOD BLANK: 2758667 Matrix: Water
Associated Lab Samples: 60350715001, 60350715002, 60350715014, 60350715019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 18:41	
Acetone	ug/L	ND	10.0	4.7	10/13/20 18:41	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 18:41	
1,2-Dichloroethane-d4 (S)	%	104	86-117		10/13/20 18:41	
4-Bromofluorobenzene (S)	%	104	80-120		10/13/20 18:41	
Toluene-d8 (S)	%	98	80-120		10/13/20 18:41	

LABORATORY CONTROL SAMPLE: 2758668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100	101	101	70-125	
Acetone	ug/L	100	104	104	59-135	
Trichloroethene	ug/L	20	18.8	94	80-118	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682488
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715015, 60350715023, 60350715030, 60350715039, 60350715043

METHOD BLANK: 2758835 Matrix: Water
Associated Lab Samples: 60350715015, 60350715023, 60350715030, 60350715039, 60350715043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 20:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 20:14	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 20:14	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 20:14	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 20:14	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 20:14	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 20:14	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 20:14	
Acetone	ug/L	ND	10.0	4.7	10/13/20 20:14	
Benzene	ug/L	ND	1.0	0.088	10/13/20 20:14	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 20:14	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 20:14	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 20:14	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 20:14	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 20:14	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 20:14	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 20:14	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 20:14	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 20:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 20:14	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 20:14	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 20:14	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 20:14	
Styrene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
Toluene	ug/L	ND	1.0	0.18	10/13/20 20:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 20:14	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 20:14	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 20:14	
1,2-Dichloroethane-d4 (S)	%	115	86-117		10/13/20 20:14	
4-Bromofluorobenzene (S)	%	108	80-120		10/13/20 20:14	
Toluene-d8 (S)	%	97	80-120		10/13/20 20:14	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2758836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.2	106	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.1	91	78-118	
1,1,2-Trichloroethane	ug/L	20	18.7	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	21.7	108	81-124	
1,2-Dichloroethane	ug/L	20	21.4	107	79-118	
1,2-Dichloropropane	ug/L	20	19.0	95	85-117	
2-Butanone (MEK)	ug/L	100	62.3	62	70-125	L2
2-Hexanone	ug/L	100	88.8	89	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.6	98	73-131	
Acetone	ug/L	100	112	112	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.9	105	82-123	
Bromoform	ug/L	20	17.6	88	66-133	
Bromomethane	ug/L	20	25.0	125	27-179	
Carbon disulfide	ug/L	20	24.2	121	72-134	
Carbon tetrachloride	ug/L	20	23.0	115	80-121	
Chlorobenzene	ug/L	20	17.9	90	80-120	
Chloroethane	ug/L	20	21.5	107	78-145	
Chloroform	ug/L	20	20.5	103	84-116	
Chloromethane	ug/L	20	18.0	90	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.6	98	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	17.3	87	79-115	
Methylene Chloride	ug/L	20	19.7	99	80-126	
Styrene	ug/L	20	18.9	95	80-117	
Tetrachloroethene	ug/L	20	18.3	91	83-119	
Toluene	ug/L	20	18.8	94	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	83-117	
Trichloroethene	ug/L	20	21.1	105	80-118	
Vinyl chloride	ug/L	20	20.5	102	76-144	
Xylene (Total)	ug/L	60	54.2	90	82-120	
1,2-Dichloroethane-d4 (S)	%			108	86-117	
4-Bromofluorobenzene (S)	%			106	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682998
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715031, 60350715032

METHOD BLANK: 2760913 Matrix: Water
Associated Lab Samples: 60350715031, 60350715032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/15/20 13:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/15/20 13:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/15/20 13:49	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/15/20 13:49	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/15/20 13:49	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/15/20 13:49	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/15/20 13:49	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/15/20 13:49	
2-Hexanone	ug/L	ND	10.0	1.5	10/15/20 13:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/15/20 13:49	
Acetone	ug/L	ND	10.0	4.7	10/15/20 13:49	
Benzene	ug/L	ND	1.0	0.088	10/15/20 13:49	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/15/20 13:49	
Bromoform	ug/L	ND	1.0	0.38	10/15/20 13:49	
Bromomethane	ug/L	ND	5.0	0.99	10/15/20 13:49	
Carbon disulfide	ug/L	ND	5.0	0.24	10/15/20 13:49	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/15/20 13:49	
Chlorobenzene	ug/L	ND	1.0	0.23	10/15/20 13:49	
Chloroethane	ug/L	ND	1.0	0.38	10/15/20 13:49	
Chloroform	ug/L	ND	1.0	0.17	10/15/20 13:49	
Chloromethane	ug/L	ND	1.0	0.44	10/15/20 13:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/15/20 13:49	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/15/20 13:49	
Ethylbenzene	ug/L	ND	1.0	0.18	10/15/20 13:49	
Methylene Chloride	ug/L	ND	1.0	0.81	10/15/20 13:49	
Styrene	ug/L	ND	1.0	0.17	10/15/20 13:49	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
Toluene	ug/L	ND	1.0	0.18	10/15/20 13:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/15/20 13:49	
Trichloroethene	ug/L	ND	1.0	0.25	10/15/20 13:49	
Vinyl chloride	ug/L	ND	1.0	0.25	10/15/20 13:49	
Xylene (Total)	ug/L	ND	3.0	0.54	10/15/20 13:49	
1,2-Dichloroethane-d4 (S)	%	105	86-117		10/15/20 13:49	
4-Bromofluorobenzene (S)	%	102	80-120		10/15/20 13:49	
Toluene-d8 (S)	%	96	80-120		10/15/20 13:49	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2760914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.8	109	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	22.9	115	78-118	
1,1,2-Trichloroethane	ug/L	20	19.8	99	82-117	
1,1-Dichloroethane	ug/L	20	21.1	105	85-120	
1,1-Dichloroethene	ug/L	20	22.7	113	81-124	
1,2-Dichloroethane	ug/L	20	20.5	103	79-118	
1,2-Dichloropropane	ug/L	20	22.0	110	85-117	
2-Butanone (MEK)	ug/L	100	104	104	70-125	
2-Hexanone	ug/L	100	101	101	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	111	111	73-131	
Acetone	ug/L	100	111	111	59-135	
Benzene	ug/L	20	21.1	106	82-115	
Bromodichloromethane	ug/L	20	22.3	111	82-123	
Bromoform	ug/L	20	20.1	100	66-133	
Bromomethane	ug/L	20	26.1	130	27-179	
Carbon disulfide	ug/L	20	26.1	130	72-134	
Carbon tetrachloride	ug/L	20	22.4	112	80-121	
Chlorobenzene	ug/L	20	19.9	99	80-120	
Chloroethane	ug/L	20	22.6	113	78-145	
Chloroform	ug/L	20	20.5	102	84-116	
Chloromethane	ug/L	20	18.1	91	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	85-115	
cis-1,3-Dichloropropene	ug/L	20	22.6	113	85-117	
Dibromochloromethane	ug/L	20	22.1	111	82-122	
Ethylbenzene	ug/L	20	19.5	97	79-115	
Methylene Chloride	ug/L	20	21.9	109	80-126	
Styrene	ug/L	20	21.2	106	80-117	
Tetrachloroethene	ug/L	20	20.4	102	83-119	
Toluene	ug/L	20	19.5	97	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	23.2	116	83-117	
Trichloroethene	ug/L	20	18.6	93	80-118	
Vinyl chloride	ug/L	20	22.4	112	76-144	
Xylene (Total)	ug/L	60	59.6	99	82-120	
1,2-Dichloroethane-d4 (S)	%			102	86-117	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760915 2760916

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20000	20000	21500	22700	105	112	74-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20000	20000	20500	20700	102	104	60-128	1	19	
1,1,2-Trichloroethane	ug/L	ND	20000	20000	19500	19900	98	100	66-125	2	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760915 2760916

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20000	20000	20100	20900	99	103	81-124	4	23	
1,1-Dichloroethene	ug/L	ND	20000	20000	27800	24800	137	122	64-141	12	21	
1,2-Dichloroethane	ug/L	ND	20000	20000	19800	20300	98	101	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20000	20000	19600	21700	98	109	73-125	10	19	
2-Butanone (MEK)	ug/L	ND	100000	100000	88100	98200	88	98	58-121	11	22	
2-Hexanone	ug/L	ND	100000	100000	94200	100000	94	100	61-125	6	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100000	100000	97400	107000	97	107	67-125	9	20	
Acetone	ug/L	ND	100000	100000	122000	101000	121	100	49-113	19	32	M1
Benzene	ug/L	ND	20000	20000	19500	21000	97	105	49-140	7	25	
Bromodichloromethane	ug/L	ND	20000	20000	20300	21900	101	109	71-124	8	19	
Bromoform	ug/L	ND	20000	20000	18100	19700	91	99	56-113	9	18	
Bromomethane	ug/L	ND	20000	20000	29200	26500	146	132	12-165	10	43	
Carbon disulfide	ug/L	ND	20000	20000	30200	26800	151	134	66-145	12	18	M1
Carbon tetrachloride	ug/L	ND	20000	20000	22600	24100	113	121	84-130	7	21	
Chlorobenzene	ug/L	ND	20000	20000	19000	20000	95	100	68-126	5	14	
Chloroethane	ug/L	ND	20000	20000	27200	23000	136	115	67-145	17	28	
Chloroform	ug/L	ND	20000	20000	19500	20000	98	100	72-123	2	17	
Chloromethane	ug/L	ND	20000	20000	22300	18700	112	94	31-175	17	34	
cis-1,2-Dichloroethene	ug/L	37500	20000	20000	52600	54700	76	86	69-127	4	18	
cis-1,3-Dichloropropene	ug/L	ND	20000	20000	20100	21700	101	109	60-124	8	20	
Dibromochloromethane	ug/L	ND	20000	20000	19900	21600	99	108	68-123	9	24	
Ethylbenzene	ug/L	ND	20000	20000	19700	19900	99	100	52-140	1	28	
Methylene Chloride	ug/L	ND	20000	20000	26800	23000	134	115	68-125	15	24	M1
Styrene	ug/L	ND	20000	20000	20800	21300	104	106	56-136	3	20	
Tetrachloroethene	ug/L	ND	20000	20000	20100	20700	100	103	59-133	3	28	
Toluene	ug/L	ND	20000	20000	18900	19900	94	99	56-137	5	21	
trans-1,2-Dichloroethene	ug/L	ND	20000	20000	19800	20500	98	102	70-130	4	24	
trans-1,3-Dichloropropene	ug/L	ND	20000	20000	21900	22500	109	113	69-121	3	24	
Trichloroethene	ug/L	ND	20000	20000	17900	18500	90	92	68-128	3	23	
Vinyl chloride	ug/L	1560	20000	20000	30500	26200	145	123	51-148	15	23	
Xylene (Total)	ug/L	ND	60000	60000	59200	61500	99	103	59-139	4	22	
1,2-Dichloroethane-d4 (S)	%						100	107	86-117			
4-Bromofluorobenzene (S)	%						96	100	80-120			
Toluene-d8 (S)	%						97	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682031
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715015, 60350715019, 60350715020, 60350715023

METHOD BLANK: 2757413 Matrix: Water
Associated Lab Samples: 60350715015, 60350715019, 60350715020, 60350715023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/12/20 13:38	

LABORATORY CONTROL SAMPLE: 2757414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757415 2757449

Parameter	Units	60350922001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.32	0.5	0.5	0.73	0.73	81	81	75-125	0	20	

SAMPLE DUPLICATE: 2757416

Parameter	Units	60350922003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2757417

Parameter	Units	60350715020 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682240
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715030

METHOD BLANK: 2757971 Matrix: Water
Associated Lab Samples: 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/14/20 14:53	

LABORATORY CONTROL SAMPLE: 2757972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757973 2757975

Parameter	Units	60350922008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.46	0.47	91	93	75-125	2	20	

SAMPLE DUPLICATE: 2757974

Parameter	Units	60350922008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 683744
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2764357 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/19/20 09:09	
Sulfate	mg/L	ND	1.0	0.28	10/19/20 09:09	

METHOD BLANK: 2765069 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/20/20 09:39	
Sulfate	mg/L	ND	1.0	0.28	10/20/20 09:39	

LABORATORY CONTROL SAMPLE: 2764358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

LABORATORY CONTROL SAMPLE: 2765070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.4	107	90-110	
Sulfate	mg/L	5	5.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764359 2764360

Parameter	Units	60350977032 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	5	5	5.8	6.0	104	108	80-120	3	15	
Sulfate	mg/L	ND	5	5	5.9	6.1	118	122	80-120	3	15	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

MATRIX SPIKE SAMPLE: 2764361

Parameter	Units	60350715006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	165	100	291	126	80-120	M1
Sulfate	mg/L	11.4	5	17.3	116	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681743
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2755825 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/09/20 07:43	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/09/20 07:43	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/09/20 07:43	

LABORATORY CONTROL SAMPLE: 2755826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 2755827

Parameter	Units	60350715001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	106	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	110	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 2755829

Parameter	Units	60350715020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	107	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	108	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	108	90-110	

SAMPLE DUPLICATE: 2755828

Parameter	Units	60350625002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	14.6	14.6	0	20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	14.6	14.6	0	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 685068
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001

METHOD BLANK: 2769690 Matrix: Water
Associated Lab Samples: 60350715001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 12:15	

METHOD BLANK: 2770656 Matrix: Water
Associated Lab Samples: 60350715001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 19:19	

LABORATORY CONTROL SAMPLE: 2769691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.4	107	80-120	

LABORATORY CONTROL SAMPLE: 2770657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.2	105	80-120	

MATRIX SPIKE SAMPLE: 2769692

Parameter	Units	60351435004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	48.5	100	152	103	80-120	

SAMPLE DUPLICATE: 2769693

Parameter	Units	60351435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	54.9	54.7	0	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 685217
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2770131 Matrix: Water
Associated Lab Samples: 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 22:26	

LABORATORY CONTROL SAMPLE: 2770132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	107	80-120	

MATRIX SPIKE SAMPLE: 2770133

Parameter	Units	60350715005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	284	500	779	99	80-120	

SAMPLE DUPLICATE: 2770134

Parameter	Units	60350715010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	58.7	62.2	6	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 685224 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

METHOD BLANK: 2770142 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 14:10	

LABORATORY CONTROL SAMPLE: 2770143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	104	80-120	

MATRIX SPIKE SAMPLE: 2770145

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	5	4.5	81	80-120	

SAMPLE DUPLICATE: 2770144

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	0.48J		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695022
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

METHOD BLANK: 2098439 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/19/20 23:34	
Butyric Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Formic acid	mg/L	ND	0.50	0.055	10/19/20 23:34	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Lactic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
Propionic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/19/20 23:34	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/19/20 23:34	

LABORATORY CONTROL SAMPLE: 2098440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetic Acid	mg/L	2	2.0	100	70-130	
Butyric Acid	mg/L	2	2.0	102	70-130	
Formic acid	mg/L	2	2.0	101	70-130	
Hexanoic Acid	mg/L	2	2.0	101	70-130	
Lactic Acid	mg/L	2	2.0	98	70-130	
Pentanoic Acid	mg/L	2	2.0	99	70-130	
Propionic Acid	mg/L	2	2.0	103	70-130	
Pyruvic Acid	mg/L	2	1.7	86	70-130	
i-Hexanoic Acid	mg/L	2	2.0	103	70-130	
i-Pentanoic Acid	mg/L	2	2.0	103	70-130	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695388
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast

Associated Lab Samples: 60350715001

METHOD BLANK: 2100381 Matrix: Water
Associated Lab Samples: 60350715001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Propionic Acid	mg/L	ND	0.50	0.053	10/21/20 01:56	

LABORATORY CONTROL SAMPLE & LCSD: 2100382 2100383

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Propionic Acid	mg/L	2	2.0	2.0	101	102	70-130	1	20	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681805
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 681810
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 681957
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 682464
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 682488
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e	Dissolved result is greater than the total. Data is within laboratory control limits.
B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

ANALYTE QUALIFIERS

L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350715001	MW-99-202010	AM20GAX	695051		
60350715005	TMW-30-202010	AM20GAX	695051		
60350715006	MW-194-202010	AM20GAX	695051		
60350715010	TMW-26-202010	AM20GAX	695051		
60350715015	ITMW-9-202010	AM20GAX	695051		
60350715019	IW-73-202010	AM20GAX	695051		
60350715020	MW-58R-202010	AM20GAX	695051		
60350715023	MW-38-202010	AM20GAX	695115		
60350715024	TMW-34-202010	AM20GAX	695115		
60350715030	IW-147-202010	AM20GAX	695115		
60350715001	MW-99-202010	EPA 3010	683767	EPA 6010	683843
60350715005	TMW-30-202010	EPA 3010	683767	EPA 6010	683843
60350715006	MW-194-202010	EPA 3010	683767	EPA 6010	683843
60350715010	TMW-26-202010	EPA 3010	683767	EPA 6010	683843
60350715015	ITMW-9-202010	EPA 3010	683767	EPA 6010	683843
60350715019	IW-73-202010	EPA 3010	683767	EPA 6010	683843
60350715020	MW-58R-202010	EPA 3010	683767	EPA 6010	683843
60350715023	MW-38-202010	EPA 3010	683767	EPA 6010	683843
60350715024	TMW-34-202010	EPA 3010	683767	EPA 6010	683843
60350715030	IW-147-202010	EPA 3010	683767	EPA 6010	683843
60350715001	MW-99-202010	EPA 5030B/8260	681805		
60350715001	MW-99-202010	EPA 5030B/8260	682464		
60350715002	MW-191-202010	EPA 5030B/8260	681805		
60350715002	MW-191-202010	EPA 5030B/8260	682464		
60350715003	MW-182-202010	EPA 5030B/8260	681805		
60350715004	MW-190-202010	EPA 5030B/8260	681805		
60350715005	TMW-30-202010	EPA 5030B/8260	681805		
60350715006	MW-194-202010	EPA 5030B/8260	681805		
60350715007	TMW-23-202010	EPA 5030B/8260	681805		
60350715007	TMW-23-202010	EPA 5030B/8260	682080		
60350715008	MW-192-202010	EPA 5030B/8260	681805		
60350715009	TMW-27-202010	EPA 5030B/8260	681805		
60350715010	TMW-26-202010	EPA 5030B/8260	681805		
60350715011	MW-57R-202010	EPA 5030B/8260	681805		
60350715011	MW-57R-202010	EPA 5030B/8260	682080		
60350715012	DUP-02-202010	EPA 5030B/8260	681805		
60350715012	DUP-02-202010	EPA 5030B/8260	682080		
60350715013	MW-183R-202010	EPA 5030B/8260	681810		
60350715014	DUP-03-202010	EPA 5030B/8260	681810		
60350715014	DUP-03-202010	EPA 5030B/8260	682464		
60350715015	ITMW-9-202010	EPA 5030B/8260	681810		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350715015	ITMW-9-202010	EPA 5030B/8260	682488		
60350715016	TMW-12-202010	EPA 5030B/8260	681810		
60350715017	TMW-14-202010	EPA 5030B/8260	681810		
60350715018	DUP-04-202010	EPA 5030B/8260	681810		
60350715019	IW-73-202010	EPA 5030B/8260	681810		
60350715019	IW-73-202010	EPA 5030B/8260	682464		
60350715020	MW-58R-202010	EPA 5030B/8260	681810		
60350715021	MW-83-202010	EPA 5030B/8260	681810		
60350715022	DUP-01-202010	EPA 5030B/8260	681810		
60350715023	MW-38-202010	EPA 5030B/8260	681810		
60350715023	MW-38-202010	EPA 5030B/8260	682488		
60350715024	TMW-34-202010	EPA 5030B/8260	681810		
60350715025	MW-185-202010	EPA 5030B/8260	681810		
60350715026	IW-78-202010	EPA 5030B/8260	681810		
60350715027	MW-82-202010	EPA 5030B/8260	681810		
60350715028	MW-201-202010	EPA 5030B/8260	681810		
60350715029	MW-27-202010	EPA 5030B/8260	681810		
60350715030	IW-147-202010	EPA 5030B/8260	681810		
60350715030	IW-147-202010	EPA 5030B/8260	682488		
60350715031	MW-184-202010	EPA 5030B/8260	682998		
60350715032	DUP-05-202010	EPA 5030B/8260	682998		
60350715033	MW-178-202010	EPA 5030B/8260	681957		
60350715034	MW-26-202010	EPA 5030B/8260	681957		
60350715035	EB-01-202010	EPA 5030B/8260	681957		
60350715036	EB-02-202010	EPA 5030B/8260	681957		
60350715037	EB-03-202010	EPA 5030B/8260	681957		
60350715038	MW-98-202010	EPA 5030B/8260	681957		
60350715039	TMW-25-202010	EPA 5030B/8260	682488		
60350715040	TB-05-202010	EPA 5030B/8260	681957		
60350715041	TB-06-202010	EPA 5030B/8260	681957		
60350715042	TB-07-202010	EPA 5030B/8260	681957		
60350715043	DUP-06-202010	EPA 5030B/8260	682488		
60350715015	ITMW-9-202010	SM 4500-S-2 D	682031		
60350715019	IW-73-202010	SM 4500-S-2 D	682031		
60350715020	MW-58R-202010	SM 4500-S-2 D	682031		
60350715023	MW-38-202010	SM 4500-S-2 D	682031		
60350715030	IW-147-202010	SM 4500-S-2 D	682240		
60350715001	MW-99-202010	EPA 300.0	683744		
60350715005	TMW-30-202010	EPA 300.0	683744		
60350715006	MW-194-202010	EPA 300.0	683744		
60350715010	TMW-26-202010	EPA 300.0	683744		
60350715015	ITMW-9-202010	EPA 300.0	683744		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350715019	**IW-73-202010**	EPA 300.0	683744		
60350715020	**MW-58R-202010**	EPA 300.0	683744		
60350715023	**MW-38-202010**	EPA 300.0	683744		
60350715024	**TMW-34-202010**	EPA 300.0	683744		
60350715030	**IW-147-202010**	EPA 300.0	683744		
60350715001	**MW-99-202010**	EPA 353.2	681743		
60350715005	**TMW-30-202010**	EPA 353.2	681743		
60350715006	**MW-194-202010**	EPA 353.2	681743		
60350715010	**TMW-26-202010**	EPA 353.2	681743		
60350715015	**ITMW-9-202010**	EPA 353.2	681743		
60350715019	**IW-73-202010**	EPA 353.2	681743		
60350715020	**MW-58R-202010**	EPA 353.2	681743		
60350715023	**MW-38-202010**	EPA 353.2	681743		
60350715024	**TMW-34-202010**	EPA 353.2	681743		
60350715030	**IW-147-202010**	EPA 353.2	681743		
60350715001	**MW-99-202010**	SM 5310C	685068		
60350715005	**TMW-30-202010**	SM 5310C	685217		
60350715006	**MW-194-202010**	SM 5310C	685217		
60350715010	**TMW-26-202010**	SM 5310C	685217		
60350715015	**ITMW-9-202010**	SM 5310C	685217		
60350715019	**IW-73-202010**	SM 5310C	685217		
60350715020	**MW-58R-202010**	SM 5310C	685217		
60350715023	**MW-38-202010**	SM 5310C	685217		
60350715024	**TMW-34-202010**	SM 5310C	685217		
60350715030	**IW-147-202010**	SM 5310C	685217		
60350715001	**MW-99-202010**	SM 5310C	685224		
60350715005	**TMW-30-202010**	SM 5310C	685224		
60350715006	**MW-194-202010**	SM 5310C	685224		
60350715010	**TMW-26-202010**	SM 5310C	685224		
60350715024	**TMW-34-202010**	SM 5310C	685224		
60350715001	**MW-99-202010**	AM23G	695022		
60350715001	**MW-99-202010**	AM23G	695388		
60350715005	**TMW-30-202010**	AM23G	695022		
60350715006	**MW-194-202010**	AM23G	695022		
60350715010	**TMW-26-202010**	AM23G	695022		
60350715024	**TMW-34-202010**	AM23G	695022		

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CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Wo... ...Loader Number or MTJL Log-in

WO# : 60350715

60350715

ALL SH...

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: / Email:	Site/Facility ID #
Collected by (print): Haley Ahlers	Purchase Order #
Collected by (signature): Haley Ahlers	Quote #
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: _____ RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [ ] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	LAB USE ONLY: Lab Sample # / Comments
MW-99-202010	GW	G	10/7/20	0800	n/a	n/a		3	X	X	X	X	X	X	X	X	X	Dup 05-2 VOA vials broken.
MW-191-202010				0850														
MW-182-202010				0851														
MW-190-202010				0908														
TMW-30-202010				1025				12		X	X	X	X	X	X	X	X	
MW-194-202010				0915				12		X	X	X	X	X	X	X	X	
TMW-23-202010				1041				3										
MW-192-202010				1000														
TMW-27-202010				1000														
TMW-26-202010				1110				12		X	X	X	X	X	X	X	X	

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 100222			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: 8 Bags Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt: 0.2 °C 2.2

Cooler Therm Corr. Factor: +0.2 °C +0.2

Cooler Temp Corrected: 0.4 °C 2.4

Comments: _____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Page 1 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/7/20 1830	SE Meadors / Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 108 of 108

F-ALL-C-010-rev.00, 05Jul2018

1.1 0.4 +0.2 1.3

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60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type **
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____
Copy To: Haley Ahlers	Site Collection Info/Address:	Lab Project Manager: Jamie Church
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	LAB Profile/Line: 7444 Line 1
Phone: Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #	DW PWS ID #:
	Quote #	DW Location Code #:
Collected by (signature):	Turnaround Date Required: _____	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
57R MW-~~58R~~ 11A-202010	GW	G	10/7/20	1135	n/a	n/a			X											
DUP-02-202010				1135																
MW-183R-202010				1115																
DUP-03-202010				1041																
ITMW-9-202010				1215							X	X	X		X	X		X	X	
TMW-12-202010				~~1258~~ 1251																
TMW-14-202010				~~1210~~ 1137																
DUP-04-202010				1000																
IW-73-202010				1345							X	X	X		X	X		X	X	
MW-58R-202010				1237							X	X	X		X	X		X	X	

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet X Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: B. Bags, Zpic

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Receipt Checklist:

Custody Seals Present/Intact		N	NA
Custody Signatures Present		N	NA
Collector Signature Present		N	NA
Bottles intact	(Y)	N	NA
Correct Bottles		N	NA
Sufficient Volume		N	NA
Samples received on ice		N	NA
VOA - Headspace Acceptable		N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 1003228			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 0.2 °C 2.2 1.1

Cooler Therm Corr. Factor +0.2 °C +0.2 +0.2

Cooler Temp Corrected 0.4 °C 2.4 1.3

Comments: _____

Trip Blank Received: (Y) N N/A

HCl MeOH TSP Other

NonConformance(s): YES / (NO)

Page 2 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		S Rhoades / Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type **
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	Lab Project Manager: Jamie Church
Copy To: Haley Ahlers	Site Collection Info/Address:	
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	
Phone: Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #	DW PWS ID #:
	Quote #	DW Location Code #:
Collected by (signature):	Turnaround Date Required:	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide
MW-83-202010	GW	G	10/7/20	1436	n/a	n/a		3	X										
DUP-01-202010				1436				3											
MW-38-202010				1403				10			X	X	X		X	X		X	X
TMW-34-202010				1445				12		X	X	X	X	X	X	X	X		
MW-185-202010				1255				3											
IW-78-202010				1600				3											
MW-82-202010				1355				3											
MW-201-202010				1609				3											
MW-27-202010				1619				3											
IW-147-202010				1600				10			X	X	X		X	X		X	X

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 103222			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:	Type of Ice Used: Wet(X) Blue [ ] Dry [ ] None [ ]	SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A	LAB Sample Temperature Info: Temp Blank received: (Y) N NA
	Packing Material Used: B.Bags Zpic	LAB Tracking #:	Therm ID #: 10/8/20 SET T299
	Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N (X) NA	Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier [ ]	Cooler Temp Upon Receipt 0.2 °C 2.2 1.1
			Cooler Therm Corr. Factor +0.2 °C +0.2 +0.2
			Cooler Temp Corrected 0.4 °C 2.4 1.3
			Comments:
			Trip Blank Received: (Y) N N/A HCl MeOH TSP Other
			NonConformance(s) YES / (NO)

MTJL LAB USE ONLY

Table #:
ACCT #:
Template:
Prelogin:
PM:
PB:

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		FK Woods/Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type **
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	Lab Project Manager: Jamie Church
Copy To: Haley Ahlers	Site Collection Info/Address:	** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	Analyses
Phone: / Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / Quote #	DW PWS ID #: / DW Location Code #:
Collected by (signature):	Turnaround Date Required: _____	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:_____

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	(N)	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	(N)	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 603222			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids		↓ LAB USE ONLY: ↓ Lab Sample # / Comments
MW-184-202010	GW	G	10/7/20	1625	n/a	n/a		3	X										
DUP-05-202010				1625															
MW-178-202010				1649															
MW-26-202010				1710															
EB-01-202010				1728															
EB-02-202010				1725															
EB-03-202010				1722															
MW-98-202010				1728															
TMW-25-202010				1750						X	X	X	X	X	X	X	X	HA	
TB-05-202010				n/a				2											

Customer Remarks/ Special Conditions/ Possible Hazards: no ISCR parameters for MW-25

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: B. Bags Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 0.2 °C 2.2 1.1

Cooler Therm Corr. Factor +0.2 °C +0.2 +0.2

Cooler Temp Corrected 0.4 °C 2.4 1.3

Comments:

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		Rhonda/Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 4 of 5

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CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips: L03222			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓
Lab Sample # / Comments

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids
TB-06-202010								2	X								
TB-07-202010								2	X								
DUP-06-202010	GW	G	10/7/20	1000				3	X								

Haley Ahlers

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: B.Bags, Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____
ACCT #: _____
Template: _____
Prelogin: _____
PM: _____
PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 0.2 oC 2.2 1.1

Cooler Therm Corr. Factor +0.2 oC +0.2 +0.2

Cooler Temp Corrected 0.4 oC 2.4 1.3

Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 5 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		SRwoodis/Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical
www.pacelabs.com

Sample Receiving Non-Conformance Form (NCF)

Date: 10/8/20	**Evaluated by:** Sheri R
Client: Ramboll	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered	X	Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

Sample Dup 05 2 of 3 VOA Vials were broken
MW-99-202010 - pH out of compliance - Added 1ml HNO3 at bench. Still out of Compliance
TMW-30-202010 - pH out of compliance. Did not adjust at bench

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID: MW-99-202010	Date/Time: 10/8/20 1300	Amount/type pres added: 1ml HNO3
Preserved by: SR	Initial and Final pH: <2.0 / <2.0	Lot # of pres added: 100BD19
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

REVIEWED
By jchurch at 6:56 pm, 10/8/20

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 15, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350720001	**VP-08-202010**	Water	10/07/20 09:12	10/08/20 01:50
60350720002	**VP-07-202010**	Water	10/07/20 09:00	10/08/20 01:50
60350720003	**VP-12-202010**	Water	10/07/20 09:53	10/08/20 01:50
60350720004	**VP-10-202010**	Water	10/07/20 09:36	10/08/20 01:50

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350720001	**VP-08-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350720002	**VP-07-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350720003	**VP-12-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350720004	**VP-10-202010**	EPA 5030B/8260	EAG	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 15, 2020

General Information:
4 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681957

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682464

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-08-202010 **Lab ID: 60350720001** Collected: 10/07/20 09:12 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**142**	ug/L	10.0	4.7	1		10/12/20 18:25	67-64-1	
Benzene	**0.15J**	ug/L	1.0	0.088	1		10/12/20 18:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:25	74-83-9	
2-Butanone (MEK)	**12.6**	ug/L	10.0	2.4	1		10/12/20 18:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:25	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 18:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:25	100-41-4	
2-Hexanone	**2.1J**	ug/L	10.0	1.5	1		10/12/20 18:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:25	127-18-4	
Toluene	**0.26J**	ug/L	1.0	0.18	1		10/12/20 18:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 18:25	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 18:25	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 18:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:25		

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-07-202010 **Lab ID: 60350720002** Collected: 10/07/20 09:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**63.2**	ug/L	10.0	4.7	1		10/12/20 18:39	67-64-1	
Benzene	**0.87J**	ug/L	1.0	0.088	1		10/12/20 18:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:39	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:39	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:39	74-83-9	
2-Butanone (MEK)	**7.7J**	ug/L	10.0	2.4	1		10/12/20 18:39	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 18:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 18:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:39	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:39	127-18-4	
Toluene	**0.23J**	ug/L	1.0	0.18	1		10/12/20 18:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/12/20 18:39	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 18:39	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 18:39	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:39		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-12-202010 **Lab ID: 60350720003** Collected: 10/07/20 09:53 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.5J**	ug/L	10.0	4.7	1		10/12/20 18:53	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.088	1		10/12/20 18:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:53	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:53	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 18:53	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:53	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:53	75-00-3	
Chloroform	**0.44J**	ug/L	1.0	0.17	1		10/12/20 18:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:53	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:53	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:53	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 18:53	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:53	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:53	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:53	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 18:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 18:53	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	86-117		1		10/12/20 18:53	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 18:53	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:53		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-10-202010 **Lab ID: 60350720004** Collected: 10/07/20 09:36 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/14/20 13:50	67-64-1	
Benzene	**0.31J**	ug/L	1.0	0.088	1		10/14/20 13:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/14/20 13:50	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/14/20 13:50	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/14/20 13:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/14/20 13:50	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/14/20 13:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/14/20 13:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/14/20 13:50	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/14/20 13:50	75-00-3	
Chloroform	**0.64J**	ug/L	1.0	0.17	1		10/14/20 13:50	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/14/20 13:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/14/20 13:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/14/20 13:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/14/20 13:50	107-06-2	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.21	1		10/14/20 13:50	75-35-4	
cis-1,2-Dichloroethene	**12.5**	ug/L	1.0	0.15	1		10/14/20 13:50	156-59-2	
trans-1,2-Dichloroethene	**0.48J**	ug/L	1.0	0.15	1		10/14/20 13:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/14/20 13:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/14/20 13:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/14/20 13:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/14/20 13:50	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/14/20 13:50	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/14/20 13:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/14/20 13:50	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/14/20 13:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/14/20 13:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/14/20 13:50	127-18-4	
Toluene	**0.40J**	ug/L	1.0	0.18	1		10/14/20 13:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/14/20 13:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/14/20 13:50	79-00-5	
Trichloroethene	**110**	ug/L	5.0	1.2	5		10/13/20 21:37	79-01-6	
Vinyl chloride	**0.48J**	ug/L	1.0	0.25	1		10/14/20 13:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/14/20 13:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/14/20 13:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/14/20 13:50	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/14/20 13:50	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/14/20 13:50		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

QC Batch: 681957
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350720001, 60350720002, 60350720003

METHOD BLANK: 2756627 Matrix: Water
Associated Lab Samples: 60350720001, 60350720002, 60350720003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 16:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 16:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 16:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 16:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 16:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 16:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 16:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 16:01	
Acetone	ug/L	ND	10.0	4.7	10/12/20 16:01	
Benzene	ug/L	ND	1.0	0.088	10/12/20 16:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 16:01	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 16:01	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 16:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 16:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 16:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 16:01	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 16:01	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 16:01	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 16:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 16:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 16:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 16:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 16:01	
Styrene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
Toluene	ug/L	ND	1.0	0.18	10/12/20 16:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 16:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 16:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 16:01	
1,2-Dichloroethane-d4 (S)	%	98	86-117		10/12/20 16:01	
4-Bromofluorobenzene (S)	%	100	80-120		10/12/20 16:01	
Toluene-d8 (S)	%	100	80-120		10/12/20 16:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

LABORATORY CONTROL SAMPLE: 2756628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	78-118	
1,1,2-Trichloroethane	ug/L	20	20.4	102	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	20.6	103	81-124	
1,2-Dichloroethane	ug/L	20	17.6	88	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	89.7	90	70-125	
2-Hexanone	ug/L	100	92.3	92	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	73-131	
Acetone	ug/L	100	99.8	100	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	15.5	77	66-133	
Bromomethane	ug/L	20	23.7	118	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	20.1	100	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	101	85-117	
Dibromochloromethane	ug/L	20	17.8	89	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.5	103	83-119	
Toluene	ug/L	20	20.2	101	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	83-117	
Trichloroethene	ug/L	20	21.2	106	80-118	
Vinyl chloride	ug/L	20	22.9	114	76-144	
Xylene (Total)	ug/L	60	62.2	104	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

QC Batch: 682464
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350720004

METHOD BLANK: 2758667 Matrix: Water
Associated Lab Samples: 60350720004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 18:41	
1,2-Dichloroethane-d4 (S)	%	104	86-117		10/13/20 18:41	
4-Bromofluorobenzene (S)	%	104	80-120		10/13/20 18:41	
Toluene-d8 (S)	%	98	80-120		10/13/20 18:41	

LABORATORY CONTROL SAMPLE: 2758668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	18.8	94	80-118	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

QC Batch: 682761
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350720004

METHOD BLANK: 2759784 Matrix: Water
Associated Lab Samples: 60350720004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/14/20 13:18	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/14/20 13:18	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/14/20 13:18	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/14/20 13:18	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/14/20 13:18	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/14/20 13:18	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/14/20 13:18	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/14/20 13:18	
2-Hexanone	ug/L	ND	10.0	1.5	10/14/20 13:18	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/14/20 13:18	
Acetone	ug/L	ND	10.0	4.7	10/14/20 13:18	
Benzene	ug/L	ND	1.0	0.088	10/14/20 13:18	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/14/20 13:18	
Bromoform	ug/L	ND	1.0	0.38	10/14/20 13:18	
Bromomethane	ug/L	ND	5.0	0.99	10/14/20 13:18	
Carbon disulfide	ug/L	ND	5.0	0.24	10/14/20 13:18	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/14/20 13:18	
Chlorobenzene	ug/L	ND	1.0	0.23	10/14/20 13:18	
Chloroethane	ug/L	ND	1.0	0.38	10/14/20 13:18	
Chloroform	ug/L	ND	1.0	0.17	10/14/20 13:18	
Chloromethane	ug/L	ND	1.0	0.44	10/14/20 13:18	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/14/20 13:18	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/14/20 13:18	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/14/20 13:18	
Ethylbenzene	ug/L	ND	1.0	0.18	10/14/20 13:18	
Methylene Chloride	ug/L	ND	1.0	0.81	10/14/20 13:18	
Styrene	ug/L	ND	1.0	0.17	10/14/20 13:18	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/14/20 13:18	
Toluene	ug/L	ND	1.0	0.18	10/14/20 13:18	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/14/20 13:18	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/14/20 13:18	
Vinyl chloride	ug/L	ND	1.0	0.25	10/14/20 13:18	
Xylene (Total)	ug/L	ND	3.0	0.54	10/14/20 13:18	
1,2-Dichloroethane-d4 (S)	%	107	86-117		10/14/20 13:18	
4-Bromofluorobenzene (S)	%	100	80-120		10/14/20 13:18	
Toluene-d8 (S)	%	97	80-120		10/14/20 13:18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

LABORATORY CONTROL SAMPLE: 2759785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	78-118	
1,1,2-Trichloroethane	ug/L	20	20.7	104	82-117	
1,1-Dichloroethane	ug/L	20	20.4	102	85-120	
1,1-Dichloroethene	ug/L	20	21.4	107	81-124	
1,2-Dichloroethane	ug/L	20	19.5	97	79-118	
1,2-Dichloropropane	ug/L	20	20.1	100	85-117	
2-Butanone (MEK)	ug/L	100	102	102	70-125	
2-Hexanone	ug/L	100	104	104	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	73-131	
Acetone	ug/L	100	103	103	59-135	
Benzene	ug/L	20	20.3	101	82-115	
Bromodichloromethane	ug/L	20	20.4	102	82-123	
Bromoform	ug/L	20	20.3	101	66-133	
Bromomethane	ug/L	20	26.7	134	27-179	
Carbon disulfide	ug/L	20	24.1	120	72-134	
Carbon tetrachloride	ug/L	20	22.2	111	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	21.8	109	78-145	
Chloroform	ug/L	20	19.8	99	84-116	
Chloromethane	ug/L	20	17.4	87	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.1	106	85-117	
Dibromochloromethane	ug/L	20	22.0	110	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	21.2	106	80-126	
Styrene	ug/L	20	21.7	108	80-117	
Tetrachloroethene	ug/L	20	20.2	101	83-119	
Toluene	ug/L	20	19.5	97	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.8	114	83-117	
Vinyl chloride	ug/L	20	21.4	107	76-144	
Xylene (Total)	ug/L	60	60.0	100	82-120	
1,2-Dichloroethane-d4 (S)	%			98	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2759786 2759787

Parameter	Units	60350977075 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	20.9	21.1	104	105	74-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	21.8	21.2	109	106	60-128	3	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.3	18.6	97	93	66-125	4	28	
1,1-Dichloroethane	ug/L	ND	20	20	19.4	19.6	97	98	81-124	1	23	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2759786 2759787

Parameter	Units	60350977075 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	21.2	20.8	106	104	64-141	2	21	
1,2-Dichloroethane	ug/L	ND	20	20	17.8	18.2	89	91	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	18.5	19.5	93	97	73-125	5	19	
2-Butanone (MEK)	ug/L	ND	100	100	89.0	85.6	89	86	58-121	4	22	
2-Hexanone	ug/L	ND	100	100	91.9	95.0	92	95	61-125	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	102	103	102	103	67-125	1	20	
Acetone	ug/L	ND	100	100	84.7	87.6	85	88	49-113	3	32	
Benzene	ug/L	ND	20	20	19.7	19.5	98	97	49-140	1	25	
Bromodichloromethane	ug/L	ND	20	20	19.9	20.4	100	102	71-124	2	19	
Bromoform	ug/L	ND	20	20	17.3	17.9	86	89	56-113	3	18	
Bromomethane	ug/L	ND	20	20	20.1	21.2	100	106	12-165	5	43	
Carbon disulfide	ug/L	ND	20	20	23.4	22.8	117	114	66-145	3	18	
Carbon tetrachloride	ug/L	ND	20	20	22.2	22.1	111	111	84-130	0	21	
Chlorobenzene	ug/L	ND	20	20	18.9	19.1	94	96	68-126	1	14	
Chloroethane	ug/L	ND	20	20	19.5	20.3	98	102	67-145	4	28	
Chloroform	ug/L	ND	20	20	18.8	18.7	93	92	72-123	1	17	
Chloromethane	ug/L	ND	20	20	13.5	13.7	68	68	31-175	1	34	
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.8	18.9	94	94	69-127	0	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	20.3	20.1	102	100	60-124	1	20	
Dibromochloromethane	ug/L	ND	20	20	19.9	20.3	100	101	68-123	2	24	
Ethylbenzene	ug/L	ND	20	20	18.9	19.0	95	95	52-140	0	28	
Methylene Chloride	ug/L	ND	20	20	20.2	20.6	101	103	68-125	2	24	
Styrene	ug/L	ND	20	20	19.0	19.6	95	98	56-136	3	20	
Tetrachloroethene	ug/L	ND	20	20	19.3	20.0	97	100	59-133	4	28	
Toluene	ug/L	ND	20	20	18.7	19.4	93	96	56-137	4	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	18.4	18.1	92	91	70-130	1	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	20.6	20.8	103	104	69-121	1	24	
Vinyl chloride	ug/L	ND	20	20	19.3	19.1	97	96	51-148	1	23	
Xylene (Total)	ug/L	ND	60	60	56.4	57.6	94	96	59-139	2	22	
1,2-Dichloroethane-d4 (S)	%						99	100	86-117			
4-Bromofluorobenzene (S)	%						106	105	80-120			
Toluene-d8 (S)	%						97	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681957

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 682464

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350720001	**VP-08-202010**	EPA 5030B/8260	681957		
60350720002	**VP-07-202010**	EPA 5030B/8260	681957		
60350720003	**VP-12-202010**	EPA 5030B/8260	681957		
60350720004	**VP-10-202010**	EPA 5030B/8260	682464		
60350720004	**VP-10-202010**	EPA 5030B/8260	682761		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Work... Log-in

ALL SHA...

WO# : 60350720

60350720

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print): Haley Ahlers	Purchase Order # / DW PWS ID #:
Collected by (signature): Haley Ahlers	Quote # / DW Location Code #:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: ____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Lab Sample # / Comments
VP-08-202010	GW	G		0912				3	X									
VP-07-202010				0900														
VP-12-202010				0953														
~~VP-05-202010~~				0829														
VP-10-202010				0936														
~~VP-06-202010~~				0840														

Haley Ahlers

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: ____			
Sample pH Acceptable	Y	N	NA
pH Strips: ____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: ____			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: B Bags Zpic

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T 299

Cooler Temp Upon Receipt	0.2	2.2	1.1
Cooler Therm Corr. Factor	+0.2	+0.2	+0.2
Cooler Temp Corrected	0.4	2.4	1.3

Comments:

Trip Blank Received: (Y) N N/A

(HCl) MeOH TSP Other

NonConformance(s): YES / (NO)

Page 1 of 1

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/7/20 1830	[illegible] / Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 8 of 8

Pace Analytical Services, LLC
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Lenexa, KS 66219
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October 28, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350822001	TMW-10-202010	Water	10/08/20 08:30	10/09/20 01:20
60350822002	TMW-11-202010	Water	10/08/20 08:20	10/09/20 01:20
60350822003	TMW-32-202010	Water	10/08/20 12:50	10/09/20 01:20
60350822004	TMW-16-202010	Water	10/08/20 15:20	10/09/20 01:20
60350822005	ITMW-1R-202010	Water	10/08/20 08:25	10/09/20 01:20
60350822006	TMW-25-202010	Water	10/08/20 08:10	10/09/20 01:20
60350822007	MW-25R-202010	Water	10/08/20 08:00	10/09/20 01:20
60350822008	MW-22-202010	Water	10/08/20 09:05	10/09/20 01:20
60350822009	DUP-07-202010	Water	10/08/20 09:05	10/09/20 01:20
60350822010	MW-24-202010	Water	10/08/20 08:53	10/09/20 01:20
60350822011	DUP.08-202010	Water	10/08/20 08:53	10/09/20 01:20
60350822012	ITMW-16-202010	Water	10/08/20 10:09	10/09/20 01:20
60350822013	MW-204-202010	Water	10/08/20 10:16	10/09/20 01:20
60350822014	MW-202-202010	Water	10/08/20 09:46	10/09/20 01:20
60350822015	MW-28-202010	Water	10/08/20 10:15	10/09/20 01:20
60350822016	MW-186-202010	Water	10/08/20 09:55	10/09/20 01:20
60350822017	ITMW-2R-202010	Water	10/08/20 10:30	10/09/20 01:20
60350822018	DUP-09-202010	Water	10/08/20 10:30	10/09/20 01:20
60350822019	ITMW-21-202010	Water	10/08/20 11:25	10/09/20 01:20
60350822020	MW-200-202010	Water	10/08/20 11:08	10/09/20 01:20
60350822021	ITMW-10-202010	Water	10/08/20 11:34	10/09/20 01:20
60350822022	MW-85R-202010	Water	10/08/20 12:10	10/09/20 01:20
60350822023	ITMW-11-202010	Water	10/08/20 12:05	10/09/20 01:20
60350822024	ITMW-6-202010	Water	10/08/20 11:44	10/09/20 01:20
60350822025	ITMW-5-202010	Water	10/08/20 12:23	10/09/20 01:20
60350822026	MW-87-202010	Water	10/08/20 12:05	10/09/20 01:20
60350822027	MW-46R-202010	Water	10/08/20 12:42	10/09/20 01:20
60350822028	ITMW-19-202010	Water	10/08/20 13:35	10/09/20 01:20
60350822029	MW-95-202010	Water	10/08/20 13:58	10/09/20 01:20
60350822030	ITMW-12R-202010	Water	10/08/20 13:50	10/09/20 01:20
60350822031	MW-89-202010	Water	10/08/20 14:40	10/09/20 01:20
60350822032	MW-198-202010	Water	10/08/20 15:05	10/09/20 01:20
60350822033	MW-37-202010	Water	10/08/20 15:05	10/09/20 01:20
60350822034	IW-77-202010	Water	10/08/20 14:12	10/09/20 01:20
60350822035	ITMW-18-202010	Water	10/08/20 16:10	10/09/20 01:20
60350822036	IW-132-202010	Water	10/08/20 14:55	10/09/20 01:20
60350822037	MW-93-202010	Water	10/08/20 16:09	10/09/20 01:20

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350822038	**ITMW-7-202010**	Water	10/08/20 16:38	10/09/20 01:20
60350822039	**EB-04-202010**	Water	10/08/20 17:10	10/09/20 01:20
60350822040	**MW-96-202010**	Water	10/08/20 17:05	10/09/20 01:20
60350822041	**MW-97-202010**	Water	10/08/20 17:28	10/09/20 01:20
60350822042	**DUP-10-202010**	Water	10/08/20 17:28	10/09/20 01:20
60350822043	**MW-179-202010**	Water	10/08/20 17:11	10/09/20 01:20
60350822044	**EB-05-202010**	Water	10/08/20 17:55	10/09/20 01:20
60350822045	**IW-134-202010**	Water	10/08/20 16:46	10/09/20 01:20
60350822046	**TB-08-202010**	Water	10/08/20 08:00	10/09/20 01:20
60350822047	**TB-09-202010**	Water	10/08/20 08:00	10/09/20 01:20
60350822048	**TB-10-202010**	Water	10/08/20 08:00	10/09/20 01:20

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350822001	**TMW-10-202010**	SM 4500-S-2 D	CRN2	1	PASI-K
60350822002	**TMW-11-202010**	SM 4500-S-2 D	CRN2	1	PASI-K
60350822003	**TMW-32-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822004	**TMW-16-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822005	**ITMW-1R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822006	**TMW-25-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822007	**MW-25R-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350822008	**MW-22-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822009	**DUP-07-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822010	**MW-24-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822011	**DUP.08-202010**	EPA 5030B/8260	PGH	38	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350822012	**ITMW-16-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822013	**MW-204-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822014	**MW-202-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822015	**MW-28-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822016	**MW-186-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822017	**ITMW-2R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822018	**DUP-09-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822019	**ITMW-21-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822020	**MW-200-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822021	**ITMW-10-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822022	**MW-85R-202010**	EPA 5030B/8260	CJC, EAG	38	PASI-K
60350822023	**ITMW-11-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350822024	**ITMW-6-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822025	**ITMW-5-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822026	**MW-87-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350822027	**MW-46R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822028	**ITMW-19-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822029	**MW-95-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350822030	**ITMW-12R-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350822031	**MW-89-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350822032	**MW-198-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350822033	**MW-37-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350822034	**IW-77-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822035	**ITMW-18-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822036	**IW-132-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822037	**MW-93-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350822038	**ITMW-7-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822039	**EB-04-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822040	**MW-96-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822041	**MW-97-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822042	**DUP-10-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350822043	**MW-179-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822044	**EB-05-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822045	**IW-134-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822046	**TB-08-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822047	**TB-09-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822048	**TB-10-202010**	EPA 5030B/8260	PGH	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 695115

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2098802)
  - Methane

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 28, 2020

General Information:
45 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 682488

S0: Surrogate recovery outside laboratory control limits.

- MW-37-202010 (Lab ID: 60350822033)
  - 1,2-Dichloroethane-d4 (S)
- TMW-16-202010 (Lab ID: 60350822004)
  - 1,2-Dichloroethane-d4 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 682488

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2758836)
  - 2-Butanone (MEK)

QC Batch: 683570

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2763907)
  - 1,1-Dichloroethane

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 28, 2020

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681957
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682135
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682136
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682488
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682953
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 683570
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: October 28, 2020

General Information:
6 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 684252

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2767048)
  - Sulfate

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683971

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350824001,60351499001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2765114)
  - Chloride
- MS (Lab ID: 2765116)
  - Chloride
- MSD (Lab ID: 2765115)
  - Chloride

QC Batch: 684252

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350919001,60350923006

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2766010)
  - Chloride
  - Sulfate
- MSD (Lab ID: 2766011)
  - Chloride
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 28, 2020

Analyte Comments:

QC Batch: 683971

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2765116)
  - Chloride

QC Batch: 684252

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2766010)
  - Sulfate
- MSD (Lab ID: 2766011)
  - Sulfate

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681857

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350822007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2756333)
  - Nitrogen, Nitrite

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: October 28, 2020

General Information:
4 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: October 28, 2020

General Information:
4 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-10-202010 **Lab ID: 60350822001** Collected: 10/08/20 08:30 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:29	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-11-202010 **Lab ID: 60350822002** Collected: 10/08/20 08:20 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:29	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-32-202010 **Lab ID: 60350822003** Collected: 10/08/20 12:50 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 23:01	74-84-0	
Ethene	**0.48J**	ug/L	1.0	0.12	1		10/20/20 23:01	74-85-1	
Methane	**6400**	ug/L	5.0	2.5	1		10/20/20 23:01	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**6150**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 14:45	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:59	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:59	56-23-5	
Chlorobenzene	**1.9**	ug/L	1.0	0.23	1		10/13/20 20:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:59	75-34-3	
1,2-Dichloroethane	**0.27J**	ug/L	1.0	0.23	1		10/13/20 20:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 20:59	75-35-4	
cis-1,2-Dichloroethene	**7.3**	ug/L	1.0	0.15	1		10/13/20 20:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:59	79-00-5	
Trichloroethene	**27.6**	ug/L	1.0	0.25	1		10/13/20 20:59	79-01-6	
Vinyl chloride	**0.90J**	ug/L	1.0	0.25	1		10/13/20 20:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:59	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-32-202010 **Lab ID: 60350822003** Collected: 10/08/20 12:50 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 20:59	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	86-117		1		10/13/20 20:59	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 20:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**118**	mg/L	20.0	7.8	20		10/21/20 07:33	16887-00-6	
Sulfate	**38.7**	mg/L	5.0	1.4	5		10/21/20 15:58	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:30		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:30	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.94J**	mg/L	1.0	0.36	1		10/27/20 04:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.85J**	mg/L	1.0	0.36	1		10/27/20 18:24		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.44J**	mg/L	0.50	0.12	1		10/20/20 05:48	64-19-7	
Butyric Acid	ND	mg/L	0.50	0.058	1		10/20/20 05:48	107-92-6	
Formic acid	**4.9**	mg/L	0.50	0.055	1		10/20/20 05:48	64-18-6	
Hexanoic Acid	ND	mg/L	0.50	0.058	1		10/20/20 05:48	142-62-1	
Lactic Acid	ND	mg/L	0.50	0.053	1		10/20/20 05:48	50-21-5	
Pentanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 05:48	109-52-4	
Propionic Acid	**0.067J**	mg/L	0.50	0.053	1		10/20/20 05:48	79-09-4	
Pyruvic Acid	ND	mg/L	0.50	0.060	1		10/20/20 05:48	127-17-3	
i-Hexanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 05:48	646-07-1	
i-Pentanoic Acid	ND	mg/L	0.50	0.061	1		10/20/20 05:48	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-16-202010 **Lab ID: 60350822004** Collected: 10/08/20 15:20 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**2.7**	ug/L	1.0	0.075	1		10/20/20 23:13	74-84-0	
Ethene	**2.2**	ug/L	1.0	0.12	1		10/20/20 23:13	74-85-1	
Methane	**15000**	ug/L	5.0	2.5	1		10/20/20 23:13	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**19000**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 14:57	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 21:14	67-64-1	
Benzene	**0.14J**	ug/L	1.0	0.088	1		10/13/20 21:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 21:14	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 21:14	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 21:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 21:14	78-93-3	L2
Carbon disulfide	**1.1J**	ug/L	5.0	0.24	1		10/13/20 21:14	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 21:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 21:14	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 21:14	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 21:14	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 21:14	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 21:14	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 21:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 21:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 21:14	75-35-4	
cis-1,2-Dichloroethene	**1.2**	ug/L	1.0	0.15	1		10/13/20 21:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 21:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 21:14	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 21:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 21:14	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 21:14	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 21:14	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 21:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 21:14	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 21:14	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 21:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 21:14	127-18-4	
Toluene	**0.34J**	ug/L	1.0	0.18	1		10/13/20 21:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 21:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 21:14	79-00-5	
Trichloroethene	**0.59J**	ug/L	1.0	0.25	1		10/13/20 21:14	79-01-6	
Vinyl chloride	**0.38J**	ug/L	1.0	0.25	1		10/13/20 21:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 21:14	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-16-202010 **Lab ID: 60350822004** Collected: 10/08/20 15:20 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 21:14	460-00-4	
1,2-Dichloroethane-d4 (S)	127	%	86-117		1		10/13/20 21:14	17060-07-0	S0
Toluene-d8 (S)	95	%	80-120		1		10/13/20 21:14	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 21:14		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**382**	mg/L	50.0	19.4	50		10/21/20 16:56	16887-00-6	
Sulfate	**0.77J**	mg/L	1.0	0.28	1		10/21/20 16:13	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:37		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:37	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:37	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**38.9**	mg/L	10.0	3.6	10		10/27/20 11:33	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**33.0**	mg/L	10.0	3.6	10		10/27/20 18:38		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**5.7**	mg/L	5.0	1.2	10		10/20/20 06:42	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/20/20 06:42	107-92-6	
Formic acid	**48**	mg/L	5.0	0.55	10		10/20/20 06:42	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/20/20 06:42	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/20/20 06:42	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/20/20 06:42	109-52-4	
Propionic Acid	**2.4J**	mg/L	5.0	0.53	10		10/20/20 06:42	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/20/20 06:42	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/20/20 06:42	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/20/20 06:42	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-1R-202010 **Lab ID: 60350822005** Collected: 10/08/20 08:25 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 19:08	67-64-1	
Benzene	**0.25J**	ug/L	1.0	0.088	1		10/12/20 19:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 19:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 19:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 19:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 19:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 19:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 19:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 19:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 19:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 19:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 19:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 19:08	124-48-1	
1,1-Dichloroethane	**9.1**	ug/L	1.0	0.098	1		10/12/20 19:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 19:08	107-06-2	
1,1-Dichloroethene	**0.53J**	ug/L	1.0	0.21	1		10/12/20 19:08	75-35-4	
cis-1,2-Dichloroethene	**45.9**	ug/L	1.0	0.15	1		10/12/20 19:08	156-59-2	
trans-1,2-Dichloroethene	**0.32J**	ug/L	1.0	0.15	1		10/12/20 19:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 19:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 19:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 19:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 19:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 19:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 19:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 19:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 19:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:08	79-34-5	
Tetrachloroethene	**0.38J**	ug/L	1.0	0.15	1		10/12/20 19:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 19:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 19:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:08	79-00-5	
Trichloroethene	**28.4**	ug/L	1.0	0.25	1		10/12/20 19:08	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 19:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 19:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 19:08	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 19:08	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 19:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 19:08		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-25-202010 **Lab ID: 60350822006** Collected: 10/08/20 08:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.1**	ug/L	1.0	0.075	1		10/20/20 23:24	74-84-0	
Ethene	**2.1**	ug/L	1.0	0.12	1		10/20/20 23:24	74-85-1	
Methane	**14000**	ug/L	5.0	2.5	1		10/20/20 23:24	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**25300**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:00	7439-89-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**123**	mg/L	10.0	3.9	10		10/21/20 12:28	16887-00-6	
Sulfate	**11.0**	mg/L	1.0	0.28	1		10/22/20 10:42	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:26		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:26	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**12.2**	mg/L	5.0	1.8	5		10/27/20 10:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**8.4**	mg/L	5.0	1.8	5		10/27/20 18:51		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**3.9**	mg/L	2.5	0.62	5		10/20/20 07:35	64-19-7	
Butyric Acid	ND	mg/L	2.5	0.29	5		10/20/20 07:35	107-92-6	
Formic acid	**24**	mg/L	2.5	0.27	5		10/20/20 07:35	64-18-6	
Hexanoic Acid	ND	mg/L	2.5	0.29	5		10/20/20 07:35	142-62-1	
Lactic Acid	ND	mg/L	2.5	0.26	5		10/20/20 07:35	50-21-5	
Pentanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 07:35	109-52-4	
Propionic Acid	**0.32J**	mg/L	2.5	0.26	5		10/20/20 07:35	79-09-4	
Pyruvic Acid	ND	mg/L	2.5	0.30	5		10/20/20 07:35	127-17-3	
i-Hexanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 07:35	646-07-1	
i-Pentanoic Acid	ND	mg/L	2.5	0.30	5		10/20/20 07:35	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-25R-202010 **Lab ID: 60350822007** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 23:36	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 23:36	74-84-0	
Ethene	**0.40J**	ug/L	1.0	0.12	1		10/20/20 23:36	74-85-1	
Methane	**26**	ug/L	5.0	2.5	1		10/20/20 23:36	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**2590**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:02	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**9.6J**	ug/L	10.0	4.7	1		10/13/20 21:45	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.088	1		10/13/20 21:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 21:45	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 21:45	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 21:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 21:45	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 21:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 21:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 21:45	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 21:45	75-00-3	
Chloroform	**2.3**	ug/L	1.0	0.17	1		10/13/20 21:45	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 21:45	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 21:45	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 21:45	75-34-3	
1,2-Dichloroethane	**0.84J**	ug/L	1.0	0.23	1		10/13/20 21:45	107-06-2	
1,1-Dichloroethene	**4.7**	ug/L	1.0	0.21	1		10/13/20 21:45	75-35-4	
cis-1,2-Dichloroethene	**1050**	ug/L	50.0	7.5	50		10/13/20 22:00	156-59-2	
trans-1,2-Dichloroethene	**46.0**	ug/L	1.0	0.15	1		10/13/20 21:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 21:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 21:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 21:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 21:45	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 21:45	591-78-6	
Methylene Chloride	**1.1**	ug/L	1.0	0.81	1		10/13/20 21:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 21:45	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 21:45	100-42-5	
1,1,2,2-Tetrachloroethane	**1.0**	ug/L	1.0	0.28	1		10/13/20 21:45	79-34-5	
Tetrachloroethene	**0.85J**	ug/L	1.0	0.15	1		10/13/20 21:45	127-18-4	
Toluene	**0.29J**	ug/L	1.0	0.18	1		10/13/20 21:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 21:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 21:45	79-00-5	
Trichloroethene	**3130**	ug/L	50.0	12.5	50		10/13/20 22:00	79-01-6	
Vinyl chloride	**21.4**	ug/L	1.0	0.25	1		10/13/20 21:45	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 21:45	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-25R-202010 **Lab ID: 60350822007** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 21:45	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	86-117		1		10/13/20 21:45	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 21:45	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 21:45		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:30	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**316**	mg/L	20.0	5.6	20		10/21/20 12:57	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.48**	mg/L	0.10	0.058	1		10/09/20 12:25		
Nitrogen, Nitrate	**0.48**	mg/L	0.10	0.063	1		10/09/20 12:25	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:25	14797-65-0	M1
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**1.0**	mg/L	1.0	0.36	1		10/27/20 11:19	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-22-202010 **Lab ID: 60350822008** Collected: 10/08/20 09:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 19:22	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 19:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 19:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 19:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 19:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 19:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 19:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 19:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 19:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 19:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 19:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 19:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 19:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 19:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 19:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 19:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 19:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 19:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 19:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 19:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 19:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 19:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 19:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 19:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 19:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 19:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 19:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 19:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 19:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 19:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 19:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 19:22	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/12/20 19:22	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 19:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 19:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP-07-202010 **Lab ID: 60350822009** Collected: 10/08/20 09:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 10:17	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 10:17	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 10:17	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 10:17	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:17	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:17	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:17	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 10:17	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:17	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 10:17	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 10:17	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 10:17	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:17	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:17	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:17	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:17	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:17	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:17	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:17	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:17	79-00-5	
Trichloroethene	**0.59J**	ug/L	1.0	0.25	1		10/13/20 10:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 10:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:17	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 10:17	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 10:17	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 10:17	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:17		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-24-202010 **Lab ID: 60350822010** Collected: 10/08/20 08:53 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**16.2**	ug/L	10.0	4.7	1		10/13/20 09:48	67-64-1	
Benzene	**0.13J**	ug/L	1.0	0.088	1		10/13/20 09:48	71-43-2	
Bromodichloromethane	**0.31J**	ug/L	1.0	0.12	1		10/13/20 09:48	75-27-4	
Bromoform	**5.2**	ug/L	1.0	0.38	1		10/13/20 09:48	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:48	78-93-3	
Carbon disulfide	**0.28J**	ug/L	5.0	0.24	1		10/13/20 09:48	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:48	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:48	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:48	75-00-3	
Chloroform	**0.56J**	ug/L	1.0	0.17	1		10/13/20 09:48	67-66-3	
Chloromethane	**3.9**	ug/L	1.0	0.44	1		10/13/20 09:48	74-87-3	
Dibromochloromethane	**0.77J**	ug/L	1.0	0.17	1		10/13/20 09:48	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 09:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 09:48	75-35-4	
cis-1,2-Dichloroethene	**2.2**	ug/L	1.0	0.15	1		10/13/20 09:48	156-59-2	
trans-1,2-Dichloroethene	**0.27J**	ug/L	1.0	0.15	1		10/13/20 09:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:48	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:48	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:48	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:48	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:48	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:48	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:48	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:48	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 09:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:48	79-00-5	
Trichloroethene	**144**	ug/L	1.0	0.25	1		10/13/20 09:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 09:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 09:48	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 09:48	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 09:48	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:48		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP.08-202010 **Lab ID: 60350822011** Collected: 10/08/20 08:53 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**10.9**	ug/L	10.0	4.7	1		10/13/20 10:31	67-64-1	
Benzene	**0.14J**	ug/L	1.0	0.088	1		10/13/20 10:31	71-43-2	
Bromodichloromethane	**0.29J**	ug/L	1.0	0.12	1		10/13/20 10:31	75-27-4	
Bromoform	**4.3**	ug/L	1.0	0.38	1		10/13/20 10:31	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:31	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 10:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:31	75-00-3	
Chloroform	**0.49J**	ug/L	1.0	0.17	1		10/13/20 10:31	67-66-3	
Chloromethane	**3.3**	ug/L	1.0	0.44	1		10/13/20 10:31	74-87-3	
Dibromochloromethane	**0.77J**	ug/L	1.0	0.17	1		10/13/20 10:31	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:31	75-35-4	
cis-1,2-Dichloroethene	**2.3**	ug/L	1.0	0.15	1		10/13/20 10:31	156-59-2	
trans-1,2-Dichloroethene	**0.36J**	ug/L	1.0	0.15	1		10/13/20 10:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:31	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:31	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:31	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:31	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:31	79-00-5	
Trichloroethene	**148**	ug/L	1.0	0.25	1		10/13/20 10:31	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 10:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 10:31	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 10:31	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 10:31	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:31		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-16-202010 **Lab ID: 60350822012** Collected: 10/08/20 10:09 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 08:22	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 08:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 08:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 08:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 08:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 08:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 08:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 08:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 08:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 08:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 08:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 08:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 08:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 08:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 08:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 08:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 08:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 08:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 08:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 08:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 08:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 08:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 08:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 08:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 08:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 08:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 08:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 08:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 08:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/13/20 08:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 08:22	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/13/20 08:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 08:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-204-202010 **Lab ID: 60350822013** Collected: 10/08/20 10:16 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 10:46	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 10:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 10:46	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 10:46	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:46	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:46	56-23-5	
Chlorobenzene	**0.69J**	ug/L	1.0	0.23	1		10/13/20 10:46	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:46	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 10:46	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 10:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 10:46	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:46	75-35-4	
cis-1,2-Dichloroethene	**4.1**	ug/L	1.0	0.15	1		10/13/20 10:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:46	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:46	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:46	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:46	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:46	79-00-5	
Trichloroethene	**55.6**	ug/L	1.0	0.25	1		10/13/20 10:46	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 10:46	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 10:46	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 10:46	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 10:46	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:46		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-202-202010 **Lab ID: 60350822014** Collected: 10/08/20 09:46 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 11:00	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:00	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:00	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:00	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:00	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:00	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:00	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:00	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:00	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:00	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/13/20 11:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:00	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:00	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:00	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:00	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:00	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:00	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:00	79-00-5	
Trichloroethene	**9.3**	ug/L	1.0	0.25	1		10/13/20 11:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:00	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 11:00	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:00	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 11:00	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:00		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-28-202010 **Lab ID: 60350822015** Collected: 10/08/20 10:15 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 08:36	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 08:36	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 08:36	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 08:36	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 08:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 08:36	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 08:36	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 08:36	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 08:36	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 08:36	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 08:36	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 08:36	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 08:36	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 08:36	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 08:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 08:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:36	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 08:36	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 08:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 08:36	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 08:36	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 08:36	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 08:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 08:36	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 08:36	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:36	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:36	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 08:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 08:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 08:36	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 08:36	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 08:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 08:36	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 08:36	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 08:36	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 08:36		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-186-202010 **Lab ID: 60350822016** Collected: 10/08/20 09:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 23:48	74-84-0	
Ethene	**0.71J**	ug/L	1.0	0.12	1		10/20/20 23:48	74-85-1	
Methane	**15000**	ug/L	5.0	2.5	1		10/20/20 23:48	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**13700**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:05	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.0J**	ug/L	10.0	4.7	1		10/13/20 10:03	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 10:03	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 10:03	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 10:03	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:03	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:03	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:03	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 10:03	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:03	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 10:03	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 10:03	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 10:03	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:03	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:03	75-35-4	
cis-1,2-Dichloroethene	**0.40J**	ug/L	1.0	0.15	1		10/13/20 10:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:03	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:03	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:03	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:03	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:03	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:03	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:03	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:03	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:03	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:03	79-00-5	
Trichloroethene	**0.43J**	ug/L	1.0	0.25	1		10/16/20 05:14	79-01-6	
Vinyl chloride	**0.33J**	ug/L	1.0	0.25	1		10/13/20 10:03	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:03	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-186-202010 **Lab ID: 60350822016** Collected: 10/08/20 09:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 10:03	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 10:03	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 10:03	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**138**	mg/L	10.0	3.9	10		10/21/20 13:12	16887-00-6	
Sulfate	ND	mg/L	1.0	0.28	1		10/22/20 10:58	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:27		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:27	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**19.5**	mg/L	5.0	1.8	5		10/27/20 06:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**20.3**	mg/L	5.0	1.8	5		10/27/20 19:04		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**1.9J**	mg/L	2.5	0.62	5		10/20/20 08:28	64-19-7	
Butyric Acid	ND	mg/L	2.5	0.29	5		10/20/20 08:28	107-92-6	
Formic acid	**23**	mg/L	2.5	0.27	5		10/20/20 08:28	64-18-6	
Hexanoic Acid	ND	mg/L	2.5	0.29	5		10/20/20 08:28	142-62-1	
Lactic Acid	ND	mg/L	2.5	0.26	5		10/20/20 08:28	50-21-5	
Pentanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 08:28	109-52-4	
Propionic Acid	**0.29J**	mg/L	2.5	0.26	5		10/20/20 08:28	79-09-4	
Pyruvic Acid	ND	mg/L	2.5	0.30	5		10/20/20 08:28	127-17-3	
i-Hexanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 08:28	646-07-1	
i-Pentanoic Acid	ND	mg/L	2.5	0.30	5		10/20/20 08:28	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-2R-202010 **Lab ID: 60350822017** Collected: 10/08/20 10:30 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.4J**	ug/L	10.0	4.7	1		10/13/20 08:50	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 08:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 08:50	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 08:50	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 08:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 08:50	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 08:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 08:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 08:50	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 08:50	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 08:50	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 08:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 08:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 08:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 08:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 08:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 08:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 08:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 08:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 08:50	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 08:50	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 08:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 08:50	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 08:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:50	127-18-4	
Toluene	**0.20J**	ug/L	1.0	0.18	1		10/13/20 08:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 08:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 08:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 08:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 08:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 08:50	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/13/20 08:50	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 08:50	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 08:50		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP-09-202010 **Lab ID: 60350822018** Collected: 10/08/20 10:30 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**6.0J**	ug/L	10.0	4.7	1		10/13/20 11:15	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:15	127-18-4	
Toluene	**0.18J**	ug/L	1.0	0.18	1		10/13/20 11:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:15	79-00-5	
Trichloroethene	**0.32J**	ug/L	1.0	0.25	1		10/13/20 11:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 11:15	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:15	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/13/20 11:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-21-202010 **Lab ID: 60350822019** Collected: 10/08/20 11:25 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 09:05	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 09:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 09:05	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 09:05	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:05	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 09:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:05	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:05	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 09:05	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 09:05	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 09:05	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 09:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 09:05	75-35-4	
cis-1,2-Dichloroethene	**0.32J**	ug/L	1.0	0.15	1		10/13/20 09:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:05	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:05	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:05	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:05	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:05	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 09:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:05	79-00-5	
Trichloroethene	**5.4**	ug/L	1.0	0.25	1		10/13/20 09:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 09:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 09:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 09:05	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/13/20 09:05	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:05		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-200-202010 **Lab ID: 60350822020** Collected: 10/08/20 11:08 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 11:29	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:29	79-00-5	
Trichloroethene	**0.25J**	ug/L	1.0	0.25	1		10/13/20 11:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 11:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:29	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 11:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:29		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-10-202010 **Lab ID: 60350822021** Collected: 10/08/20 11:34 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 09:19	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 09:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 09:19	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 09:19	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:19	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 09:19	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:19	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:19	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:19	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 09:19	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 09:19	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 09:19	124-48-1	
1,1-Dichloroethane	**0.38J**	ug/L	1.0	0.098	1		10/13/20 09:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:19	107-06-2	
1,1-Dichloroethene	**0.97J**	ug/L	1.0	0.21	1		10/13/20 09:19	75-35-4	
cis-1,2-Dichloroethene	**6.5**	ug/L	1.0	0.15	1		10/13/20 09:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:19	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:19	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:19	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:19	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:19	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:19	79-34-5	
Tetrachloroethene	**0.38J**	ug/L	1.0	0.15	1		10/13/20 09:19	127-18-4	
Toluene	**0.32J**	ug/L	1.0	0.18	1		10/13/20 09:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:19	79-00-5	
Trichloroethene	**286**	ug/L	10.0	2.5	10		10/16/20 05:28	79-01-6	
Vinyl chloride	**0.36J**	ug/L	1.0	0.25	1		10/13/20 09:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:19	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/13/20 09:19	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 09:19	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/13/20 09:19	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:19		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-85R-202010 **Lab ID: 60350822022** Collected: 10/08/20 12:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/19/20 11:53	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/19/20 11:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/19/20 11:53	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/19/20 11:53	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/19/20 11:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/19/20 11:53	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/19/20 11:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/19/20 11:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/19/20 11:53	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/19/20 11:53	75-00-3	
Chloroform	**1.2**	ug/L	1.0	0.17	1		10/19/20 11:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/19/20 11:53	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/19/20 11:53	124-48-1	
1,1-Dichloroethane	**1.7**	ug/L	1.0	0.098	1		10/19/20 11:53	75-34-3	L2
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/19/20 11:53	107-06-2	
1,1-Dichloroethene	**7.1**	ug/L	1.0	0.21	1		10/19/20 11:53	75-35-4	
cis-1,2-Dichloroethene	**76.0**	ug/L	1.0	0.15	1		10/19/20 11:53	156-59-2	
trans-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		10/19/20 11:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/19/20 11:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/19/20 11:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/19/20 11:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/19/20 11:53	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/19/20 11:53	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/19/20 11:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/19/20 11:53	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/19/20 11:53	100-42-5	
1,1,2,2-Tetrachloroethane	**0.41J**	ug/L	1.0	0.28	1		10/19/20 11:53	79-34-5	
Tetrachloroethene	**1.6**	ug/L	1.0	0.15	1		10/19/20 11:53	127-18-4	
Toluene	**0.43J**	ug/L	1.0	0.18	1		10/19/20 11:53	108-88-3	
1,1,1-Trichloroethane	**11.9**	ug/L	1.0	0.13	1		10/19/20 11:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/19/20 11:53	79-00-5	
Trichloroethene	**4860**	ug/L	100	25.0	100		10/15/20 19:12	79-01-6	
Vinyl chloride	**1.7**	ug/L	1.0	0.25	1		10/19/20 11:53	75-01-4	
Xylene (Total)	ND	ug/L	300	54.0	100		10/15/20 19:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		10/19/20 11:53	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/19/20 11:53	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/19/20 11:53	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/19/20 11:53		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-11-202010 **Lab ID: 60350822023** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/19/20 12:09	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/19/20 12:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/19/20 12:09	75-27-4	
Bromoform	**3.3**	ug/L	1.0	0.38	1		10/19/20 12:09	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/19/20 12:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/19/20 12:09	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/19/20 12:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/19/20 12:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/19/20 12:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/19/20 12:09	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/19/20 12:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/19/20 12:09	74-87-3	
Dibromochloromethane	**0.26J**	ug/L	1.0	0.17	1		10/19/20 12:09	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/19/20 12:09	75-34-3	L2
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/19/20 12:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/19/20 12:09	75-35-4	
cis-1,2-Dichloroethene	**18.7**	ug/L	1.0	0.15	1		10/19/20 12:09	156-59-2	
trans-1,2-Dichloroethene	**3.1**	ug/L	1.0	0.15	1		10/19/20 12:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/19/20 12:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/19/20 12:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/19/20 12:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/19/20 12:09	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/19/20 12:09	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/19/20 12:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/19/20 12:09	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/19/20 12:09	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/19/20 12:09	79-34-5	
Tetrachloroethene	**0.69J**	ug/L	1.0	0.15	1		10/19/20 12:09	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/19/20 12:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/19/20 12:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/19/20 12:09	79-00-5	
Trichloroethene	**894**	ug/L	50.0	12.5	50		10/13/20 13:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/19/20 12:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/19/20 12:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/19/20 12:09	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/19/20 12:09	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/19/20 12:09	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/19/20 12:09		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-6-202010 **Lab ID: 60350822024** Collected: 10/08/20 11:44 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 09:34	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 09:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 09:34	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 09:34	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:34	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 09:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:34	75-00-3	
Chloroform	**0.57J**	ug/L	1.0	0.17	1		10/13/20 09:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 09:34	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 09:34	124-48-1	
1,1-Dichloroethane	**0.36J**	ug/L	1.0	0.098	1		10/13/20 09:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:34	107-06-2	
1,1-Dichloroethene	**3.9**	ug/L	1.0	0.21	1		10/13/20 09:34	75-35-4	
cis-1,2-Dichloroethene	**20.6**	ug/L	1.0	0.15	1		10/13/20 09:34	156-59-2	
trans-1,2-Dichloroethene	**0.25J**	ug/L	1.0	0.15	1		10/13/20 09:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:34	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:34	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:34	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:34	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:34	79-34-5	
Tetrachloroethene	**1.0**	ug/L	1.0	0.15	1		10/13/20 09:34	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 09:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:34	79-00-5	
Trichloroethene	**2110**	ug/L	20.0	5.0	20		10/16/20 05:42	79-01-6	
Vinyl chloride	**1.4**	ug/L	1.0	0.25	1		10/13/20 09:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:34	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/13/20 09:34	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 09:34	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/13/20 09:34	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:34		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-5-202010 **Lab ID: 60350822025** Collected: 10/08/20 12:23 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 12:56	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 12:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 12:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 12:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 12:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 12:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 12:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 12:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 12:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 12:56	75-00-3	
Chloroform	**0.70J**	ug/L	1.0	0.17	1		10/13/20 12:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 12:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 12:56	124-48-1	
1,1-Dichloroethane	**0.87J**	ug/L	1.0	0.098	1		10/13/20 12:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 12:56	107-06-2	
1,1-Dichloroethene	**5.4**	ug/L	1.0	0.21	1		10/13/20 12:56	75-35-4	
cis-1,2-Dichloroethene	**29.5**	ug/L	1.0	0.15	1		10/13/20 12:56	156-59-2	
trans-1,2-Dichloroethene	**0.30J**	ug/L	1.0	0.15	1		10/13/20 12:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 12:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 12:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 12:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 12:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 12:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 12:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 12:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 12:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:56	79-34-5	
Tetrachloroethene	**1.5**	ug/L	1.0	0.15	1		10/13/20 12:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 12:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 12:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:56	79-00-5	
Trichloroethene	**2560**	ug/L	20.0	5.0	20		10/13/20 13:10	79-01-6	
Vinyl chloride	**1.4**	ug/L	1.0	0.25	1		10/13/20 12:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 12:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 12:56	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 12:56	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 12:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 12:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-87-202010 **Lab ID: 60350822026** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/21/20 00:00	74-86-2	
Ethane	**0.64J**	ug/L	1.0	0.075	1		10/21/20 00:00	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/21/20 00:00	74-85-1	
Methane	**43**	ug/L	5.0	2.5	1		10/21/20 00:00	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**1140**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:07	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 11:58	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:58	124-48-1	
1,1-Dichloroethane	**1.1**	ug/L	1.0	0.098	1		10/13/20 11:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:58	107-06-2	
1,1-Dichloroethene	**3.2**	ug/L	1.0	0.21	1		10/13/20 11:58	75-35-4	
cis-1,2-Dichloroethene	**22.3**	ug/L	1.0	0.15	1		10/13/20 11:58	156-59-2	
trans-1,2-Dichloroethene	**0.45J**	ug/L	1.0	0.15	1		10/13/20 11:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:58	79-34-5	
Tetrachloroethene	**3.4**	ug/L	1.0	0.15	1		10/13/20 11:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:58	79-00-5	
Trichloroethene	**320**	ug/L	10.0	2.5	10		10/13/20 12:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:58	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-87-202010 **Lab ID: 60350822026** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/13/20 11:58	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 11:58	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/13/20 11:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:58		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:30	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**11.8**	mg/L	1.0	0.28	1		10/22/20 11:14	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**1.9**	mg/L	0.10	0.058	1		10/09/20 12:29		
Nitrogen, Nitrate	**1.9**	mg/L	0.10	0.063	1		10/09/20 12:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:29	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.38J**	mg/L	1.0	0.36	1		10/27/20 06:38	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-46R-202010 **Lab ID: 60350822027** Collected: 10/08/20 12:42 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 12:27	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 12:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 12:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 12:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 12:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 12:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 12:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 12:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 12:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 12:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 12:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 12:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 12:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 12:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 12:27	107-06-2	
1,1-Dichloroethene	**1.6**	ug/L	1.0	0.21	1		10/13/20 12:27	75-35-4	
cis-1,2-Dichloroethene	**14.6**	ug/L	1.0	0.15	1		10/13/20 12:27	156-59-2	
trans-1,2-Dichloroethene	**0.35J**	ug/L	1.0	0.15	1		10/13/20 12:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 12:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 12:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 12:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 12:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 12:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 12:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 12:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 12:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 12:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 12:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 12:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:27	79-00-5	
Trichloroethene	**460**	ug/L	10.0	2.5	10		10/13/20 12:41	79-01-6	
Vinyl chloride	**2.1**	ug/L	1.0	0.25	1		10/13/20 12:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 12:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 12:27	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 12:27	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 12:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 12:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-19-202010 **Lab ID: 60350822028** Collected: 10/08/20 13:35 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**6.4J**	ug/L	10.0	4.7	1		10/13/20 11:43	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:43	71-43-2	
Bromodichloromethane	**0.71J**	ug/L	1.0	0.12	1		10/13/20 11:43	75-27-4	
Bromoform	**7.7**	ug/L	1.0	0.38	1		10/13/20 11:43	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:43	75-00-3	
Chloroform	**1.9**	ug/L	1.0	0.17	1		10/13/20 11:43	67-66-3	
Chloromethane	**0.76J**	ug/L	1.0	0.44	1		10/13/20 11:43	74-87-3	
Dibromochloromethane	**1.1**	ug/L	1.0	0.17	1		10/13/20 11:43	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:43	75-35-4	
cis-1,2-Dichloroethene	**4.8**	ug/L	1.0	0.15	1		10/13/20 11:43	156-59-2	
trans-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/13/20 11:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:43	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:43	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:43	100-42-5	
1,1,2,2-Tetrachloroethane	**0.74J**	ug/L	1.0	0.28	1		10/13/20 11:43	79-34-5	
Tetrachloroethene	**0.60J**	ug/L	1.0	0.15	1		10/13/20 11:43	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:43	79-00-5	
Trichloroethene	**435**	ug/L	10.0	2.5	10		10/16/20 05:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/13/20 11:43	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:43	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/13/20 11:43	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:43		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-95-202010 **Lab ID: 60350822029** Collected: 10/08/20 13:58 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/21/20 00:12	74-86-2	
Ethane	**0.50J**	ug/L	1.0	0.075	1		10/21/20 00:12	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/21/20 00:12	74-85-1	
Methane	**11**	ug/L	5.0	2.5	1		10/21/20 00:12	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	ND	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:10	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:16	67-64-1	
Benzene	**0.13J**	ug/L	1.0	0.088	1		10/13/20 23:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 23:16	75-27-4	
Bromoform	**0.80J**	ug/L	1.0	0.38	1		10/13/20 23:16	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:16	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:16	75-15-0	
Carbon tetrachloride	**0.38J**	ug/L	1.0	0.19	1		10/13/20 23:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:16	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:16	75-00-3	
Chloroform	**5.3**	ug/L	1.0	0.17	1		10/13/20 23:16	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 23:16	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:16	124-48-1	
1,1-Dichloroethane	**0.50J**	ug/L	1.0	0.098	1		10/13/20 23:16	75-34-3	
1,2-Dichloroethane	**0.38J**	ug/L	1.0	0.23	1		10/13/20 23:16	107-06-2	
1,1-Dichloroethene	**16.8**	ug/L	1.0	0.21	1		10/13/20 23:16	75-35-4	
cis-1,2-Dichloroethene	**315**	ug/L	200	30.0	200		10/13/20 02:03	156-59-2	
trans-1,2-Dichloroethene	**36.8**	ug/L	1.0	0.15	1		10/13/20 23:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 23:16	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:16	591-78-6	
Methylene Chloride	**2.4**	ug/L	1.0	0.81	1		10/13/20 23:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:16	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:16	100-42-5	
1,1,2,2-Tetrachloroethane	**0.60J**	ug/L	1.0	0.28	1		10/13/20 23:16	79-34-5	
Tetrachloroethene	**6.2**	ug/L	1.0	0.15	1		10/13/20 23:16	127-18-4	
Toluene	**0.24J**	ug/L	1.0	0.18	1		10/13/20 23:16	108-88-3	
1,1,1-Trichloroethane	**2.3**	ug/L	1.0	0.13	1		10/13/20 23:16	71-55-6	
1,1,2-Trichloroethane	**1.5**	ug/L	1.0	0.28	1		10/13/20 23:16	79-00-5	
Trichloroethene	**21100**	ug/L	200	50.0	200		10/13/20 02:03	79-01-6	
Vinyl chloride	**10.4**	ug/L	1.0	0.25	1		10/13/20 23:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:16	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-95-202010 **Lab ID: 60350822029** Collected: 10/08/20 13:58 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:16	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	86-117		1		10/13/20 23:16	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 23:16	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:16		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:31	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**93.1**	mg/L	20.0	5.6	20		10/21/20 13:57	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.95**	mg/L	0.10	0.058	1		10/09/20 12:31		
Nitrogen, Nitrate	**0.95**	mg/L	0.10	0.063	1		10/09/20 12:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:31	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	ND	mg/L	1.0	0.36	1		10/27/20 06:52	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-12R-202010 **Lab ID: 60350822030** Collected: 10/08/20 13:50 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:01	67-64-1	
Benzene	**0.26J**	ug/L	1.0	0.088	1		10/13/20 23:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 23:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 23:01	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:01	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 23:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:01	75-00-3	
Chloroform	**1.7**	ug/L	1.0	0.17	1		10/13/20 23:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 23:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:01	124-48-1	
1,1-Dichloroethane	**0.93J**	ug/L	1.0	0.098	1		10/13/20 23:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 23:01	107-06-2	
1,1-Dichloroethene	**11.7**	ug/L	1.0	0.21	1		10/13/20 23:01	75-35-4	
cis-1,2-Dichloroethene	**284**	ug/L	100	15.0	100		10/13/20 01:35	156-59-2	
trans-1,2-Dichloroethene	**3.1**	ug/L	1.0	0.15	1		10/13/20 23:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 23:01	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:01	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 23:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:01	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:01	100-42-5	
1,1,2,2-Tetrachloroethane	**0.40J**	ug/L	1.0	0.28	1		10/13/20 23:01	79-34-5	
Tetrachloroethene	**4.7**	ug/L	1.0	0.15	1		10/13/20 23:01	127-18-4	
Toluene	**0.19J**	ug/L	1.0	0.18	1		10/13/20 23:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 23:01	71-55-6	
1,1,2-Trichloroethane	**0.88J**	ug/L	1.0	0.28	1		10/13/20 23:01	79-00-5	
Trichloroethene	**11400**	ug/L	100	25.0	100		10/13/20 01:35	79-01-6	
Vinyl chloride	**7.0**	ug/L	1.0	0.25	1		10/13/20 23:01	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:01	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	86-117		1		10/13/20 23:01	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 23:01	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:01		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-89-202010 **Lab ID: 60350822031** Collected: 10/08/20 14:40 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/21/20 00:24	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/21/20 00:24	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/21/20 00:24	74-85-1	
Methane	**91**	ug/L	5.0	2.5	1		10/21/20 00:24	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**50.4**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:12	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:13	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 22:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 22:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:13	75-35-4	
cis-1,2-Dichloroethene	**0.48J**	ug/L	1.0	0.15	1		10/12/20 22:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:13	79-00-5	
Trichloroethene	**6.4**	ug/L	1.0	0.25	1		10/12/20 22:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:13	1330-20-7	

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-89-202010 **Lab ID: 60350822031** Collected: 10/08/20 14:40 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/12/20 22:13	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	86-117		1		10/12/20 22:13	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 22:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:13		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/14/20 15:03	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**2.7**	mg/L	1.0	0.28	1		10/22/20 11:30	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**96.2**	mg/L	2.0	1.2	20		10/09/20 12:38		
Nitrogen, Nitrate	**96.2**	mg/L	2.0	1.3	20		10/09/20 12:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	2.0	1.3	20		10/09/20 12:38	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.70J**	mg/L	1.0	0.36	1		10/27/20 07:05	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-198-202010 **Lab ID: 60350822032** Collected: 10/08/20 15:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 23:25	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.088	1		10/12/20 23:25	71-43-2	
Bromodichloromethane	**0.55J**	ug/L	1.0	0.12	1		10/12/20 23:25	75-27-4	
Bromoform	**1.5**	ug/L	1.0	0.38	1		10/12/20 23:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:25	75-15-0	
Carbon tetrachloride	**0.46J**	ug/L	1.0	0.19	1		10/12/20 23:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:25	75-00-3	
Chloroform	**8.0**	ug/L	1.0	0.17	1		10/12/20 23:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:25	74-87-3	
Dibromochloromethane	**0.49J**	ug/L	1.0	0.17	1		10/12/20 23:25	124-48-1	
1,1-Dichloroethane	**1.4**	ug/L	1.0	0.098	1		10/12/20 23:25	75-34-3	
1,2-Dichloroethane	**0.24J**	ug/L	1.0	0.23	1		10/12/20 23:25	107-06-2	
1,1-Dichloroethene	**28.9**	ug/L	1.0	0.21	1		10/12/20 23:25	75-35-4	
cis-1,2-Dichloroethene	**1550**	ug/L	100	15.0	100		10/16/20 06:11	156-59-2	
trans-1,2-Dichloroethene	**71.9**	ug/L	1.0	0.15	1		10/12/20 23:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:25	591-78-6	
Methylene Chloride	**2.3**	ug/L	1.0	0.81	1		10/12/20 23:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:25	100-42-5	
1,1,2,2-Tetrachloroethane	**14.9**	ug/L	1.0	0.28	1		10/12/20 23:25	79-34-5	
Tetrachloroethene	**9.1**	ug/L	1.0	0.15	1		10/12/20 23:25	127-18-4	
Toluene	**1.2**	ug/L	1.0	0.18	1		10/12/20 23:25	108-88-3	
1,1,1-Trichloroethane	**25.1**	ug/L	1.0	0.13	1		10/12/20 23:25	71-55-6	
1,1,2-Trichloroethane	**1.1**	ug/L	1.0	0.28	1		10/12/20 23:25	79-00-5	
Trichloroethene	**20600**	ug/L	500	125	500		10/19/20 14:01	79-01-6	
Vinyl chloride	**84.4**	ug/L	1.0	0.25	1		10/12/20 23:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		10/12/20 23:25	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/12/20 23:25	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/12/20 23:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:25		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-37-202010 **Lab ID: 60350822033** Collected: 10/08/20 15:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:31	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 23:31	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 23:31	75-27-4	
Bromoform	**0.88J**	ug/L	1.0	0.38	1		10/13/20 23:31	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:31	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 23:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:31	75-00-3	
Chloroform	**0.76J**	ug/L	1.0	0.17	1		10/13/20 23:31	67-66-3	
Chloromethane	**0.50J**	ug/L	1.0	0.44	1		10/13/20 23:31	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:31	124-48-1	
1,1-Dichloroethane	**0.57J**	ug/L	1.0	0.098	1		10/13/20 23:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 23:31	107-06-2	
1,1-Dichloroethene	**1.9**	ug/L	1.0	0.21	1		10/13/20 23:31	75-35-4	
cis-1,2-Dichloroethene	**648**	ug/L	100	15.0	100		10/13/20 01:49	156-59-2	
trans-1,2-Dichloroethene	**33.8**	ug/L	1.0	0.15	1		10/13/20 23:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:31	10061-02-6	
Ethylbenzene	**0.54J**	ug/L	1.0	0.18	1		10/13/20 23:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:31	591-78-6	
Methylene Chloride	**1.4**	ug/L	1.0	0.81	1		10/13/20 23:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:31	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 23:31	79-34-5	
Tetrachloroethene	**2.7**	ug/L	1.0	0.15	1		10/13/20 23:31	127-18-4	
Toluene	**4.1**	ug/L	1.0	0.18	1		10/13/20 23:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 23:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 23:31	79-00-5	
Trichloroethene	**3990**	ug/L	100	25.0	100		10/13/20 01:49	79-01-6	
Vinyl chloride	**186**	ug/L	1.0	0.25	1		10/13/20 23:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:31	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	86-117		1		10/13/20 23:31	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 23:31	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:31		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: IW-77-202010 **Lab ID: 60350822034** Collected: 10/08/20 14:12 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 23:54	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 23:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 23:54	75-27-4	
Bromoform	**0.70J**	ug/L	1.0	0.38	1		10/12/20 23:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 23:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 23:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 23:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 23:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 23:54	107-06-2	
1,1-Dichloroethene	**0.78J**	ug/L	1.0	0.21	1		10/12/20 23:54	75-35-4	
cis-1,2-Dichloroethene	**5.7**	ug/L	1.0	0.15	1		10/12/20 23:54	156-59-2	
trans-1,2-Dichloroethene	**0.23J**	ug/L	1.0	0.15	1		10/12/20 23:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 23:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 23:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 23:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:54	79-00-5	
Trichloroethene	**171**	ug/L	5.0	1.2	5		10/16/20 06:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 23:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 23:54	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 23:54	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 23:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:54		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-18-202010 **Lab ID: 60350822035** Collected: 10/08/20 16:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 00:08	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 00:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 00:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 00:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 00:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 00:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 00:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 00:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 00:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 00:08	75-00-3	
Chloroform	**0.59J**	ug/L	1.0	0.17	1		10/13/20 00:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 00:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 00:08	124-48-1	
1,1-Dichloroethane	**0.45J**	ug/L	1.0	0.098	1		10/13/20 00:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 00:08	107-06-2	
1,1-Dichloroethene	**2.2**	ug/L	1.0	0.21	1		10/13/20 00:08	75-35-4	
cis-1,2-Dichloroethene	**94.5**	ug/L	1.0	0.15	1		10/13/20 00:08	156-59-2	
trans-1,2-Dichloroethene	**9.1**	ug/L	1.0	0.15	1		10/13/20 00:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 00:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 00:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 00:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 00:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 00:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 00:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 00:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 00:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:08	79-34-5	
Tetrachloroethene	**0.47J**	ug/L	1.0	0.15	1		10/13/20 00:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 00:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 00:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:08	79-00-5	
Trichloroethene	**1210**	ug/L	10.0	2.5	10		10/13/20 00:23	79-01-6	
Vinyl chloride	**0.43J**	ug/L	1.0	0.25	1		10/13/20 00:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 00:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/13/20 00:08	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 00:08	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 00:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 00:08		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: IW-132-202010 **Lab ID: 60350822036** Collected: 10/08/20 14:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 00:37	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 00:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 00:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 00:37	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 00:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 00:37	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 00:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 00:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 00:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 00:37	75-00-3	
Chloroform	**0.18J**	ug/L	1.0	0.17	1		10/13/20 00:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 00:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 00:37	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 00:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 00:37	107-06-2	
1,1-Dichloroethene	**0.45J**	ug/L	1.0	0.21	1		10/13/20 00:37	75-35-4	
cis-1,2-Dichloroethene	**0.63J**	ug/L	1.0	0.15	1		10/13/20 00:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 00:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 00:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 00:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 00:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 00:37	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 00:37	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 00:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 00:37	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 00:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 00:37	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 00:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 00:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:37	79-00-5	
Trichloroethene	**210**	ug/L	10.0	2.5	10		10/13/20 00:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 00:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 00:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 00:37	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/13/20 00:37	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 00:37	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 00:37		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-93-202010 **Lab ID: 60350822037** Collected: 10/08/20 16:09 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:46	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 23:46	71-43-2	
Bromodichloromethane	**0.23J**	ug/L	1.0	0.12	1		10/13/20 23:46	75-27-4	
Bromoform	**0.78J**	ug/L	1.0	0.38	1		10/13/20 23:46	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:46	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 23:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:46	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:46	75-00-3	
Chloroform	**2.2**	ug/L	1.0	0.17	1		10/13/20 23:46	67-66-3	
Chloromethane	**0.44J**	ug/L	1.0	0.44	1		10/13/20 23:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:46	124-48-1	
1,1-Dichloroethane	**0.19J**	ug/L	1.0	0.098	1		10/13/20 23:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 23:46	107-06-2	
1,1-Dichloroethene	**8.6**	ug/L	1.0	0.21	1		10/13/20 23:46	75-35-4	
cis-1,2-Dichloroethene	**64.5**	ug/L	1.0	0.15	1		10/13/20 23:46	156-59-2	
trans-1,2-Dichloroethene	**7.3**	ug/L	1.0	0.15	1		10/13/20 23:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 23:46	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:46	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 23:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:46	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 23:46	79-34-5	
Tetrachloroethene	**2.9**	ug/L	1.0	0.15	1		10/13/20 23:46	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 23:46	108-88-3	
1,1,1-Trichloroethane	**0.24J**	ug/L	1.0	0.13	1		10/13/20 23:46	71-55-6	
1,1,2-Trichloroethane	**0.48J**	ug/L	1.0	0.28	1		10/13/20 23:46	79-00-5	
Trichloroethene	**9130**	ug/L	200	50.0	200		10/13/20 02:18	79-01-6	
Vinyl chloride	**1.0**	ug/L	1.0	0.25	1		10/13/20 23:46	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:46	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/13/20 23:46	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 23:46	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:46		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-7-202010 **Lab ID: 60350822038** Collected: 10/08/20 16:38 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:27	67-64-1	
Benzene	**0.17J**	ug/L	1.0	0.088	1		10/12/20 22:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:27	56-23-5	
Chlorobenzene	**6.6**	ug/L	1.0	0.23	1		10/12/20 22:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:27	75-35-4	
cis-1,2-Dichloroethene	**6.4**	ug/L	1.0	0.15	1		10/12/20 22:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:27	79-00-5	
Trichloroethene	**16.4**	ug/L	1.0	0.25	1		10/12/20 22:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 22:27	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 22:27	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 22:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: EB-04-202010 **Lab ID: 60350822039** Collected: 10/08/20 17:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 21:44	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/12/20 21:44	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:44		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-96-202010 **Lab ID: 60350822040** Collected: 10/08/20 17:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:42	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 22:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 22:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 22:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 22:42	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 22:42	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 22:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:42		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-97-202010 **Lab ID: 60350822041** Collected: 10/08/20 17:28 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:56	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 22:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 22:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 22:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 22:56	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		10/12/20 22:56	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 22:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP-10-202010 **Lab ID: 60350822042** Collected: 10/08/20 17:28 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 23:40	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 23:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 23:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 23:40	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:40	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 23:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:40	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 23:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:40	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 23:40	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 23:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 23:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 23:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:37	156-59-2	
trans-1,2-Dichloroethene	**0.18J**	ug/L	1.0	0.15	1		10/12/20 23:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:40	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:40	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 23:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:40	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:40	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:40	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 23:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 23:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/15/20 14:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 23:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 23:40	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 23:40	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 23:40	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:40		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-179-202010 **Lab ID: 60350822043** Collected: 10/08/20 17:11 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**8.9J**	ug/L	10.0	4.7	1		10/12/20 23:11	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 23:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 23:11	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 23:11	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:11	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 23:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:11	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 23:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:11	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 23:11	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 23:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 23:11	107-06-2	
1,1-Dichloroethene	**0.36J**	ug/L	1.0	0.21	1		10/12/20 23:11	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	1.0	0.15	1		10/12/20 23:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:11	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:11	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 23:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:11	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:11	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:11	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 23:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 23:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:11	79-00-5	
Trichloroethene	**22.9**	ug/L	1.0	0.25	1		10/12/20 23:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 23:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 23:11	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/12/20 23:11	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 23:11	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:11		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: EB-05-202010 **Lab ID: 60350822044** Collected: 10/08/20 17:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 21:59	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 21:59	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:59		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: IW-134-202010 **Lab ID: 60350822045** Collected: 10/08/20 16:46 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 01:06	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 01:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 01:06	75-27-4	
Bromoform	**0.71J**	ug/L	1.0	0.38	1		10/13/20 01:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 01:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 01:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 01:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 01:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 01:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 01:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 01:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 01:06	74-87-3	
Dibromochloromethane	**0.38J**	ug/L	1.0	0.17	1		10/13/20 01:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 01:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 01:06	107-06-2	
1,1-Dichloroethene	**1.5**	ug/L	1.0	0.21	1		10/13/20 01:06	75-35-4	
cis-1,2-Dichloroethene	**10.6**	ug/L	1.0	0.15	1		10/13/20 01:06	156-59-2	
trans-1,2-Dichloroethene	**0.59J**	ug/L	1.0	0.15	1		10/13/20 01:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 01:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 01:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 01:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 01:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 01:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 01:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 01:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 01:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 01:06	79-34-5	
Tetrachloroethene	**0.34J**	ug/L	1.0	0.15	1		10/13/20 01:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 01:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 01:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 01:06	79-00-5	
Trichloroethene	**1110**	ug/L	20.0	5.0	20		10/13/20 01:20	79-01-6	
Vinyl chloride	**0.38J**	ug/L	1.0	0.25	1		10/13/20 01:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 01:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 01:06	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 01:06	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/13/20 01:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 01:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TB-08-202010 **Lab ID: 60350822046** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:02	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:02	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:02	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:02	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:02	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:02	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:02	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:02	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:02	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:02	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:02	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:02	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:02	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:02	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:02	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:02	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:02	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:02	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:02	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:02	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:02	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:02	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:02	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 21:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 21:02	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:02	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:02		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TB-09-202010 **Lab ID: 60350822047** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:16	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:16	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:16	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:16	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:16	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:16	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:16	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:16	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:16	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:16	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:16	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:16	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:16	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:16	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:16	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 21:16	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		10/12/20 21:16	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 21:16	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:16		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TB-10-202010 **Lab ID: 60350822048** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:30	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:30	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:30	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 21:30	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		10/12/20 21:30	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:30		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 695115
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2098800 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/20/20 21:25	
Ethane	ug/L	ND	1.0	0.075	10/20/20 21:25	
Ethene	ug/L	ND	1.0	0.12	10/20/20 21:25	
Methane	ug/L	3.0J	5.0	2.5	10/20/20 21:25	B0

LABORATORY CONTROL SAMPLE & LCSD: 2098801 2098802

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	31	37	81	97	70-130	18	20	
Ethane	ug/L	100	84	100	83	102	70-130	21	20	
Ethene	ug/L	140	120	150	85	105	70-130	21	20	
Methane	ug/L	490	390	480	79	99	70-130	23	20	R1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 684042
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2765332 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/22/20 14:42	

LABORATORY CONTROL SAMPLE: 2765333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4980	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765334 2765335

Parameter	Units	60350822003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6150	5000	5000	11300	11200	104	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 681957
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822005, 60350822008

METHOD BLANK: 2756627 Matrix: Water
Associated Lab Samples: 60350822005, 60350822008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 16:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 16:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 16:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 16:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 16:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 16:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 16:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 16:01	
Acetone	ug/L	ND	10.0	4.7	10/12/20 16:01	
Benzene	ug/L	ND	1.0	0.088	10/12/20 16:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 16:01	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 16:01	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 16:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 16:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 16:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 16:01	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 16:01	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 16:01	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 16:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 16:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 16:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 16:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 16:01	
Styrene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
Toluene	ug/L	ND	1.0	0.18	10/12/20 16:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 16:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 16:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 16:01	
1,2-Dichloroethane-d4 (S)	%	98	86-117		10/12/20 16:01	
4-Bromofluorobenzene (S)	%	100	80-120		10/12/20 16:01	
Toluene-d8 (S)	%	100	80-120		10/12/20 16:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2756628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	78-118	
1,1,2-Trichloroethane	ug/L	20	20.4	102	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	20.6	103	81-124	
1,2-Dichloroethane	ug/L	20	17.6	88	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	89.7	90	70-125	
2-Hexanone	ug/L	100	92.3	92	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	73-131	
Acetone	ug/L	100	99.8	100	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	15.5	77	66-133	
Bromomethane	ug/L	20	23.7	118	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	20.1	100	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	101	85-117	
Dibromochloromethane	ug/L	20	17.8	89	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.5	103	83-119	
Toluene	ug/L	20	20.2	101	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	83-117	
Trichloroethene	ug/L	20	21.2	106	80-118	
Vinyl chloride	ug/L	20	22.9	114	76-144	
Xylene (Total)	ug/L	60	62.2	104	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682135
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822029, 60350822030, 60350822031, 60350822032, 60350822033, 60350822034, 60350822035, 60350822036, 60350822037, 60350822038, 60350822039, 60350822040, 60350822041, 60350822042, 60350822043, 60350822044, 60350822045, 60350822046, 60350822047, 60350822048

METHOD BLANK: 2757677
Matrix: Water
Associated Lab Samples: 60350822029, 60350822030, 60350822031, 60350822032, 60350822033, 60350822034, 60350822035, 60350822036, 60350822037, 60350822038, 60350822039, 60350822040, 60350822041, 60350822042, 60350822043, 60350822044, 60350822045, 60350822046, 60350822047, 60350822048

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 20:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 20:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 20:47	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 20:47	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 20:47	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 20:47	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 20:47	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 20:47	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 20:47	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 20:47	
Acetone	ug/L	ND	10.0	4.7	10/12/20 20:47	
Benzene	ug/L	ND	1.0	0.088	10/12/20 20:47	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 20:47	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 20:47	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 20:47	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 20:47	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 20:47	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 20:47	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 20:47	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 20:47	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 20:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 20:47	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 20:47	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 20:47	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 20:47	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 20:47	
Styrene	ug/L	ND	1.0	0.17	10/12/20 20:47	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 20:47	
Toluene	ug/L	ND	1.0	0.18	10/12/20 20:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 20:47	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 20:47	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 20:47	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 20:47	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 20:47	
1,2-Dichloroethane-d4 (S)	%	101	86-117		10/12/20 20:47	
4-Bromofluorobenzene (S)	%	103	80-120		10/12/20 20:47	
Toluene-d8 (S)	%	101	80-120		10/12/20 20:47	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2757678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.7	99	78-118	
1,1,2-Trichloroethane	ug/L	20	20.7	103	82-117	
1,1-Dichloroethane	ug/L	20	20.4	102	85-120	
1,1-Dichloroethene	ug/L	20	20.9	105	81-124	
1,2-Dichloroethane	ug/L	20	18.8	94	79-118	
1,2-Dichloropropane	ug/L	20	20.3	102	85-117	
2-Butanone (MEK)	ug/L	100	97.7	98	70-125	
2-Hexanone	ug/L	100	104	104	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	73-131	
Acetone	ug/L	100	112	112	59-135	
Benzene	ug/L	20	20.0	100	82-115	
Bromodichloromethane	ug/L	20	20.5	103	82-123	
Bromoform	ug/L	20	16.2	81	66-133	
Bromomethane	ug/L	20	19.9	100	27-179	
Carbon disulfide	ug/L	20	23.1	115	72-134	
Carbon tetrachloride	ug/L	20	20.2	101	80-121	
Chlorobenzene	ug/L	20	20.3	102	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.6	98	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.9	100	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	102	85-117	
Dibromochloromethane	ug/L	20	17.7	89	82-122	
Ethylbenzene	ug/L	20	20.0	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.3	107	80-117	
Tetrachloroethene	ug/L	20	20.2	101	83-119	
Toluene	ug/L	20	19.9	99	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	21.1	105	83-117	
Trichloroethene	ug/L	20	21.0	105	80-118	
Vinyl chloride	ug/L	20	21.8	109	76-144	
Xylene (Total)	ug/L	60	61.1	102	82-120	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682136
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822009, 60350822010, 60350822011, 60350822012, 60350822013, 60350822014, 60350822015, 60350822016, 60350822017, 60350822018, 60350822019, 60350822020, 60350822021, 60350822023, 60350822024, 60350822025, 60350822026, 60350822027, 60350822028

METHOD BLANK: 2757679
Matrix: Water
Associated Lab Samples: 60350822009, 60350822010, 60350822011, 60350822012, 60350822013, 60350822014, 60350822015, 60350822016, 60350822017, 60350822018, 60350822019, 60350822020, 60350822021, 60350822023, 60350822024, 60350822025, 60350822026, 60350822027, 60350822028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 08:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 08:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 08:07	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 08:07	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 08:07	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 08:07	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 08:07	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 08:07	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 08:07	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 08:07	
Acetone	ug/L	ND	10.0	4.7	10/13/20 08:07	
Benzene	ug/L	ND	1.0	0.088	10/13/20 08:07	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 08:07	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 08:07	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 08:07	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 08:07	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 08:07	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 08:07	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 08:07	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 08:07	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 08:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 08:07	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 08:07	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 08:07	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 08:07	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 08:07	
Styrene	ug/L	ND	1.0	0.17	10/13/20 08:07	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 08:07	
Toluene	ug/L	ND	1.0	0.18	10/13/20 08:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 08:07	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 08:07	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 08:07	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 08:07	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 08:07	
1,2-Dichloroethane-d4 (S)	%	99	86-117		10/13/20 08:07	
4-Bromofluorobenzene (S)	%	101	80-120		10/13/20 08:07	
Toluene-d8 (S)	%	100	80-120		10/13/20 08:07	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2757680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	78-118	
1,1,2-Trichloroethane	ug/L	20	20.8	104	82-117	
1,1-Dichloroethane	ug/L	20	20.6	103	85-120	
1,1-Dichloroethene	ug/L	20	20.7	104	81-124	
1,2-Dichloroethane	ug/L	20	19.3	96	79-118	
1,2-Dichloropropane	ug/L	20	19.7	98	85-117	
2-Butanone (MEK)	ug/L	100	102	102	70-125	
2-Hexanone	ug/L	100	111	111	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	73-131	
Acetone	ug/L	100	118	118	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	17.0	85	66-133	
Bromomethane	ug/L	20	21.3	107	27-179	
Carbon disulfide	ug/L	20	22.7	114	72-134	
Carbon tetrachloride	ug/L	20	20.9	105	80-121	
Chlorobenzene	ug/L	20	20.8	104	80-120	
Chloroethane	ug/L	20	19.7	98	78-145	
Chloroform	ug/L	20	19.8	99	84-116	
Chloromethane	ug/L	20	18.5	93	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.1	105	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	19.8	99	79-115	
Methylene Chloride	ug/L	20	20.1	101	80-126	
Styrene	ug/L	20	21.7	109	80-117	
Tetrachloroethene	ug/L	20	20.3	101	83-119	
Toluene	ug/L	20	19.9	100	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.3	111	83-117	
Trichloroethene	ug/L	20	20.1	101	80-118	
Vinyl chloride	ug/L	20	22.0	110	76-144	
Xylene (Total)	ug/L	60	62.4	104	82-120	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682488
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822007, 60350822029, 60350822030, 60350822033, 60350822037

METHOD BLANK: 2758835 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822007, 60350822029, 60350822030, 60350822033, 60350822037

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 20:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 20:14	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 20:14	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 20:14	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 20:14	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 20:14	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 20:14	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 20:14	
Acetone	ug/L	ND	10.0	4.7	10/13/20 20:14	
Benzene	ug/L	ND	1.0	0.088	10/13/20 20:14	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 20:14	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 20:14	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 20:14	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 20:14	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 20:14	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 20:14	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 20:14	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 20:14	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 20:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 20:14	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 20:14	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 20:14	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 20:14	
Styrene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
Toluene	ug/L	ND	1.0	0.18	10/13/20 20:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 20:14	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 20:14	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 20:14	
1,2-Dichloroethane-d4 (S)	%	115	86-117		10/13/20 20:14	
4-Bromofluorobenzene (S)	%	108	80-120		10/13/20 20:14	
Toluene-d8 (S)	%	97	80-120		10/13/20 20:14	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2758836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.2	106	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.1	91	78-118	
1,1,2-Trichloroethane	ug/L	20	18.7	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	21.7	108	81-124	
1,2-Dichloroethane	ug/L	20	21.4	107	79-118	
1,2-Dichloropropane	ug/L	20	19.0	95	85-117	
2-Butanone (MEK)	ug/L	100	62.3	62	70-125	L2
2-Hexanone	ug/L	100	88.8	89	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.6	98	73-131	
Acetone	ug/L	100	112	112	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.9	105	82-123	
Bromoform	ug/L	20	17.6	88	66-133	
Bromomethane	ug/L	20	25.0	125	27-179	
Carbon disulfide	ug/L	20	24.2	121	72-134	
Carbon tetrachloride	ug/L	20	23.0	115	80-121	
Chlorobenzene	ug/L	20	17.9	90	80-120	
Chloroethane	ug/L	20	21.5	107	78-145	
Chloroform	ug/L	20	20.5	103	84-116	
Chloromethane	ug/L	20	18.0	90	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.6	98	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	17.3	87	79-115	
Methylene Chloride	ug/L	20	19.7	99	80-126	
Styrene	ug/L	20	18.9	95	80-117	
Tetrachloroethene	ug/L	20	18.3	91	83-119	
Toluene	ug/L	20	18.8	94	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	83-117	
Trichloroethene	ug/L	20	21.1	105	80-118	
Vinyl chloride	ug/L	20	20.5	102	76-144	
Xylene (Total)	ug/L	60	54.2	90	82-120	
1,2-Dichloroethane-d4 (S)	%			108	86-117	
4-Bromofluorobenzene (S)	%			106	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682953
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822016, 60350822021, 60350822024, 60350822028, 60350822032, 60350822034

METHOD BLANK: 2760624 Matrix: Water
Associated Lab Samples: 60350822016, 60350822021, 60350822024, 60350822028, 60350822032, 60350822034

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/16/20 02:09	
Trichloroethene	ug/L	ND	1.0	0.25	10/16/20 02:09	
1,2-Dichloroethane-d4 (S)	%	100	86-117		10/16/20 02:09	
4-Bromofluorobenzene (S)	%	99	80-120		10/16/20 02:09	
Toluene-d8 (S)	%	101	80-120		10/16/20 02:09	

LABORATORY CONTROL SAMPLE: 2760625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	19.7	98	85-115	
Trichloroethene	ug/L	20	19.3	96	80-118	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			96	80-120	
Toluene-d8 (S)	%			102	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682994
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822022

METHOD BLANK: 2760880 Matrix: Water
Associated Lab Samples: 60350822022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	0.30J	1.0	0.25	10/15/20 15:58	
Xylene (Total)	ug/L	ND	3.0	0.54	10/15/20 15:58	
1,2-Dichloroethane-d4 (S)	%	101	86-117		10/15/20 15:58	
4-Bromofluorobenzene (S)	%	99	80-120		10/15/20 15:58	
Toluene-d8 (S)	%	99	80-120		10/15/20 15:58	

LABORATORY CONTROL SAMPLE: 2760881

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	19.7	98	80-118	
Xylene (Total)	ug/L	60	58.4	97	82-120	
1,2-Dichloroethane-d4 (S)	%			99	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760882 2760883

Parameter	Units	60351084008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Trichloroethene	ug/L	0.00042J mg/L	20	20	19.8	20.8	97	102	68-128	5	23	
Xylene (Total)	ug/L	0.079 mg/L	60	60	135	139	93	99	59-139	2	22	
1,2-Dichloroethane-d4 (S)	%						102	101	86-117			
4-Bromofluorobenzene (S)	%						93	94	80-120			
Toluene-d8 (S)	%						101	100	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682998
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350822042

METHOD BLANK: 2760913 Matrix: Water
Associated Lab Samples: 60350822042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
Trichloroethene	ug/L	ND	1.0	0.25	10/15/20 13:49	
1,2-Dichloroethane-d4 (S)	%	105	86-117		10/15/20 13:49	
4-Bromofluorobenzene (S)	%	102	80-120		10/15/20 13:49	
Toluene-d8 (S)	%	96	80-120		10/15/20 13:49	

LABORATORY CONTROL SAMPLE: 2760914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	21.0	105	85-115	
Trichloroethene	ug/L	20	18.6	93	80-118	
1,2-Dichloroethane-d4 (S)	%			102	86-117	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760915 2760916

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
cis-1,2-Dichloroethene	ug/L	37500	20000	20000	52600	54700	76	86	69-127	4	18	
Trichloroethene	ug/L	ND	20000	20000	17900	18500	90	92	68-128	3	23	
1,2-Dichloroethane-d4 (S)	%						100	107	86-117			
4-Bromofluorobenzene (S)	%						96	100	80-120			
Toluene-d8 (S)	%						97	101	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 683570
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822022, 60350822023, 60350822032

METHOD BLANK: 2763906 Matrix: Water
Associated Lab Samples: 60350822022, 60350822023, 60350822032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/19/20 10:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/19/20 10:55	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/19/20 10:55	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/19/20 10:55	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/19/20 10:55	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/19/20 10:55	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/19/20 10:55	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/19/20 10:55	
2-Hexanone	ug/L	ND	10.0	1.5	10/19/20 10:55	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/19/20 10:55	
Acetone	ug/L	ND	10.0	4.7	10/19/20 10:55	
Benzene	ug/L	ND	1.0	0.088	10/19/20 10:55	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/19/20 10:55	
Bromoform	ug/L	ND	1.0	0.38	10/19/20 10:55	
Bromomethane	ug/L	ND	5.0	0.99	10/19/20 10:55	
Carbon disulfide	ug/L	ND	5.0	0.24	10/19/20 10:55	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/19/20 10:55	
Chlorobenzene	ug/L	ND	1.0	0.23	10/19/20 10:55	
Chloroethane	ug/L	ND	1.0	0.38	10/19/20 10:55	
Chloroform	ug/L	ND	1.0	0.17	10/19/20 10:55	
Chloromethane	ug/L	ND	1.0	0.44	10/19/20 10:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/19/20 10:55	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/19/20 10:55	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/19/20 10:55	
Ethylbenzene	ug/L	ND	1.0	0.18	10/19/20 10:55	
Methylene Chloride	ug/L	ND	1.0	0.81	10/19/20 10:55	
Styrene	ug/L	ND	1.0	0.17	10/19/20 10:55	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/19/20 10:55	
Toluene	ug/L	ND	1.0	0.18	10/19/20 10:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/19/20 10:55	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/19/20 10:55	
Trichloroethene	ug/L	ND	1.0	0.25	10/19/20 10:55	
Vinyl chloride	ug/L	ND	1.0	0.25	10/19/20 10:55	
Xylene (Total)	ug/L	ND	3.0	0.54	10/19/20 10:55	
1,2-Dichloroethane-d4 (S)	%	111	86-117		10/19/20 10:55	
4-Bromofluorobenzene (S)	%	104	80-120		10/19/20 10:55	
Toluene-d8 (S)	%	95	80-120		10/19/20 10:55	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2763907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	105	78-118	
1,1,2-Trichloroethane	ug/L	20	18.5	93	82-117	
1,1-Dichloroethane	ug/L	20	16.9	84	85-120	L2
1,1-Dichloroethene	ug/L	20	21.1	106	81-124	
1,2-Dichloroethane	ug/L	20	19.5	97	79-118	
1,2-Dichloropropane	ug/L	20	19.5	98	85-117	
2-Butanone (MEK)	ug/L	100	96.2	96	70-125	
2-Hexanone	ug/L	100	99.5	100	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	73-131	
Acetone	ug/L	100	110	110	59-135	
Benzene	ug/L	20	18.9	94	82-115	
Bromodichloromethane	ug/L	20	20.9	104	82-123	
Bromoform	ug/L	20	20.2	101	66-133	
Bromomethane	ug/L	20	25.3	127	27-179	
Carbon disulfide	ug/L	20	25.1	125	72-134	
Carbon tetrachloride	ug/L	20	21.2	106	80-121	
Chlorobenzene	ug/L	20	18.7	94	80-120	
Chloroethane	ug/L	20	21.9	109	78-145	
Chloroform	ug/L	20	19.2	96	84-116	
Chloromethane	ug/L	20	16.6	83	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.8	109	85-117	
Dibromochloromethane	ug/L	20	20.8	104	82-122	
Ethylbenzene	ug/L	20	18.4	92	79-115	
Methylene Chloride	ug/L	20	23.0	115	80-126	
Styrene	ug/L	20	21.1	105	80-117	
Tetrachloroethene	ug/L	20	19.1	96	83-119	
Toluene	ug/L	20	18.2	91	83-115	
trans-1,2-Dichloroethene	ug/L	20	17.0	85	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.0	110	83-117	
Trichloroethene	ug/L	20	17.0	85	80-118	
Vinyl chloride	ug/L	20	21.1	105	76-144	
Xylene (Total)	ug/L	60	57.1	95	82-120	
1,2-Dichloroethane-d4 (S)	%			104	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			98	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682624
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822031

METHOD BLANK: 2759310 Matrix: Water
Associated Lab Samples: 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/14/20 14:59	

LABORATORY CONTROL SAMPLE: 2759311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2759312 2759314

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.066	0.5	0.5	0.57	0.55	100	98	75-125	2	20	

SAMPLE DUPLICATE: 2759313

Parameter	Units	60350921001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.066	0.066	0	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682929 | Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D | Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822001, 60350822002, 60350822007, 60350822026, 60350822029

METHOD BLANK: 2760524 Matrix: Water
Associated Lab Samples: 60350822001, 60350822002, 60350822007, 60350822026, 60350822029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/15/20 12:16	

LABORATORY CONTROL SAMPLE: 2760525

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	101	80-120	

MATRIX SPIKE SAMPLE: 2760936

Parameter	Units	60351247006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.5	0.47	93	75-125	

SAMPLE DUPLICATE: 2760527

Parameter	Units	60350730002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2760528

Parameter	Units	60350822026 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 683971
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004

METHOD BLANK: 2765112 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/20/20 18:36	
Sulfate	mg/L	ND	1.0	0.28	10/20/20 18:36	

METHOD BLANK: 2765905 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/21/20 09:07	
Sulfate	mg/L	ND	1.0	0.28	10/21/20 09:07	

METHOD BLANK: 2766512 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/21/20 09:13	
Sulfate	mg/L	ND	1.0	0.28	10/21/20 09:13	

LABORATORY CONTROL SAMPLE: 2765113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	107	90-110	
Sulfate	mg/L	5	5.4	107	90-110	

LABORATORY CONTROL SAMPLE: 2765906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	104	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2766513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765114 2765115

Parameter	Units	60351499001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1590	1000	1000	3340	3350	176	177	80-120	0	15	M1
Sulfate	mg/L	40000	25000	25000	68400	67800	114	111	80-120	1	15	

MATRIX SPIKE SAMPLE: 2765116

Parameter	Units	60350824001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	13.8	5	23.0	184	80-120	E,M1
Sulfate	mg/L	480	250	756	110	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 684252
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2766008 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/21/20 09:38	
Sulfate	mg/L	ND	1.0	0.28	10/21/20 09:38	

METHOD BLANK: 2767047 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/22/20 09:20	
Sulfate	mg/L	ND	1.0	0.28	10/22/20 09:20	

METHOD BLANK: 2768690 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/23/20 09:11	
Sulfate	mg/L	ND	1.0	0.28	10/23/20 09:11	

METHOD BLANK: 2768951 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.44J	1.0	0.39	10/24/20 09:13	
Sulfate	mg/L	ND	1.0	0.28	10/24/20 09:13	

LABORATORY CONTROL SAMPLE: 2766009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.4	107	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2767048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Sulfate	mg/L	5	5.5	111	90-110	L1

LABORATORY CONTROL SAMPLE: 2768236

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Sulfate	mg/L	5	5.5	110	90-110	

LABORATORY CONTROL SAMPLE: 2768691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Sulfate	mg/L	5	5.3	107	90-110	

LABORATORY CONTROL SAMPLE: 2768952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	105	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2766010 2766011

Parameter	Units	60350919001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6160	5000	5000	13000	12900	136	135	80-120	0	15	M1
Sulfate	mg/L	14000	5000	5000	20500	20400	129	128	80-120	0	15	E,M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2766012 2766013

Parameter	Units	60350923006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	20.1	10	10	31.5	31.6	101	102	80-120	0	15	
Sulfate	mg/L	99.7	50	50	166	165	113	112	80-120	0	15	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 681857
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2756331 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/09/20 12:23	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/09/20 12:23	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/09/20 12:23	

LABORATORY CONTROL SAMPLE: 2756332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.96	96	70-130	
Nitrogen, Nitrite	mg/L	1	1.0	105	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	100	90-110	

MATRIX SPIKE SAMPLE: 2756333

Parameter	Units	60350822007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.48	1	1.5	98	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	112	90-110	M1
Nitrogen, NO2 plus NO3	mg/L	0.48	2	2.6	105	90-110	

SAMPLE DUPLICATE: 2756334

Parameter	Units	60350822016 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 685217
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004

METHOD BLANK: 2770131 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 22:26	

LABORATORY CONTROL SAMPLE: 2770132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	107	80-120	

MATRIX SPIKE SAMPLE: 2770133

Parameter	Units	60350715005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	284	500	779	99	80-120	

SAMPLE DUPLICATE: 2770134

Parameter	Units	60350715010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	58.7	62.2	6	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 685222 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2770135 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 04:38	

LABORATORY CONTROL SAMPLE: 2770136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.4	109	80-120	

MATRIX SPIKE SAMPLE: 2770137

Parameter	Units	60350822006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	12.2	25	36.9	99	80-120	

SAMPLE DUPLICATE: 2770138

Parameter	Units	60350822016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	19.5	18.9	3	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 685224 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

METHOD BLANK: 2770142 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 14:10	

LABORATORY CONTROL SAMPLE: 2770143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	104	80-120	

MATRIX SPIKE SAMPLE: 2770145

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	5	4.5	81	80-120	

SAMPLE DUPLICATE: 2770144

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	0.48J		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 695022
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

METHOD BLANK: 2098439 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/19/20 23:34	
Butyric Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Formic acid	mg/L	ND	0.50	0.055	10/19/20 23:34	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Lactic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
Propionic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/19/20 23:34	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/19/20 23:34	

LABORATORY CONTROL SAMPLE: 2098440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetic Acid	mg/L	2	2.0	100	70-130	
Butyric Acid	mg/L	2	2.0	102	70-130	
Formic acid	mg/L	2	2.0	101	70-130	
Hexanoic Acid	mg/L	2	2.0	101	70-130	
Lactic Acid	mg/L	2	2.0	98	70-130	
Pentanoic Acid	mg/L	2	2.0	99	70-130	
Propionic Acid	mg/L	2	2.0	103	70-130	
Pyruvic Acid	mg/L	2	1.7	86	70-130	
i-Hexanoic Acid	mg/L	2	2.0	103	70-130	
i-Pentanoic Acid	mg/L	2	2.0	103	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681957
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682135
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682136
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682488
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682953
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 683570
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350822003	**TMW-32-202010**	AM20GAX	695115		
60350822004	**TMW-16-202010**	AM20GAX	695115		
60350822006	**TMW-25-202010**	AM20GAX	695115		
60350822007	**MW-25R-202010**	AM20GAX	695115		
60350822016	**MW-186-202010**	AM20GAX	695115		
60350822026	**MW-87-202010**	AM20GAX	695115		
60350822029	**MW-95-202010**	AM20GAX	695115		
60350822031	**MW-89-202010**	AM20GAX	695115		
60350822003	**TMW-32-202010**	EPA 3010	684042	EPA 6010	684364
60350822004	**TMW-16-202010**	EPA 3010	684042	EPA 6010	684364
60350822006	**TMW-25-202010**	EPA 3010	684042	EPA 6010	684364
60350822007	**MW-25R-202010**	EPA 3010	684042	EPA 6010	684364
60350822016	**MW-186-202010**	EPA 3010	684042	EPA 6010	684364
60350822026	**MW-87-202010**	EPA 3010	684042	EPA 6010	684364
60350822029	**MW-95-202010**	EPA 3010	684042	EPA 6010	684364
60350822031	**MW-89-202010**	EPA 3010	684042	EPA 6010	684364
60350822003	**TMW-32-202010**	EPA 5030B/8260	682488		
60350822004	**TMW-16-202010**	EPA 5030B/8260	682488		
60350822005	**ITMW-1R-202010**	EPA 5030B/8260	681957		
60350822007	**MW-25R-202010**	EPA 5030B/8260	682488		
60350822008	**MW-22-202010**	EPA 5030B/8260	681957		
60350822009	**DUP-07-202010**	EPA 5030B/8260	682136		
60350822010	**MW-24-202010**	EPA 5030B/8260	682136		
60350822011	**DUP.08-202010**	EPA 5030B/8260	682136		
60350822012	**ITMW-16-202010**	EPA 5030B/8260	682136		
60350822013	**MW-204-202010**	EPA 5030B/8260	682136		
60350822014	**MW-202-202010**	EPA 5030B/8260	682136		
60350822015	**MW-28-202010**	EPA 5030B/8260	682136		
60350822016	**MW-186-202010**	EPA 5030B/8260	682136		
60350822016	**MW-186-202010**	EPA 5030B/8260	682953		
60350822017	**ITMW-2R-202010**	EPA 5030B/8260	682136		
60350822018	**DUP-09-202010**	EPA 5030B/8260	682136		
60350822019	**ITMW-21-202010**	EPA 5030B/8260	682136		
60350822020	**MW-200-202010**	EPA 5030B/8260	682136		
60350822021	**ITMW-10-202010**	EPA 5030B/8260	682136		
60350822021	**ITMW-10-202010**	EPA 5030B/8260	682953		
60350822022	**MW-85R-202010**	EPA 5030B/8260	682994		
60350822022	**MW-85R-202010**	EPA 5030B/8260	683570		
60350822023	**ITMW-11-202010**	EPA 5030B/8260	682136		
60350822023	**ITMW-11-202010**	EPA 5030B/8260	683570		
60350822024	**ITMW-6-202010**	EPA 5030B/8260	682136		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350822024	ITMW-6-202010	EPA 5030B/8260	682953		
60350822025	ITMW-5-202010	EPA 5030B/8260	682136		
60350822026	MW-87-202010	EPA 5030B/8260	682136		
60350822027	MW-46R-202010	EPA 5030B/8260	682136		
60350822028	ITMW-19-202010	EPA 5030B/8260	682136		
60350822028	ITMW-19-202010	EPA 5030B/8260	682953		
60350822029	MW-95-202010	EPA 5030B/8260	682135		
60350822029	MW-95-202010	EPA 5030B/8260	682488		
60350822030	ITMW-12R-202010	EPA 5030B/8260	682135		
60350822030	ITMW-12R-202010	EPA 5030B/8260	682488		
60350822031	MW-89-202010	EPA 5030B/8260	682135		
60350822032	MW-198-202010	EPA 5030B/8260	682135		
60350822032	MW-198-202010	EPA 5030B/8260	682953		
60350822032	MW-198-202010	EPA 5030B/8260	683570		
60350822033	MW-37-202010	EPA 5030B/8260	682135		
60350822033	MW-37-202010	EPA 5030B/8260	682488		
60350822034	IW-77-202010	EPA 5030B/8260	682135		
60350822034	IW-77-202010	EPA 5030B/8260	682953		
60350822035	ITMW-18-202010	EPA 5030B/8260	682135		
60350822036	IW-132-202010	EPA 5030B/8260	682135		
60350822037	MW-93-202010	EPA 5030B/8260	682135		
60350822037	MW-93-202010	EPA 5030B/8260	682488		
60350822038	ITMW-7-202010	EPA 5030B/8260	682135		
60350822039	EB-04-202010	EPA 5030B/8260	682135		
60350822040	MW-96-202010	EPA 5030B/8260	682135		
60350822041	MW-97-202010	EPA 5030B/8260	682135		
60350822042	DUP-10-202010	EPA 5030B/8260	682135		
60350822042	DUP-10-202010	EPA 5030B/8260	682998		
60350822043	MW-179-202010	EPA 5030B/8260	682135		
60350822044	EB-05-202010	EPA 5030B/8260	682135		
60350822045	IW-134-202010	EPA 5030B/8260	682135		
60350822046	TB-08-202010	EPA 5030B/8260	682135		
60350822047	TB-09-202010	EPA 5030B/8260	682135		
60350822048	TB-10-202010	EPA 5030B/8260	682135		
60350822001	TMW-10-202010	SM 4500-S-2 D	682929		
60350822002	TMW-11-202010	SM 4500-S-2 D	682929		
60350822007	MW-25R-202010	SM 4500-S-2 D	682929		
60350822026	MW-87-202010	SM 4500-S-2 D	682929		
60350822029	MW-95-202010	SM 4500-S-2 D	682929		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350822031	**MW-89-202010**	SM 4500-S-2 D	682624		
60350822003	**TMW-32-202010**	EPA 300.0	683971		
60350822004	**TMW-16-202010**	EPA 300.0	683971		
60350822006	**TMW-25-202010**	EPA 300.0	684252		
60350822007	**MW-25R-202010**	EPA 300.0	684252		
60350822016	**MW-186-202010**	EPA 300.0	684252		
60350822026	**MW-87-202010**	EPA 300.0	684252		
60350822029	**MW-95-202010**	EPA 300.0	684252		
60350822031	**MW-89-202010**	EPA 300.0	684252		
60350822003	**TMW-32-202010**	EPA 353.2	681857		
60350822004	**TMW-16-202010**	EPA 353.2	681857		
60350822006	**TMW-25-202010**	EPA 353.2	681857		
60350822007	**MW-25R-202010**	EPA 353.2	681857		
60350822016	**MW-186-202010**	EPA 353.2	681857		
60350822026	**MW-87-202010**	EPA 353.2	681857		
60350822029	**MW-95-202010**	EPA 353.2	681857		
60350822031	**MW-89-202010**	EPA 353.2	681857		
60350822003	**TMW-32-202010**	SM 5310C	685217		
60350822004	**TMW-16-202010**	SM 5310C	685217		
60350822006	**TMW-25-202010**	SM 5310C	685222		
60350822007	**MW-25R-202010**	SM 5310C	685222		
60350822016	**MW-186-202010**	SM 5310C	685222		
60350822026	**MW-87-202010**	SM 5310C	685222		
60350822029	**MW-95-202010**	SM 5310C	685222		
60350822031	**MW-89-202010**	SM 5310C	685222		
60350822003	**TMW-32-202010**	SM 5310C	685224		
60350822004	**TMW-16-202010**	SM 5310C	685224		
60350822006	**TMW-25-202010**	SM 5310C	685224		
60350822016	**MW-186-202010**	SM 5310C	685224		
60350822003	**TMW-32-202010**	AM23G	695022		
60350822004	**TMW-16-202010**	AM23G	695022		
60350822006	**TMW-25-202010**	AM23G	695022		
60350822016	**MW-186-202010**	AM23G	695022		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix W... Label Here or List Pace Workorder Number or MTJL Log-in

WO# : 60350822

60350822

ALL SH...

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Purchase Order # / Quote # / Turnaround Date Required: / Compliance Monitoring? [ ] Yes [ ] No / DW PWS ID #: / DW Location Code #: / Immediately Packed on Ice? [ ] Yes [ ] No / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:
Collected by (print): Haley Ahlers	
Collected by (signature): Haley Ahlers	
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide	LAB USE ONLY: Lab Sample # / Comments
9	TMW-10-202010	GW	G	10/8/20	0830	n/a	n/a		1											X	
8	TMW-11-202010				0820				1											X	
20	TMW-32-202010				1250				12	X	X	X	X	X	X	X	X	X			
2°	TMW-16-202010				1520				12	X	X	X	X	X	X	X	X	X			
1°	ITMW-1R-202010				0825				3	X											
3	TMW-25-202010				0810				9		X	X	X	X	X	X	X	X			
2°	MW-25R-202010				0800				10	X		X	X	X		X	X		X	X	
1°	MW-22-202010				0905				3	X											
1°	DUP-01-202010				0905				3	X											
1°	MW-24-202010				0853				3	X											

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	N	N	(NA)
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:			
Sample pH Acceptable	(Y)	N	NA
pH Strips: 603222, 603173			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:			

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: (Wet [ ]) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: Bubble Zip

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client (Courier) [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T289

Cooler Temp Upon Receipt 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4, 1.8

Comments:

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

Nonconformance(s): (YES) / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers/Ramboll	10/8/20 1830	[illegible]	10.9.20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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Page 1 of 5

F-ALL-C-010-rev.00, 05Jul2018

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350822

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected / PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required: _____

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
1	DUP-08-202010	GW	G	10/8/20	0853	n/a	n/a		3	X									
1	ITMW-16-202010				1009				3	X									
1	MW-204-202010				1016				3	X									
1	MW-202-202010				0946				3	X									
3	MW-28-202010				1015				3	X									
2	MW-186-202010				0955				12	X	X	X	X	X	X	X	X	X	
2	ITMW-2R-202010				1030				3	X									
1	DUP-09-202010				1030				3	X									
1	ITMW-21-202010				1125				3	X									
1	MW-200-202010				1108				3	X									

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: (Wet) [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used:

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: N NA

Therm ID #: Td99

Cooler Temp Upon Receipt 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4 1.8

Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 1 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		[illegible]	10.9.20 0720
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6035082

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
	Quote # / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide
1	ITMW-10-202010	GW	G	10/8/20	1134	n/a	n/a		3	X										
2	MW-85R-202010				1210				3	X										
3	ITMW-11-202010				1205				3	X										
4	ITMW-6-202010				1144				3	X										
5	ITMW-5-202010				1223				3	X										
6	MW-87-202010				1205				10	X		X	X	X		X	X		X	X
7	MW-46R-202010				1242				3	X										
8	ITMW-19-202010				1335				3	X										
9	MW-95-202010				1358				10	X		X	X	X		X	X		X	X
10	ITMW-12R-202010				1350				3	X										

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

Packing Material Used:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

LAB Tracking #:

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.6 oC 1.2 1.4

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4 1.6

Comments:

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s) YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature) WCNT	Date/Time: 10-9-20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350822

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
2	MW-89-202010	GW	G	10/8/20	1440	n/a	n/a		10	X		X	X	X		X	X		X	X	
3	MW-198-202010				1505				3	X											
4	MW-37-202010				1505				3	X											
1	IW-77-202010				1412				3	X											
1	ITMW-18-202010				1610				3	X											
1	IW-132-202010				1455				3	X											
1	MW-93-202010				1609				3	X											
1	ITMW-7-202010				1638				3	X											
2	EB-04-202010				1710				3	X											
3	MW-96-202010				1705				3	X											

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used:

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4 1.8

Comments: _____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s) YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time: 10-9-20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350822

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
Collected by (signature):	Quote # / DW Location Code #: / Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:____			
Sample pH Acceptable	Y	N	NA
pH Strips:____			
Sulfide Present	Y	N	NA
Lead Acetate Strips:____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
1	MW-97-202010	GW	G	10/8/20	1728	n/a	n/a		3	X									
2	DUP-10-202010				1728				3	X									
3	MW-179-202010				1711				3	X									
4	EB-05-202010				1755				3	X									
5	IW-134-202010				1746				3	X									
6	TB-08-202010								2										
7	TB-09-202010								2										
8	TB-10-202010								2										

N/A

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: / LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:____

ACCT #:____

Template:____

Prelogin:____

PM:____

PB:____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T289

Cooler Temp Upon Receipt: 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor: +0.2 oC

Cooler Temp Corrected: 1.8 oC 1.4 1.8

Comments:____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s): YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		Wright Rue	10.9.20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 5 of 5

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www.pacelabs.com

Sample Receiving Non-Conformance Form (NCF)

Date: 10.9.20	Evaluated by: Wright Wash
Client: Kimball	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

Received a set of HCL Trip blanks in each cooler

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered		Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

REVIEWED
By jchurch at 12:02 pm, 10/9/20

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 15, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350855001	**VP-14-202010**	Water	10/08/20 17:25	10/09/20 00:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350855001	**VP-14-202010**	EPA 5030B/8260	CJC	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 15, 2020

General Information:
1 sample was analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 682080

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2757494)
  - Acetone

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 682080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2757510)
  - Tetrachloroethene
  - Trichloroethene
  - trans-1,2-Dichloroethene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2757511)
  - Carbon disulfide

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 15, 2020

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Sample: VP-14-202010 **Lab ID: 60350855001** Collected: 10/08/20 17:25 Received: 10/09/20 00:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 17:29	67-64-1	L1
Benzene	**0.14J**	ug/L	1.0	0.088	1		10/13/20 17:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 17:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 17:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 17:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 17:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 17:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 17:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 17:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 17:29	75-00-3	
Chloroform	**0.26J**	ug/L	1.0	0.17	1		10/13/20 17:29	67-66-3	
Chloromethane	**0.53J**	ug/L	1.0	0.44	1		10/13/20 17:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 17:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 17:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 17:29	107-06-2	
1,1-Dichloroethene	**0.79J**	ug/L	1.0	0.21	1		10/13/20 17:29	75-35-4	
cis-1,2-Dichloroethene	**1.9**	ug/L	1.0	0.15	1		10/13/20 17:29	156-59-2	
trans-1,2-Dichloroethene	**0.15J**	ug/L	1.0	0.15	1		10/13/20 17:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 17:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 17:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 17:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 17:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 17:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 17:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 17:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 17:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 17:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 17:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 17:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 17:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 17:29	79-00-5	
Trichloroethene	**38.3**	ug/L	1.0	0.25	1		10/13/20 17:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 17:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 17:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	80-120		1		10/13/20 17:29	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	86-117		1		10/13/20 17:29	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 17:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 17:29		

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

QC Batch: 682080
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350855001

METHOD BLANK: 2757493 Matrix: Water
Associated Lab Samples: 60350855001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 13:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 13:42	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 13:42	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 13:42	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 13:42	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 13:42	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 13:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 13:42	
Acetone	ug/L	ND	10.0	4.7	10/13/20 13:42	
Benzene	ug/L	ND	1.0	0.088	10/13/20 13:42	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 13:42	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 13:42	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 13:42	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 13:42	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 13:42	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 13:42	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 13:42	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 13:42	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 13:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 13:42	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 13:42	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 13:42	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 13:42	
Styrene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
Toluene	ug/L	ND	1.0	0.18	10/13/20 13:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 13:42	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 13:42	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 13:42	
1,2-Dichloroethane-d4 (S)	%	116	86-117		10/13/20 13:42	
4-Bromofluorobenzene (S)	%	111	80-120		10/13/20 13:42	
Toluene-d8 (S)	%	96	80-120		10/13/20 13:42	

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

LABORATORY CONTROL SAMPLE: 2757494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	97	78-118	
1,1,2-Trichloroethane	ug/L	20	18.8	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	20.3	101	81-124	
1,2-Dichloroethane	ug/L	20	21.9	110	79-118	
1,2-Dichloropropane	ug/L	20	18.6	93	85-117	
2-Butanone (MEK)	ug/L	100	106	106	70-125	
2-Hexanone	ug/L	100	96.2	96	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	73-131	
Acetone	ug/L	100	146	146	59-135	L1
Benzene	ug/L	20	19.2	96	82-115	
Bromodichloromethane	ug/L	20	21.8	109	82-123	
Bromoform	ug/L	20	19.1	95	66-133	
Bromomethane	ug/L	20	25.2	126	27-179	
Carbon disulfide	ug/L	20	23.3	116	72-134	
Carbon tetrachloride	ug/L	20	20.9	104	80-121	
Chlorobenzene	ug/L	20	18.0	90	80-120	
Chloroethane	ug/L	20	19.3	97	78-145	
Chloroform	ug/L	20	20.2	101	84-116	
Chloromethane	ug/L	20	16.9	84	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.9	100	85-117	
Dibromochloromethane	ug/L	20	19.4	97	82-122	
Ethylbenzene	ug/L	20	17.5	87	79-115	
Methylene Chloride	ug/L	20	18.9	95	80-126	
Styrene	ug/L	20	19.0	95	80-117	
Tetrachloroethene	ug/L	20	17.2	86	83-119	
Toluene	ug/L	20	18.4	92	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	83-117	
Trichloroethene	ug/L	20	19.1	96	80-118	
Vinyl chloride	ug/L	20	19.0	95	76-144	
Xylene (Total)	ug/L	60	53.9	90	82-120	
1,2-Dichloroethane-d4 (S)	%			109	86-117	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	18.8	19.9	94	99	74-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.6	17.7	88	89	60-128	1	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	15.7	16.7	79	83	66-125	6	28	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	17.2	17.9	86	90	81-124	4	23	
1,1-Dichloroethene	ug/L	1.8	20	20	17.9	20.6	81	94	64-141	14	21	
1,2-Dichloroethane	ug/L	0.25J	20	20	19.6	20.0	97	99	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	15.8	17.2	79	86	73-125	9	19	
2-Butanone (MEK)	ug/L	ND	100	100	85.3	70.2	85	70	58-121	19	22	
2-Hexanone	ug/L	ND	100	100	80.9	81.3	81	81	61-125	0	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	87.9	90.2	88	90	67-125	3	20	
Acetone	ug/L	ND	100	100	113	109	113	109	49-113	4	32	
Benzene	ug/L	ND	20	20	16.5	17.7	83	88	49-140	7	25	
Bromodichloromethane	ug/L	ND	20	20	18.1	19.0	90	95	71-124	5	19	
Bromoform	ug/L	ND	20	20	15.4	15.8	77	79	56-113	2	18	
Bromomethane	ug/L	ND	20	20	21.9	22.7	110	114	12-165	3	43	
Carbon disulfide	ug/L	ND	20	20	14.2	20.3	71	101	66-145	35	18	R1
Carbon tetrachloride	ug/L	ND	20	20	18.4	20.1	92	100	84-130	9	21	
Chlorobenzene	ug/L	ND	20	20	13.8	15.4	69	77	68-126	11	14	
Chloroethane	ug/L	ND	20	20	17.5	19.7	87	99	67-145	12	28	
Chloroform	ug/L	ND	20	20	17.7	18.7	89	94	72-123	5	17	
Chloromethane	ug/L	ND	20	20	16.1	18.1	79	89	31-175	11	34	
cis-1,2-Dichloroethene	ug/L	4.6	20	20	19.9	21.5	76	84	69-127	8	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	15.0	15.6	75	78	60-124	4	20	
Dibromochloromethane	ug/L	ND	20	20	16.0	16.8	80	84	68-123	5	24	
Ethylbenzene	ug/L	ND	20	20	13.1	15.0	66	75	52-140	13	28	
Methylene Chloride	ug/L	ND	20	20	15.8	17.1	79	86	68-125	8	24	
Styrene	ug/L	ND	20	20	13.9	15.8	69	79	56-136	13	20	
Tetrachloroethene	ug/L	ND	20	20	11.6	14.6	58	73	59-133	23	28	M1
Toluene	ug/L	ND	20	20	15.0	16.4	75	82	56-137	9	21	
trans-1,2-Dichloroethene	ug/L	0.16J	20	20	13.8	17.3	68	86	70-130	23	24	M1
trans-1,3-Dichloropropene	ug/L	ND	20	20	15.3	15.7	76	79	69-121	3	24	
Trichloroethene	ug/L	101	20	20	114	120	67	98	68-128	5	23	M1
Vinyl chloride	ug/L	0.60J	20	20	16.4	18.6	79	90	51-148	13	23	
Xylene (Total)	ug/L	ND	60	60	40.6	45.2	68	75	59-139	11	22	
1,2-Dichloroethane-d4 (S)	%						115	113	86-117			
4-Bromofluorobenzene (S)	%						107	107	80-120			
Toluene-d8 (S)	%						97	96	80-120			
Preservation pH		1.0			1.0	1.0				0		

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(913)599-5665

QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350855001	**VP-14-202010**	EPA 5030B/8260	682080		

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Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workscope ... or MTJL Log-in

WO# : 60350855

60350855

ALL ... Y

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print): Haley Ahlers

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature): Haley Ahlers

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

Analyses

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
VP-14-202010	GW	G	10/8/20	1725	n/a	n/a		2	X									

Haley Ahlers

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: Bubble Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.6 oC

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC

Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 1 of 1

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/8/20 1830	L Zupf / Pa	10.9.20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

F-ALL-C-010-rev.00, 05Jul2018

Appendix B

Field Notes and Weather Data for May 2020

35.35 °N, **94.35** °W

Fort Smith, AR Weather History

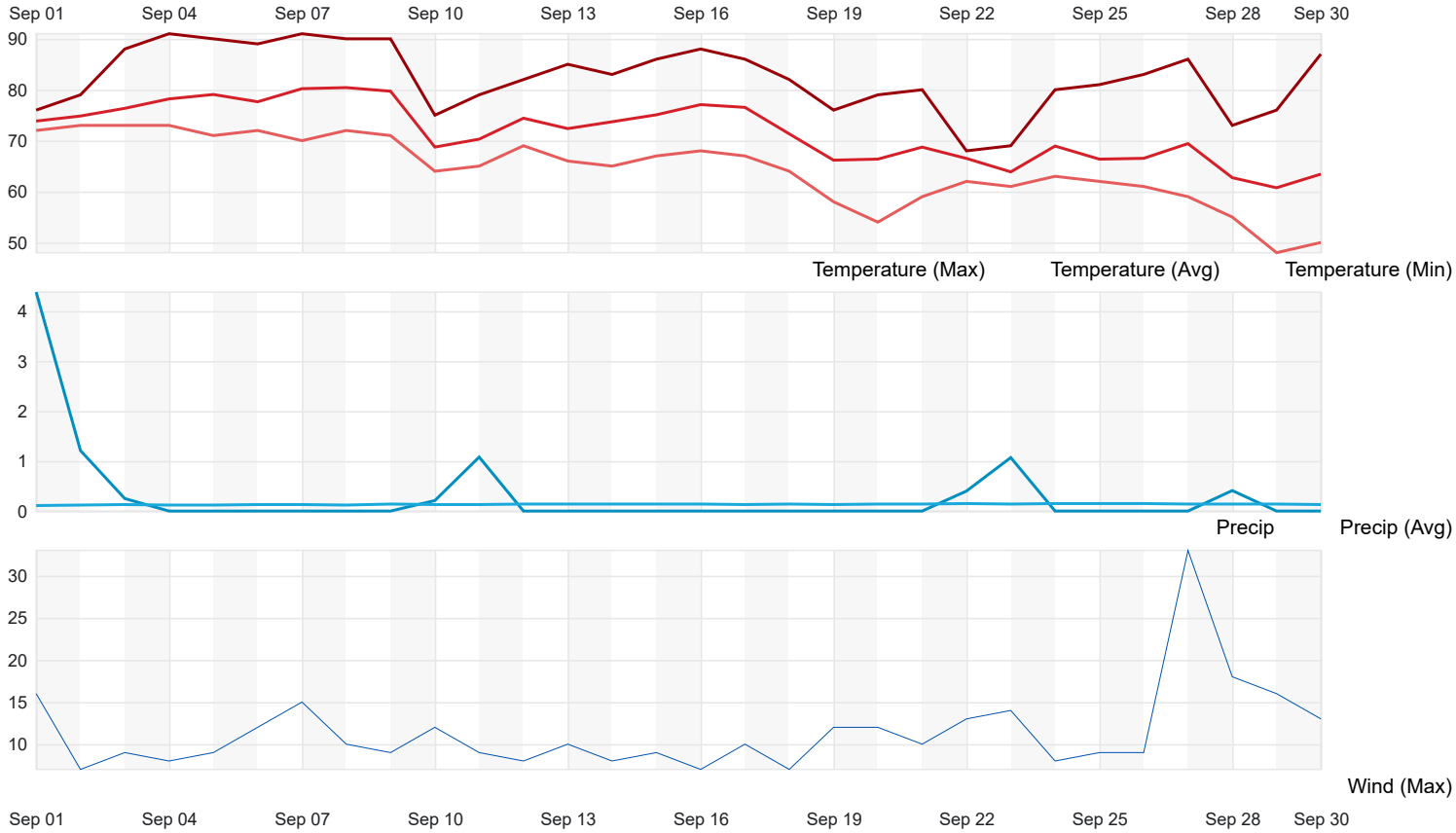
43° FORT SMITH REGIONAL AIRPORT STATION (/WEATHER/US/AR/FORT-SMITH/KFSM?CM_VEN=LOCALWX_PWSDASH) | CHANGE

HISTORY (/HISTORY/DAILY/US/AR/FORT-SMITH/KFSM)

- TODAY (/WEATHER/US/AR/FORT-SMITH/KFSM)
- HOURLY (/HOURLY/US/AR/FORT-SMITH/KFSM)
- 10-DAY (/FORECAST/US/AR/FORT-SMITH/KFSM)
- CALENDAR (/CALENDAR/US/AR/FORT-SMITH/KFSM)
- HISTORY (/HISTORY/DAILY/US/AR/FORT-SMITH/KFSM)
- WUNDERMAP (/WUNDERMAP?LAT=35.35&LON=-94.35)

Daily (/history/daily/us/ar/fort-smith/KFSM/date/2020-9-3) Weekly (/history/weekly/us/ar/fort-smith/KFSM/date/2020-9-3) **Monthly (/history/monthly/us/ar/fort-smith/KFSM/date/2020-9-3)**

September 2020 View



Summary

Temperature (° F)	Max	Average	Min
Max Temperature	91	82.27	68
Avg Temperature	80.42	71.66	60.75

Temperature (° F)	Max	Average	Min	
Min Temperature	73	64.47	48	
Dew Point (° F)	Max	Average	Min	
Dew Point	75	64.29	39	
Precipitation (Inches)	Max	Average	Min	Sum
Precipitation	4.38	0.30	0.00	9.01
Snowdepth	0.00	0.00	0.00	0.00
Wind	Max	Average	Min	
Wind	33	5.21	0	
Gust Wind	45	0.77	0	
Sea Level Pressure	Max	Average	Min	
Sea Level Pressure	29.81	29.54	29.21	

Daily Observations

Time	Temperature (° F)	Dew Point (° F)	Humidity (%)	Wind Speed (mph)	Pressure (Hg)	Precipitation (in)

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)			Wind Speed (mph)			Pressure (Hg)			Precipitation (in)
Sep	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	76	73.8	72	74	72.2	70	100	94.2	87	16	5.6	0	29.4	29.3	29.3	4.38
2	79	74.8	73	73	72.5	72	97	92.6	82	7	2.1	0	29.4	29.4	29.3	1.21
3	88	76.3	73	74	72.7	71	100	89.3	57	9	2.3	0	29.5	29.4	29.4	0.25
4	91	78.2	73	75	72.8	70	100	84.9	53	8	1.8	0	29.7	29.6	29.5	0.00
5	90	79.1	71	74	69.7	66	93	74.0	55	9	5.3	0	29.8	29.7	29.7	0.00
6	89	77.6	72	74	71.5	67	100	83.7	48	12	3.7	0	29.7	29.6	29.5	0.00
7	91	80.2	70	72	70.4	69	97	73.9	52	15	6.1	0	29.5	29.4	29.3	0.00
8	90	80.4	72	71	69.3	66	93	71.0	46	10	5.5	0	29.5	29.4	29.3	0.00
9	90	79.7	71	74	70.8	68	96	75.8	50	9	5.5	0	29.6	29.5	29.5	0.00
10	75	68.7	64	71	66.2	63	100	91.6	81	12	7.8	0	29.7	29.7	29.6	0.21
11	79	70.3	65	69	65.5	63	97	85.3	68	9	4.9	0	29.7	29.6	29.5	1.08
12	82	74.4	69	69	68.1	66	97	81.7	65	8	3.8	0	29.5	29.5	29.4	0.00
13	85	72.4	66	69	66.1	62	100	82.9	48	10	4.8	0	29.6	29.5	29.5	0.00
14	83	73.7	65	67	64.8	62	93	74.6	58	8	4.3	0	29.7	29.7	29.6	0.00
15	86	75.1	67	69	65.6	64	93	74.3	48	9	4.2	0	29.7	29.6	29.5	0.00
16	88	77.1	68	69	66.2	64	93	71.3	46	7	4.1	0	29.6	29.5	29.5	0.00
17	86	76.5	67	68	64.0	60	93	67.3	43	10	4.5	0	29.6	29.5	29.5	0.00
18	82	71.3	64	63	61.2	59	90	72.0	47	7	4.8	0	29.7	29.6	29.6	0.00
19	76	66.2	58	60	55.9	52	96	72.5	43	12	5.4	0	29.7	29.7	29.6	0.00
20	79	66.4	54	63	57.8	52	94	75.3	56	12	5.8	0	29.8	29.7	29.6	0.00
21	80	68.7	59	66	60.4	56	97	77.1	50	10	5.8	3	29.7	29.7	29.6	0.00
22	68	66.5	62	66	64.7	59	97	93.7	87	13	9.3	5	29.6	29.6	29.5	0.40
23	69	63.9	61	64	61.0	59	97	90.9	78	14	8.0	3	29.6	29.5	29.5	1.07
24	80	68.9	63	64	61.4	60	94	78.4	50	8	2.2	0	29.5	29.4	29.4	0.00
25	81	66.4	62	67	63.1	61	100	90.1	60	9	5.1	0	29.5	29.5	29.4	0.00
26	83	66.5	61	66	62.7	61	100	88.9	51	9	4.2	0	29.5	29.4	29.3	0.00
27	86	69.4	59	70	63.7	55	100	83.3	57	33	10.7	0	29.4	29.3	29.2	0.00
28	73	62.7	55	57	50.1	41	93	67.3	34	18	8.5	0	29.6	29.5	29.4	0.41
29	76	60.8	48	51	46.1	39	93	64.4	26	16	6.3	0	29.6	29.6	29.5	0.00
30	87	63.4	50	58	52.2	48	100	72.6	31	13	3.8	0	29.6	29.5	29.4	0.00

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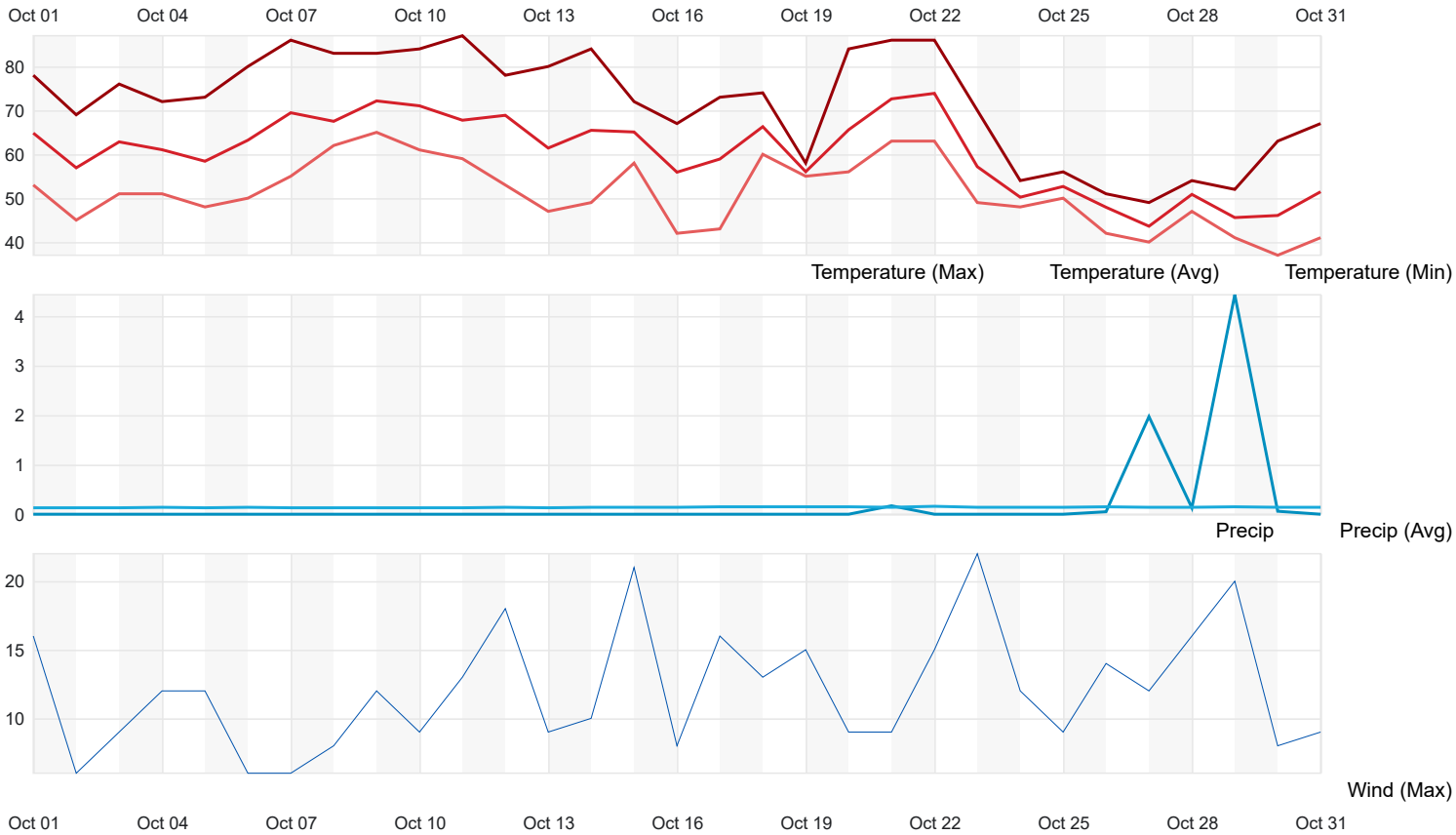
35.35 °N, **94.35** °W

Fort Smith, AR Weather History

43° FORT SMITH REGIONAL AIRPORT STATION (/WEATHER/US/AR/FORT-SMITH/KFSM?CM_VEN=LOCALWX_PWSDASH) | CHANGE



Summary

Temperature (° F)	Max	Average	Min
Max Temperature	87	71.9	49
Avg Temperature	73.88	60.35	43.61

/

Temperature (° F)	Max	Average	Min	
Min Temperature	65	51.1	37	
Dew Point (° F)	Max	Average	Min	
Dew Point	67	50.24	27	
Precipitation (Inches)	Max	Average	Min	Sum
Precipitation	4.43	0.22	0.00	6.81
Snowdepth	0.00	0.00	0.00	0.00
Wind	Max	Average	Min	
Wind	22	5.76	0	
Gust Wind	36	1.61	0	
Sea Level Pressure	Max	Average	Min	
Sea Level Pressure	29.9	29.57	29.22	

Daily Observations

Time	Temperature (° F)	Dew Point (° F)	Humidity (%)	Wind Speed (mph)	Pressure (Hg)	Precipitation (in)

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)			Wind Speed (mph)			Pressure (Hg)			Precipitation (in)
Oct	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	78	64.8	53	53	43.3	34	89	51.2	21	16	5.7	0	29.8	29.7	29.6	0.00
2	69	56.9	45	49	42.9	38	90	63.5	32	6	1.9	0	29.8	29.7	29.6	0.00
3	76	62.8	51	57	50.7	47	92	67.4	38	9	5.8	0	29.6	29.6	29.5	0.00
4	72	61.0	51	56	48.1	44	89	64.7	39	12	4.8	0	29.8	29.7	29.6	0.00
5	73	58.4	48	51	48.2	46	96	71.8	42	12	5.7	0	29.8	29.7	29.6	0.00
6	80	63.2	50	60	53.5	48	93	73.2	45	6	3.6	0	29.6	29.6	29.5	0.00
7	86	69.5	55	67	60.8	54	96	76.7	46	6	1.8	0	29.6	29.6	29.5	0.00
8	83	67.5	62	65	62.0	56	100	84.7	41	8	3.0	0	29.6	29.6	29.5	0.00
9	83	72.2	65	67	64.4	62	93	77.7	54	12	7.2	3	29.5	29.4	29.4	0.00
10	84	71.0	61	67	63.2	60	97	78.4	53	9	3.8	0	29.4	29.3	29.3	0.00
11	87	67.8	59	67	62.5	58	100	85.9	43	13	2.1	0	29.4	29.3	29.2	0.00
12	78	68.9	53	67	49.6	35	97	57.4	21	18	8.6	0	29.6	29.4	29.2	0.00
13	80	61.4	47	52	45.8	41	93	62.9	25	9	2.9	0	29.7	29.6	29.6	0.00
14	84	65.5	49	57	52.5	47	93	67.3	34	10	5.4	0	29.6	29.4	29.3	0.00
15	72	65.1	58	56	43.7	34	78	48.4	29	21	10.3	3	29.8	29.5	29.3	0.00
16	67	55.9	42	43	34.6	27	82	48.8	24	8	3.4	0	29.9	29.8	29.7	0.00
17	73	58.9	43	46	38.8	30	93	53.5	20	16	8.1	3	29.7	29.6	29.4	0.00
18	74	66.3	60	64	57.4	47	90	73.5	56	13	8.4	3	29.6	29.5	29.5	0.00
19	58	56.0	55	53	51.0	49	89	83.4	77	15	8.6	0	29.6	29.6	29.5	0.00
20	84	65.6	56	67	58.4	50	93	78.7	56	9	3.3	0	29.6	29.5	29.4	0.00
21	86	72.6	63	67	63.6	61	96	75.8	46	9	4.6	0	29.6	29.5	29.5	0.17
22	86	73.9	63	66	63.2	61	97	71.9	44	15	6.9	0	29.5	29.5	29.4	0.00
23	70	57.2	49	66	50.7	39	93	79.1	68	22	10.9	0	29.7	29.6	29.4	0.00
24	54	50.2	48	44	40.3	38	77	68.8	64	12	5.3	0	29.7	29.6	29.5	0.00
25	56	52.7	50	47	45.2	43	87	76.4	62	9	5.2	0	29.6	29.6	29.5	0.00
26	51	47.9	42	49	45.7	40	97	92.3	86	14	8.6	0	29.8	29.6	29.6	0.05
27	49	43.6	40	47	41.9	39	100	93.9	87	12	6.2	0	29.7	29.7	29.6	1.97
28	54	50.9	47	52	49.6	46	100	95.6	90	16	7.0	0	29.6	29.4	29.2	0.13
29	52	45.6	41	46	41.9	39	100	87.8	68	20	13.1	3	29.7	29.4	29.2	4.43
30	63	46.1	37	46	41.0	35	100	84.8	50	8	3.4	0	29.9	29.8	29.7	0.06
31	67	51.5	41	46	42.8	39	100	76.2	39	9	3.3	0	29.8	29.7	29.6	0.00

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10/5/20 Whirlpool, Ft. Smith 48°F Sunny

0730 H. Anlers (HA), L. McQuaig (LM), V. Siegien (VS), D. Meyer (DM), J. Zellmer (JZ), S. Cheng (SC), & C. Chavers (CC) onsite for Ramboll. Have H&S meeting & transfer equipment between cars.

0815 Gauging teams split off to get water levels. HA at Staging area to sort sample bottles & equipment.

1100 Matt from IET on-site to drop off rig.

1230 Trevor from EWI onsite to GPR injection area.

1400 EWI off-site. Gauging teams calibrate YSIs & prepare to sample.

1500 Begin GW sampling.

1800 Samples relinquished.

1830 Ramboll off-site.

10/6/20 Whirlpool, Ft. Smith 50°F Sunny

0730 HA, CC, DM, JZ, VS, LM, ~~HA~~ ~~AM~~ Alicia Gillman (AG), SC on-site for Ramboll. Prepare to calibrate YSI & have H&S meeting.

0800 IET on-site. HA & LM to Southern property boundary to prepare for injections.

0830 Begin marking injection points.

0900 IET prepping staging area with injection materials

1130 IET off-site for lunch.

1230 IET return to site.

1304 Begin advancing MW-189 PRB-1.

1327 Begin deep injection. injection moving slowly, tightly packed subsurface.

1340 Pulled up ~1' to see if injection would be easier.

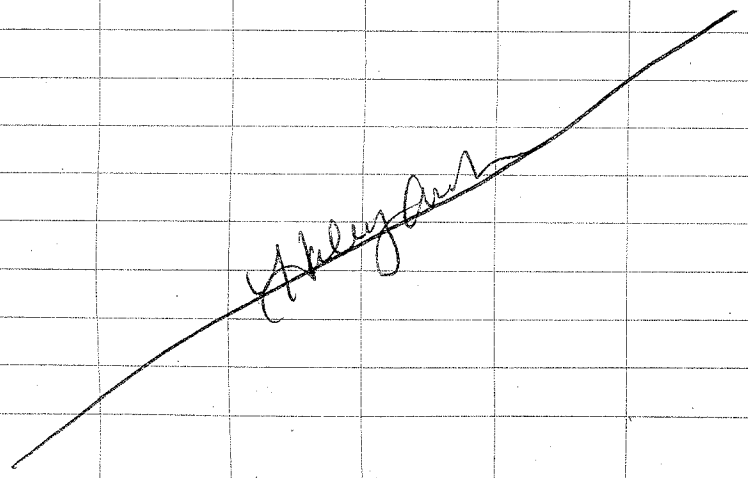
1424 Began shallow injection.

1425 Began advancing MW-189-PRB-2

Late in the Rain.

10/6/20 Whirlpool, Ft. Smith 78°F Sunny

1449 Began injecting at deep interval at 2.
1518 Begin injecting shallow interval.
1524 Begin advancing MW-139-PRB-3
1558 Began injecting deep interval.
1632 Began shallow injection.
1648 Completed shallow injection at mw-189 PRB-3.
1700 Return to staging area to prepare samples for relinquishment.
1815 Samples relinquished to courier.
1820 Ramboll off-site.



10/7/20 Whirlpool, Ft. Smith 56°F Clear

0700 HA, CC, DM, VS, AM, SC, JZ, & IM on-site for Ramboll. Prepare to calibrate YSIs & prep to sample. H&S meeting.
0755 Arrive at VP-09. Perform shut-in test with hand pump - no leaks.
0800 Use peristaltic pump to perform water dam test on last connection point, no leaks.
0811 Started VP-09 summa.
0820 Return to southern property boundary to oversee injections.
0822 Set up at TMW-36 to purge and take ~~H~~ H_2 YSI readings.
DTW: 24.87' Flow: 250 mL/min

Time	DTW	Temp(°C)	DO(mg/L)	SPC(mS/cm)	pH	ORP(mV)
0832	24.90	20.2	1.02	856	5.51	220.6
0837	24.91	20.2	0.73	852	5.59	214.0
0850	24.90	20.4	0.56	845	5.72	196.6
0855	24.90	20.3	0.38	842	5.72	193.7
0905	24.90	20.6	0.36	812	5.70	190.0

Bailed 5 gallons in attempt to get extra volume.

Rite in the Rain

10/7/20 Whirlpool, Ft. Smith 60°F Sunny

0830 Began advancing MW 189-PRB-4
0850 Began injecting deep interval.
0858 Injections slow at 40', pulled up ~1ft to continue deep interval.
0917 Begin shallow injection.
0920 Begin advancing mw 189-PRB-5
1004 Begin deep injection at 5.
1057 Begin shallow injection at 5.
1100 Begin advancing MW-189-PRB-6.
1123 Began injecting deep interval at 6.
1150 Began injecting shallow interval at 6.
1153 Began advancing MW-189-PRB-7.
1210 Finished shallow injection at 6.
1225 moving back to shallow interval at 5 to finish with grout pump.
1230 Resumed shallow injection @ 5 with grout pump.
1233 leave injection area to assist with bubble stripping & sampling.

10/7/20 Whirlpool, Ft. Smith 87° Sunny

1350 Return to oversee injections. Shallow interval at 5 completed, deep interval at 7 completed, Currently working on shallow interval at 7.
1400 Left injection area to assist samplers.
1430 Back to injection area, pumping deep interval at 8 using grout pump.
1445 Begin injecting shallow interval at 8.
1450 Begin advancing MW-189-PRB-9.
1518 Start deep injection at 9.
1538 Start shallow injection at 9.
1550 Begin advancing MW-189-PRB-10
1621 Begin deep injection at 10.
1637 Begin shallow injection at 10.
1650 Began advancing MW-189-PRB-11
1710 Began ~~shallow~~ deep injection at 11.
1730 Began ~~deep~~ Shallow injection at 11.
1800 move to staging area to prepare sample chain of custody, IET off-site.

Rite in the Rain

10/7/20 Whirlpool, Ft. Smith 78°F sunny

1830 Samples relinquished to courier. Microbial insights samples relinquished to FedEx.

1845 Ramboll off-site.

2005 Return to site to check VP-09 summa. After 12 hours no change in pressure, no air to sample. Audible release of vacuum as unhooking summa.

2010 Ramboll off-site.

10/8/20 Whirlpool, Ft. Smith 62°F clear

0700 Ramboll (same team) onsite to calibrate YSI & prepare to sample.

YSI serial

pH 4: 3.99

pH 7: 7.01

pH 10: 10.00

SPC: 4,999 µS/cm

ORP 238.7 mV

DO: 98.6%

Barometric pressure: 748.803 mmHg (adj)

0810 Arrive at TMW-11 to collect DHC/VCR & Sulfide samples

Sampled TMW-11-202010 @0820

DHC/VCR & Sulfide.

Turbid, clogged filter after 200 mL.

Sampled TMW-10-202010 @ 0830

DHC/VCR & Sulfide.

Turbid, clogged filter after 250 mL.

Rite in the Rain.

20
10/8/20 Whirlpool, Ft. Smith 64°F cloudy

Sampled MW-50R-202010 @ 0855

DHC/VCR. Brown/Red particles clogged filter after 200mL.

1040 Arrive at TMW-32 to purge.

1045 Begin purging.

1055 NO water coming up tubing may be bad.

1110 Replaced tubing, purging resumed. See sample log for parameters.

1125 Recalibrated ORP, initially read 286 mV, calibrated to 235 mV. Calibration accepted.

1130 Resumed purging

1150 ORP readings still much higher than expected. Will switch YSIs. SN: 17E100945

ORP: 233.5 mV
pH 4: 4.00
pH 7: 7.02
pH 10: 10.00
SPC: 7.05 mS/cm
DO: 98.6%

10/8/20 Whirlpool, Ft. Smith 76°F 21 cloudy

Sampled RW-69-202010 @ 0940

DHC/VCR, clear sample, able to filter 1L.

1220 Resumed purgin TMW-32 with new YSI. See sample log for parameters.

Sampled TMW-32-202010 @ 1250

Fe^{2+}: 7.0 mg/L

1330 Returned to staging area to dump purge water & assist other samplers.

1400 Arrive at TMW-16,

1405 Begin purging. See sample log for parameters.

Sampled TMW-16-202010 @ 1520

Fe^{2+}: nm, will need to measure during week of 10/19.

1550 Return to staging area to prepare samples for shipment.

Rite in the Rain

10/8/20	Whirlpool, Ft. Smith	80°F Sunny
~~1430~~ H4 1630	Helped samplers finish, continued working on chains, packed equipment in cars to prepare for drive home.	
1830	Pace samples relinquished to courier.	
1845	MI samples relinquished to FedEx.	
1900	Ramboll off-site.	

Haley Ant

Rite in the Rain

120

Location 6400 Jenny Lind Date 10/5/20 VS

Project / Client Whirlpool Sampling Semi-Annual

0730	Everyone on site HS meeting traffic
0800	Starting opening wells start gauging see jackie Zellmers
1145	Field book + gauging sheet
1245	Lunch
1315	continue gauging
1430	gauging complete
1530	Go to Star mechanical for tubing
1530	back on site
1555	Pump start TMW-10
1716	Sample TMW-10
1747	inject air for bubble stripping
1802	Sample air 200mL/min 15 mins
1805	Pack up.
1815	help David meijer w/ bubble stripping + packing up
1845	David + Victoria off site

VS

Location 6400 Jenny Lind Rd Date 10/6/20 121

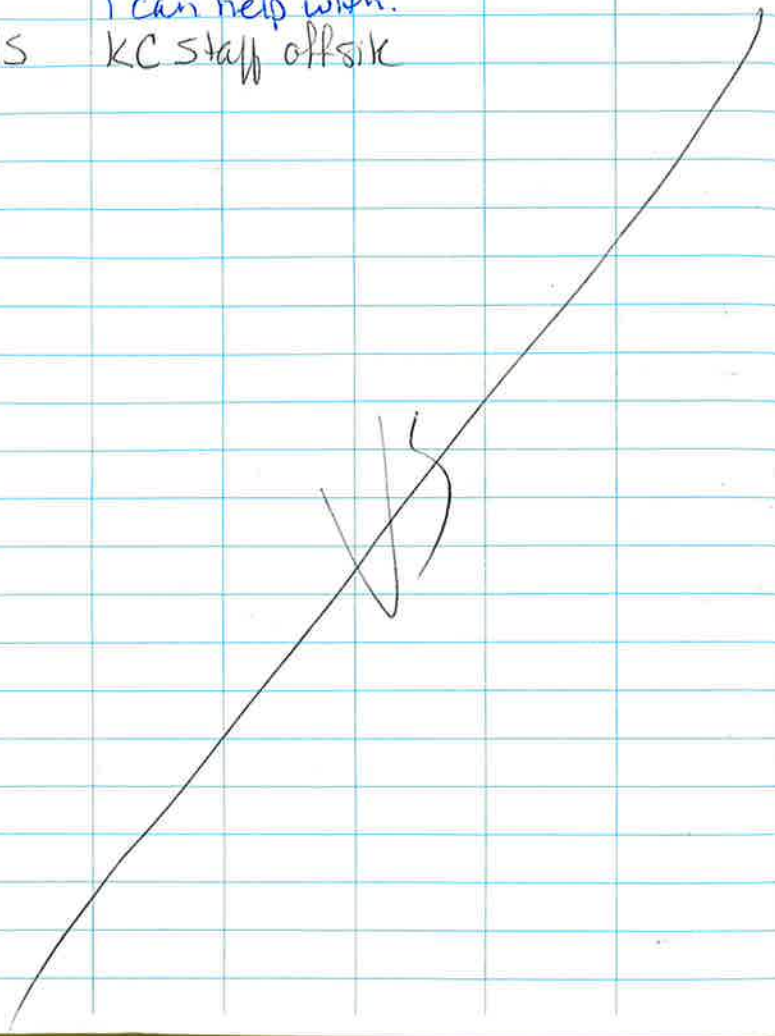
Project / Client Whirlpool Semi-Annual Sampling

0730	everyone on site H&S meeting "dogs"
0745	Calibrate
0830	finish calibration
0910	Pump start MW-~~175~~ 176
1014	Sample MW-176 total purge ~2.0 gal
1100	Pump start MW-175
1205	Sample MW-175 total purge ~
1215	Dump purge H2O
1220	Pick up other pump from Haley
1230	Lunch
1300	Back on site set up in MW-179 Pump issues
1359	Pump start
1433	Dry
1442	Pump start MW-178
1527	Dry
1543	Set up in RW-69
1550	Pump start
1627	Sample RW-69 (1351/1350) total purge ~1.5 gal

Location 6400 Jenny Lind Date 10/6/20

Project / Client Whirlpool Sem. Annual Sampling

1733	Inject air
1748	Sample for hydrogen
1755	head to meeting area to see what I can help with.
1815	KC staff offsite



Location 6400 Jenny Lind Date 10/7/20

Project / Client Whirlpool Semi-Annual Sampling

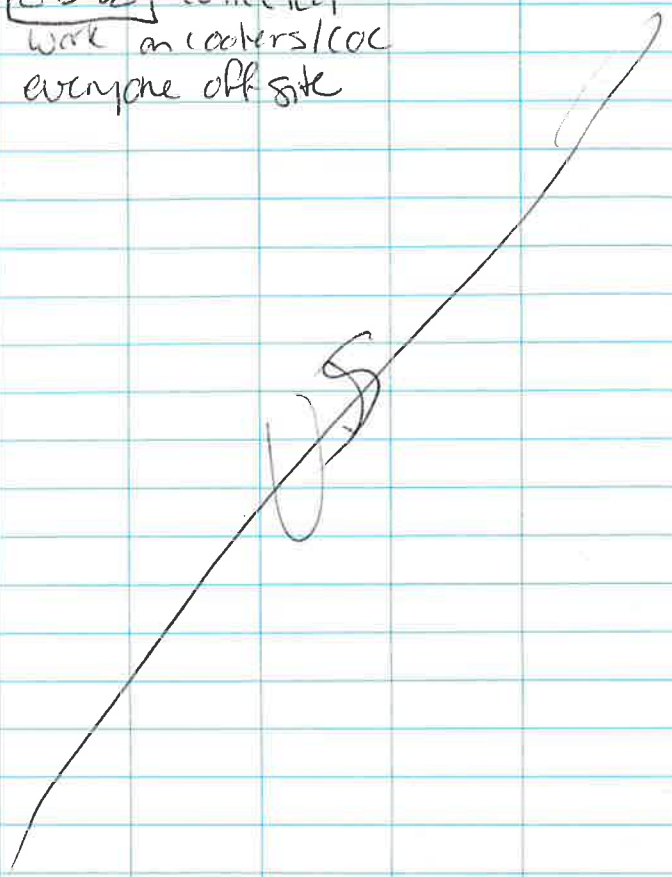
0700	Everyone onsite
0705	Has slips/trips/falls
0710	Calibrate YSI
0815	head to Vapor points
0829	Sample VP-5
0840	Sample VP-6
0900	Sample VP-7
0912	Sample VP-8
0936	Sample VP-10
0953	Sample VP-12
1015	Bring tubing to Haley
1020	Set up on TMW-12
1033	Pump start
1137	Sample TMW-12 total purge ~1.5 gal
1214	Pump start TMW-14
1248	Sample TMW-14 total purge ~1.25 gal
1330	Set up on MW-83
1347	Pump start
1436	Sample MW-83
	Dup-01
	total purge ~1.0 gal
1512	Pump start MW-27
1619	Sample MW-27
	total purge ~1.25 gal

124

Location 4400 Jenny Lind Rd Ft Smith, AR Date 10/7/20

Project / Client Whirlpool Semi-Annual Sampling

1630	Check MW-178 Less than a foot of water.
1649	Sample MW-178
1655	Back to meet ava to see
1725	EB-02 collected
1730	Work on coolers/COC
1845	everyone off site



Location 4400 Jenny Lind Ft Smith, Ar Date 10/8/20

Project / Client Whirlpool Semi-Annual Sampling

0700	Everyone onsite
0705	HS meeting
0710	Calibrate YSI
0750	done Calibrating
0800	Setting up on MW-202
~~0805~~ 0810	need tubing. Getting tubing from Jackie
0816	David Meyer also needs tubing heading his direction
0823	heading back to MW-202
0844	Pump start
0946	Sample MW-202 total purge ~1.20
~~1020~~	~~Pump start 200~~ VS
1000	Dump purge H_2O
1005	Head to MW-200
1020	Pump start MW-200
1108	Sample MW-200 total purge ~1.00
1120	Lunch
1140	Back onsite set up on MW-4608
1208	Pump start
1242	Sample MW-4608 total purge 0.79

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Location 6400 Jennylind Fort Smith, AR Date 10/8/20

Project / Client Whirlpool Sem. - Annual Sampling

1258	Heading to Carolina to put Samples in Cooler
1305	Set up on IW-7
1318	Pump Start
1412	Sample IW-7 total purge ~1.25gal
1430	Heat break
~~1445~~ 1455	Help Jackie set up on ITMW-7
1538	Pump start on IW-134
1646	Sample IW-134 total purge ~1.59gal
1711	Sample MW-179
1725	Sample VP-14 collected only 2 bottles
1735	Head to meeting spot to see what I can help w/.
1905	Everyone off site

US

Appendix C

Risk Calculations and Input Parameters

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Attachment C.1: Toxicity Values
Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	Cancer Classification		ADAF			URF ($mg/m^3)^{-1}$			RfC (mg/m^3)			
			Group	Ref	Y/N	f_{oral}	f_{inh}	Value	Ref	Notes	Value	UF	Ref	Notes
VOC	Acetone	67-64-1	ID	1	N						3.1E+01	100	129	111
VOC	Benzene	71-43-2	A	1	N			7.8E-03	1	60	3.0E-02	300	1	
VOC	2-Butanone	78-93-3	ID	1	N						5.0E+00	300	1	
VOC	Carbon Disulfide	75-15-0			N						7.0E-01	30	1	
VOC	Chloroform	67-66-3	B2	1	N			2.3E-02	1		5.0E-02	100	117	
VOC	Chloromethane	74-87-3	D	1	N						9.0E-02	1,000	1	
VOC	1,1-Dichloroethene	75-35-4	C	1	N						2.0E-01	30	1	
VOC	cis-1,2-Dichloroethene	156-59-2	ID	1	N								1	90
VOC	trans-1,2-Dichloroethene	156-60-5	ID	1	N								1	90
VOC	2-Hexanone	591-78-6	ID	1	N						3.0E-02	3,000	1	
VOC	4-Methyl-2-pentanone	108-10-1	ID	1	N						3.0E+00	300	1	
VOC	Toluene	108-88-3	ID	1	N						5.0E+00	10	1	
VOC	Trichloroethene	79-01-6	HC	1	Y	0.202	0.244	4.1E-03	1	159	2.0E-03	100	1	
VOC	Vinyl Chloride	75-01-4	A	1	N			4.4E-03	1	79	1.0E-01	30	1	

Toxicity values were selected following the hierarchy of sources defined by USEPA (Human Health Toxicity Values in Superfund Risk Assessment, 2003), as discussed in Appendix A, Section 4 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision. Values are current as of Dec 1, 2020.

References

1 USEPA. Integrated Risk Information System (IRIS). On-line database.

117 USEPA. NCEA. 2003. Risk Assessment Issue Paper for: Derivation of Provisional Subchronic and Chronic RfCs for Chloroform [CASRN 67-66-3]. January 23.

129 ATSDR. 2013. Minimal Risk Levels. March.

Notes:

60 IRIS provides a range of 2.2E-6 to 7.8E-6 (ug/m3)-1 as the inhalation URF for Benzene.

79 For evaluating partial lifetime exposures that include early-life exposure, the unit risk factor is also used in risk calculations that do not prorate the early-life exposure, per USEPA's May 2000 Toxicological Review.

90 Inadequate data exist to derive a toxicity value, according to the indicated reference.

111 Value as published is an MRL in the indicated reference.

159 Because the chemical has a mutagenic mode of action according to USEPA, the SF and URF are adjusted by the following age-dependent adjustment factors (ADAFs) before use: 10 for ages 0 to 2; 3 for ages 2 to 16; and 1 for ages 16 and older (USEPA 2005).

Attachment C.2: Physical and Chemical Properties
Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	H (unitless)				D_{air} (m^2/d)		D_{water} (m^2/d)		HENRY Ref Temp (°C)
			Value	Adjusted	Ref	Notes	Value	Ref	Value	Ref	Value
VOC	Acetone	67-64-1	1.6E-03	1.1E-03	44		1.1E+00	44	9.8E-05	44	2.5E+01
VOC	Benzene	71-43-2	2.3E-01	1.6E-01	44		7.6E-01	44	8.5E-05	44	2.5E+01
VOC	2-Butanone	78-93-3	2.3E-03	2.0E-03	50.3	123	7.0E-01	69	8.5E-05	69	2.0E+01
VOC	Carbon Disulfide	75-15-0	1.2E+00	9.3E-01	44		9.0E-01	44	8.6E-05	44	2.5E+01
VOC	Chloroform	67-66-3	1.5E-01	1.1E-01	44		9.0E-01	44	8.6E-05	44	2.5E+01
VOC	Chloromethane	74-87-3	3.6E-01	3.3E-01	50.1	92, 123	1.1E+00	69	5.6E-05	69	2.0E+01
VOC	1,1-Dichloroethene	75-35-4	1.1E+00	8.1E-01	44		7.8E-01	44	9.0E-05	44	2.5E+01
VOC	cis-1,2-Dichloroethene	156-59-2	1.7E-01	1.2E-01	44		6.4E-01	44	9.8E-05	44	2.5E+01
VOC	trans-1,2-Dichloroethene	156-60-5	3.9E-01	2.8E-01	44		6.1E-01	44	1.0E-04	44	2.5E+01
VOC	2-Hexanone	591-78-6	3.8E-03	3.2E-03	68		7.4E-01	52	7.6E-05	52	2.5E+01
VOC	4-Methyl-2-pentanone	108-10-1	5.6E-03	4.7E-03	50.3	123	6.5E-01	40	6.7E-05	40	2.0E+01
VOC	Toluene	108-88-3	2.7E-01	1.8E-01	44		7.5E-01	44	7.4E-05	44	2.5E+01
VOC	Trichloroethene	79-01-6	4.2E-01	2.9E-01	44		6.8E-01	44	7.9E-05	44	2.5E+01
VOC	Vinyl Chloride	75-01-4	1.1E+00	9.0E-01	44		9.2E-01	44	1.1E-04	71	2.5E+01

Physical and chemical parameters were selected following the hierarchy of sources used by USEPA (Soil Screening Guidance: Technical Background Document, 1996), as discussed in Appendix A, Section 54 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

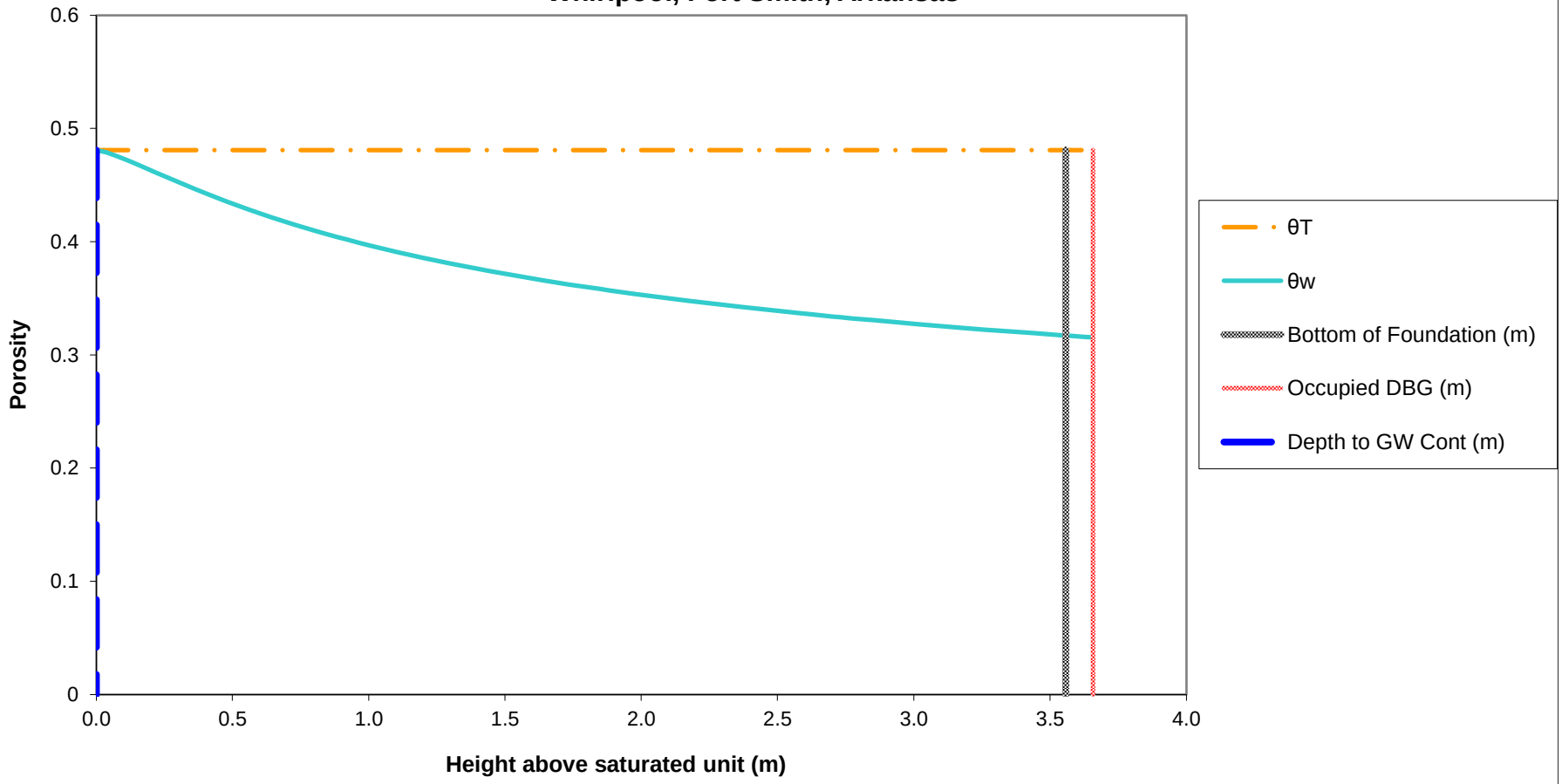
References:

40	Research Triangle Institute, Center for Environmental Analysis. 1995. Supplemental Technical Support Document for Hazardous Waste Identification Rule: Risk Assessment for Human and Ecological Receptors--Volume 1, TABLE A-1. November 1995.
44	USEPA. 1996. Soil Screening Guidance: Technical Background Document and User Guide. Office of Emergency and Remedial Response. EPA/540/R-95/128. May.
50.1	USEPA. 1997. Superfund Chemical Data Matrix (SCDM). Office of Emergency and Remedial Response. September 12.
50.3	USEPA. 20014. Superfund Chemical Data Matrix (SCDM). Office of Superfund Remediation and Technology Innovation. June 20, 2014.
52	USEPA. 1997. CHEM9 Compound Properties Estimation and Data. Version 1.00. Office of Air Quality Planning and Standards. July.
68	PHYSPROP data base. Syracuse Research Corporation.
69	USEPA. 2004. WATER9. Version 2.0.0. Office of Air Quality Planning and Standards. July.
71	USEPA. 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and Emergency Response. OSWER 9355.4-24. December.

Notes:

92	Indicated source cites CHEMFATE.
123	Value has been assigned a default reference temperature.

Attachment C.3: Soil Moisture Profile for Residential Building (Slab-on-Grade) for Risk Calculations from Groundwater at Monitoring Wells
Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

Ramboll

Attachment C.4: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Groundwater at Monitoring Wells Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_∞	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.72E-01	1.87E-02	6.80E-02	2.73E-03	1.86E-04	2.12E-04
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.22E-01	8.15E-04	3.17E-03	2.73E-03	8.67E-06	1.38E-03
VOC	2-Butanone	78-93-3	6.98E-01	8.47E-05	2.00E-03	1.12E-01	9.94E-03	3.74E-02	2.73E-03	1.02E-04	2.04E-04
VOC	Carbon Disulfide	75-15-0	8.99E-01	8.64E-05	9.26E-01	1.44E-01	2.93E-04	1.14E-03	2.73E-03	3.12E-06	2.89E-03
VOC	Chloromethane	74-87-3	1.09E+00	5.62E-05	3.33E-01	1.75E-01	4.61E-04	1.80E-03	2.73E-03	4.90E-06	1.63E-03
VOC	1,1-Dichloroethene	75-35-4	7.78E-01	8.99E-05	8.10E-01	1.25E-01	3.12E-04	1.22E-03	2.73E-03	3.32E-06	2.69E-03
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	1.02E-01	9.72E-04	3.78E-03	2.73E-03	1.03E-05	1.22E-03
VOC	trans-1,2-Dichloroethene	156-60-5	6.11E-01	1.03E-04	2.81E-01	9.81E-02	5.96E-04	2.32E-03	2.73E-03	6.35E-06	1.79E-03
VOC	2-Hexanone	591-78-6	7.45E-01	7.57E-05	3.23E-03	1.20E-01	6.86E-03	2.61E-02	2.73E-03	7.13E-05	2.31E-04
VOC	4-Methyl-2-pentanone	108-10-1	6.48E-01	6.74E-05	4.71E-03	1.04E-01	4.81E-03	1.84E-02	2.73E-03	5.03E-05	2.37E-04
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.10E-01	5.23E-04	2.04E-03	2.73E-03	5.57E-06	1.60E-03
VOC	Vinyl Chloride	75-01-4	9.16E-01	1.06E-04	9.00E-01	1.47E-01	3.44E-04	1.34E-03	2.73E-03	3.66E-06	3.30E-03

Notes:	Crack Soil and Building Characteristics			Crack Soil
	SCS Soil texture class			Sand
	Bulk density	kg/L	ρ_b	1.66
	Total porosity	L/L-soil	θ_T	0.375
	Water-filled porosity	L/L-soil	θ_w	0.054
	Air-filled porosity	L/L-soil	θ_a	0.321
	Residual saturation	L/L-soil	θ_r	0.053
	Hydraulic conductivity	cm/s	K	7.4E-03
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307
	Density of water	g/cm^3	ρ_w	1.0
	Gravitational acceleration	cm/s^2	g	980.7
	Intrinsic permeability	cm^2	k	9.9E-08
	Relative saturation	unitless	S_e	0.004
	van Genuchten N	unitless	N	3.177
	van Genuchten M	unitless	M	0.685
	Relative air permeability	unitless	k_{rg}	0.998
	Permeability to vapor	cm^2	k_v	9.89E-08
	Distance from building foundation to source	m	$L_{T\text{-}gw}$	3.56
	Bldg foundation thickness	m	L_{crack}	0.1
	Bldg foundation length	m		10.00
	Bldg foundation width	m		10.00
	Bldg occupied height	m		2.44
	Bldg occupied volume	m^3		244.00
	Occupied depth below ground	m		0.0
	Bldg area for vapor intrusion	m^2	A_B	100.0
	Ratio of A_{crack} to A_B		η	4E-04
	Area of cracks	m^2	A_{crack}	4E-02
	Air exchange rate	$hour^{-1}$	ach	0.45
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20

Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.

Attachment C.5: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Groundwater Monitoring Wells in the Neighborhood Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Acetone	67-64-1	ID	N	3.30E-01	6.99E-05					3.1E+01	2.2E-06
VOC	Benzene	71-43-2	A	N	1.60E-04	2.20E-07	7.8E-03		7.1E-10		3.0E-02	7.0E-06
VOC	2-Butanone	78-93-3	ID	N	1.36E+00	2.77E-04					5.0E+00	5.3E-05
VOC	Carbon Disulfide	75-15-0		N	1.10E-03	3.18E-06					7.0E-01	4.4E-06
VOC	Chloromethane	74-87-3	D	N	6.20E-04	1.01E-06					9.0E-02	1.1E-05
VOC	1,1-Dichloroethene	75-35-4	C	N	2.80E-03	7.53E-06					2.0E-01	3.6E-05
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	2.82E-02	3.45E-05						
VOC	trans-1,2-Dichloroethene	156-60-5	ID	N	9.00E-04	1.61E-06						
VOC	2-Hexanone	591-78-6	ID	N	3.25E-02	7.49E-06					3.0E-02	2.4E-04
VOC	4-Methyl-2-pentanone	108-10-1	ID	N	1.60E-03	3.80E-07					3.0E+00	1.2E-07
VOC	Trichloroethene	79-01-6	HC	Y	7.06E-01	1.13E-03	4.1E-03	0.2439	2.6E-06		2.0E-03	5.4E-01
VOC	Vinyl Chloride	75-01-4	A	N	2.94E-02	9.70E-05	4.4E-03		6.0E-07		1.0E-01	9.3E-04
							Cumulative Risk:		3E-06		**HI:**	5E-01

Note:

f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.

Only VOCs detected in the Annual 2020 groundwater samples from wells in the neighborhood are shown.

Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.

Attachment C.7: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at VP-7 (Parcel 2) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.61E-01	2.07E-02	1.54E-01	2.73E-03	4.21E-04	4.80E-04
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.14E-01	4.01E-04	3.52E-03	2.73E-03	9.63E-06	1.53E-03
VOC	2-Butanone	78-93-3	6.98E-01	8.47E-05	2.00E-03	1.05E-01	1.04E-02	8.37E-02	2.73E-03	2.29E-04	4.57E-04
VOC	Toluene	108-88-3	7.52E-01	7.43E-05	1.80E-01	1.13E-01	3.38E-04	2.97E-03	2.73E-03	8.11E-06	1.46E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.061							
	Air-filled porosity	L/L-soil	θ_a	0.314							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.023							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.983							
	Permeability to vapor	cm^2	k_v	9.74E-08							
	Distance from building foundation to source	m	L_{T-gw}	1.58							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

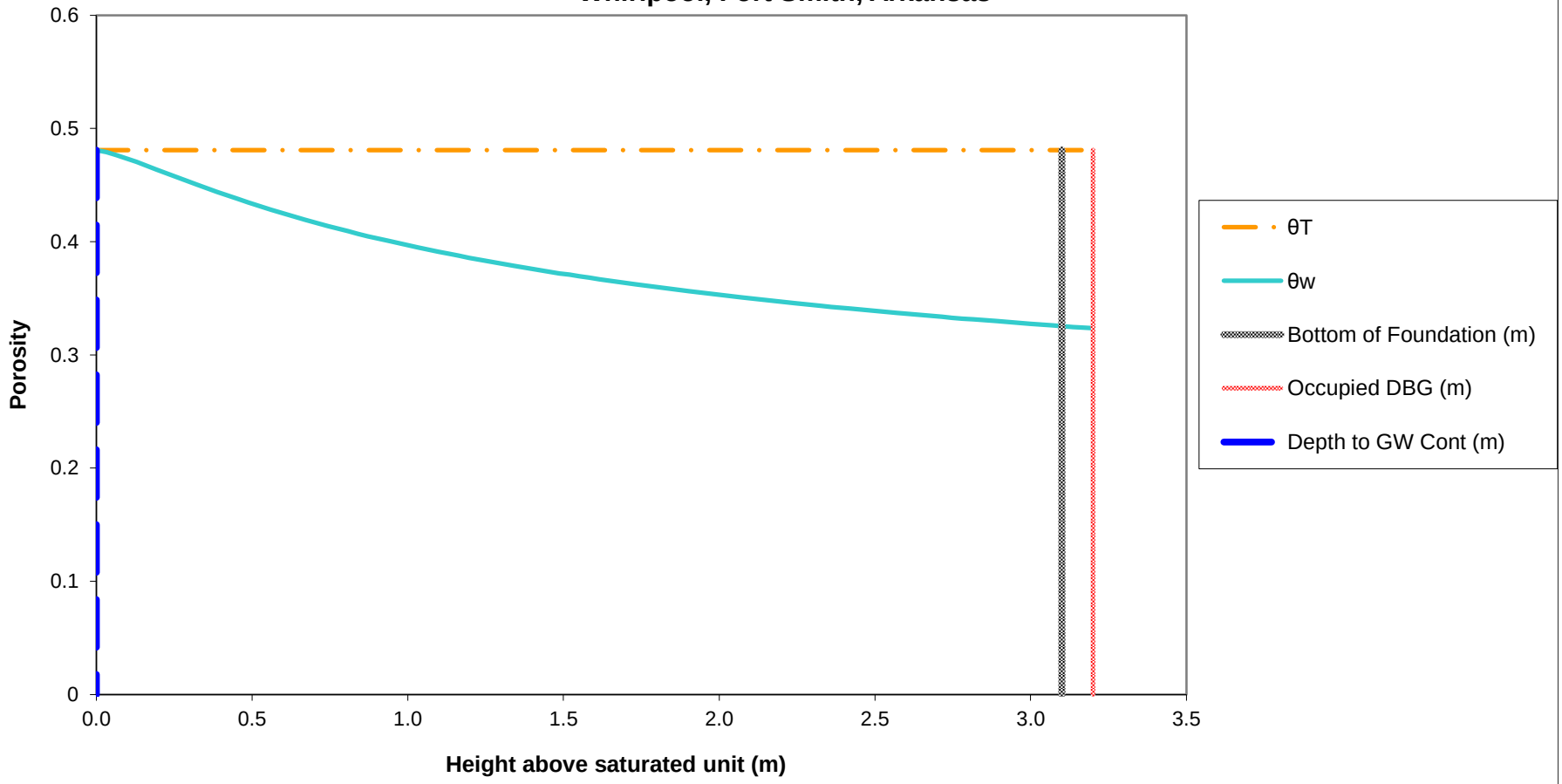
Attachment C.7: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at VP-7 (Parcel 2) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.61E-01	2.07E-02	1.54E-01	2.73E-03	4.21E-04	4.80E-04
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.14E-01	4.01E-04	3.52E-03	2.73E-03	9.63E-06	1.53E-03
VOC	2-Butanone	78-93-3	6.98E-01	8.47E-05	2.00E-03	1.05E-01	1.04E-02	8.37E-02	2.73E-03	2.29E-04	4.57E-04
VOC	Toluene	108-88-3	7.52E-01	7.43E-05	1.80E-01	1.13E-01	3.38E-04	2.97E-03	2.73E-03	8.11E-06	1.46E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.061							
	Air-filled porosity	L/L-soil	θ_a	0.314							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.023							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.983							
	Permeability to vapor	cm^2	k_v	9.74E-08							
	Distance from building foundation to source	m	L_{T-gw}	1.58							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.8: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Perched Water at VP-7 (Parcel 2) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Acetone	67-64-1	ID	N	6.32E-02	3.03E-05					3.1E+01	9.4E-07
VOC	Benzene	71-43-2	A	N	8.70E-04	1.33E-06	7.8E-03		4.3E-09		3.0E-02	4.3E-05
VOC	2-Butanone	78-93-3	ID	N	7.70E-03	3.52E-06					5.0E+00	6.7E-07
VOC	Toluene	108-88-3	ID	N	2.30E-04	3.37E-07					5.0E+00	6.5E-08
							Cumulative Risk:		4E-09		**HI:**	4E-05
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 water sample at VP-7 (Parcel 2) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.9: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Soil Vapor Monitoring Point VP-8 (Parcel 2)
Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

Ramboll

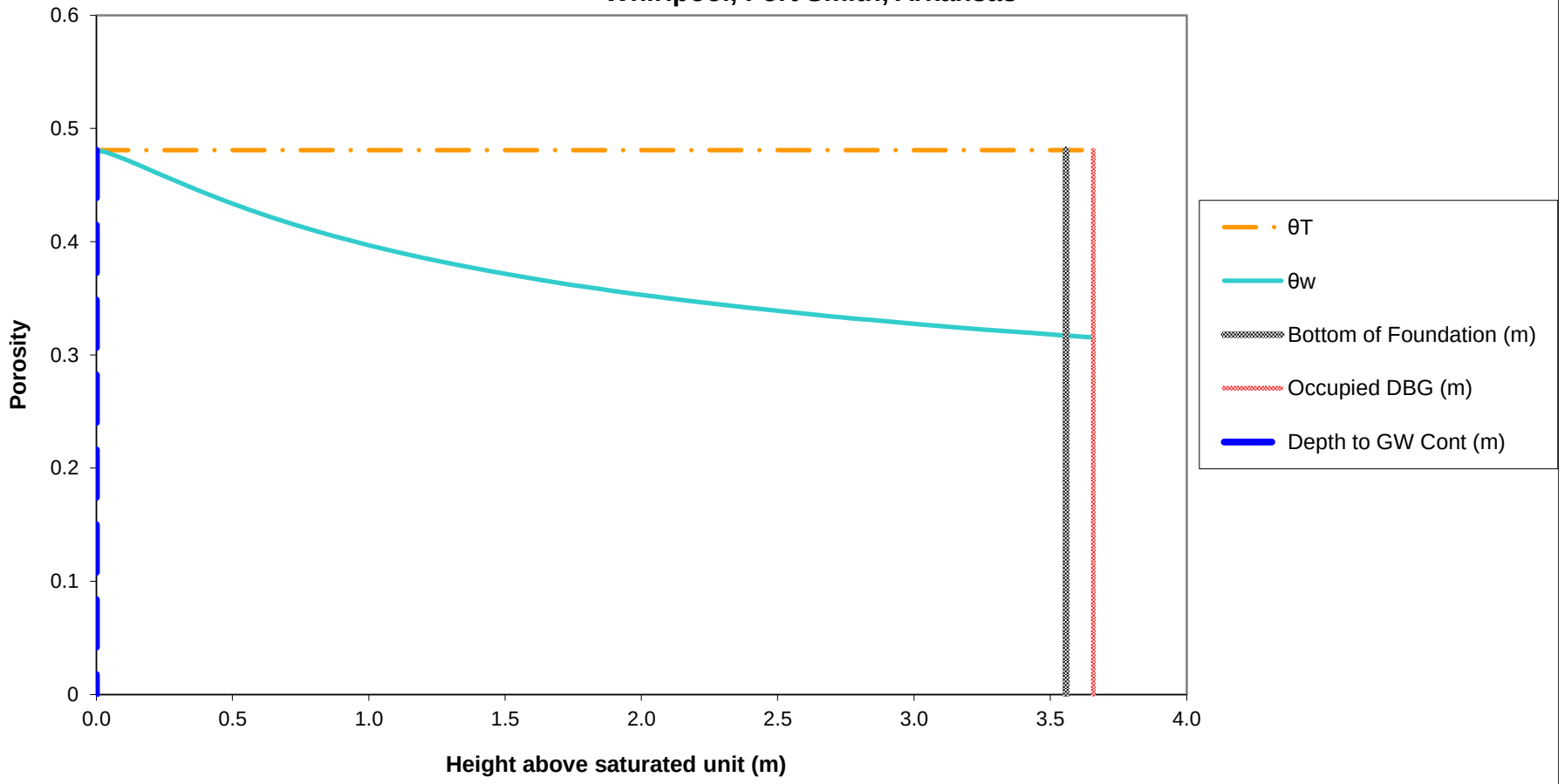
Attachment C.10: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at VP-8 (Parcel 2) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.71E-01	1.87E-02	7.73E-02	2.73E-03	2.11E-04	2.41E-04
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.21E-01	7.17E-04	3.20E-03	2.73E-03	8.74E-06	1.39E-03
VOC	2-Butanone	78-93-3	6.98E-01	8.47E-05	2.00E-03	1.12E-01	9.82E-03	4.21E-02	2.73E-03	1.15E-04	2.30E-04
VOC	2-Hexanone	591-78-6	7.45E-01	7.57E-05	3.23E-03	1.19E-01	6.59E-03	2.87E-02	2.73E-03	7.83E-05	2.53E-04
VOC	Toluene	108-88-3	7.52E-01	7.43E-05	1.80E-01	1.20E-01	6.11E-04	2.73E-03	2.73E-03	7.46E-06	1.35E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.055							
	Air-filled porosity	L/L-soil	θ_a	0.320							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.005							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.997							
	Permeability to vapor	cm^2	k_v	9.88E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.10							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.11: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Perched Water at VP-8 (Parcel 2) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Acetone	67-64-1	ID	N	1.42E-01	3.42E-05					3.1E+01	1.1E-06
VOC	Benzene	71-43-2	A	N	1.50E-04	2.08E-07	7.8E-03		6.7E-10		3.0E-02	6.7E-06
VOC	2-Butanone	78-93-3	ID	N	1.26E-02	2.90E-06					5.0E+00	5.6E-07
VOC	2-Hexanone	591-78-6	ID	N	2.10E-03	5.32E-07					3.0E-02	1.7E-05
VOC	Toluene	108-88-3	ID	N	2.60E-04	3.50E-07					5.0E+00	6.7E-08
							Cumulative Risk:		7E-10		**HI:**	3E-05
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 water sample at VP-8 (Parcel 2) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.12: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Groundwater Monitoring Well MW-175 (Parcel 2) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

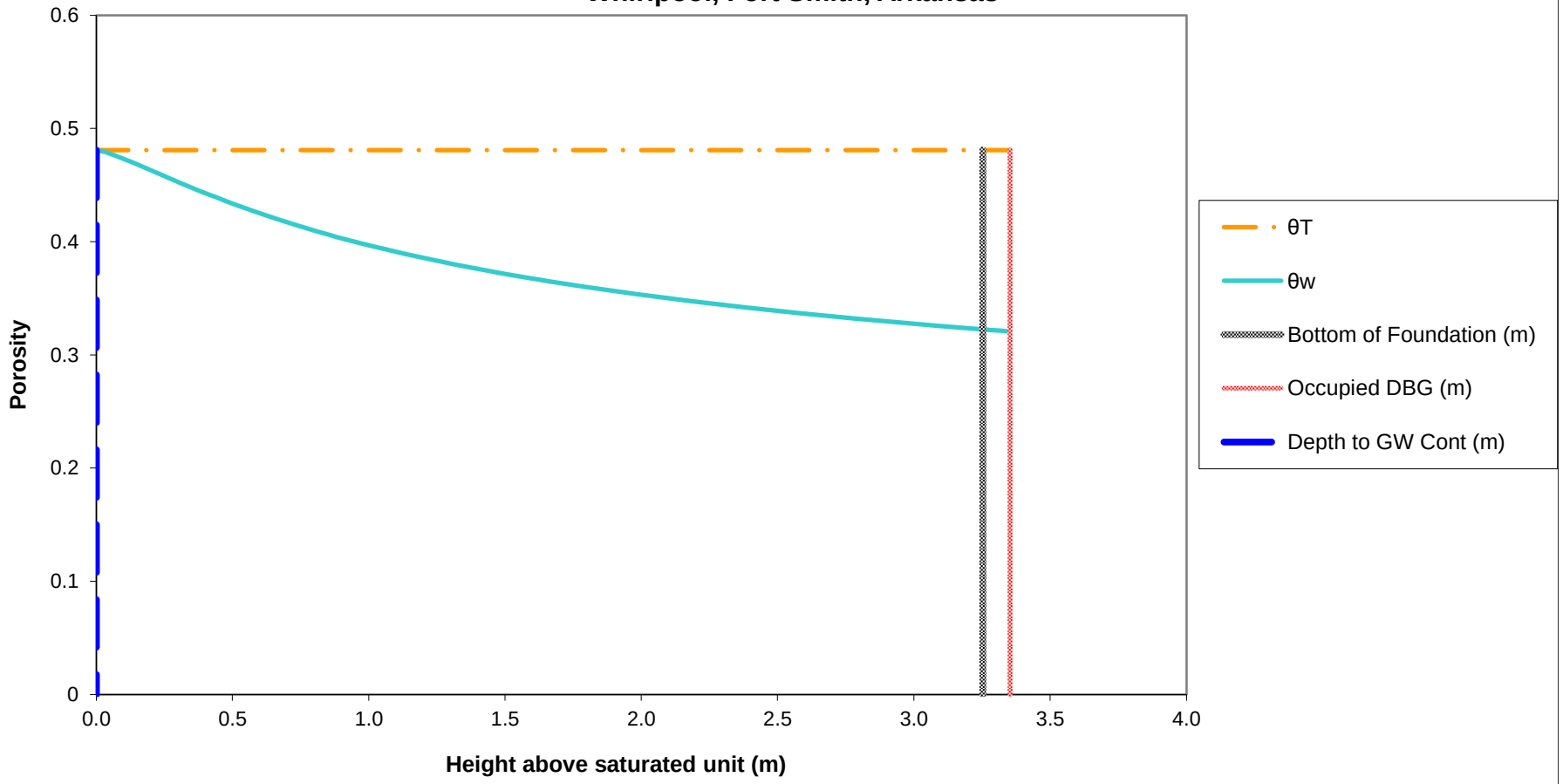
Attachment C.13: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Groundwater at MW-175 (Parcel 2) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	1,1-Dichloroethene	75-35-4	7.78E-01	8.99E-05	8.10E-01	1.25E-01	3.12E-04	1.22E-03	2.73E-03	3.32E-06	2.69E-03
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	1.02E-01	9.72E-04	3.78E-03	2.73E-03	1.03E-05	1.22E-03
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.10E-01	5.23E-04	2.04E-03	2.73E-03	5.57E-06	1.60E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.054							
	Air-filled porosity	L/L-soil	θ_a	0.321							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.004							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.998							
	Permeability to vapor	cm^2	k_v	9.89E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.56							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.14: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Groundwater at MW-175 (Parcel 2) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	1,1-Dichloroethene	75-35-4	C	N	2.60E-04	7.00E-07					2.0E-01	3.4E-06
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	1.70E-03	2.08E-06						
VOC	Trichloroethene	79-01-6	HC	Y	6.95E-02	1.11E-04	4.1E-03	0.2439	2.6E-07		2.0E-03	5.3E-02
							Cumulative Risk:		3E-07		**HI:**	5E-02
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 groundwater sample at MW-175 (Parcel 2) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.15: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Soil Vapor Monitoring Point VP-10 (Parcel 3) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

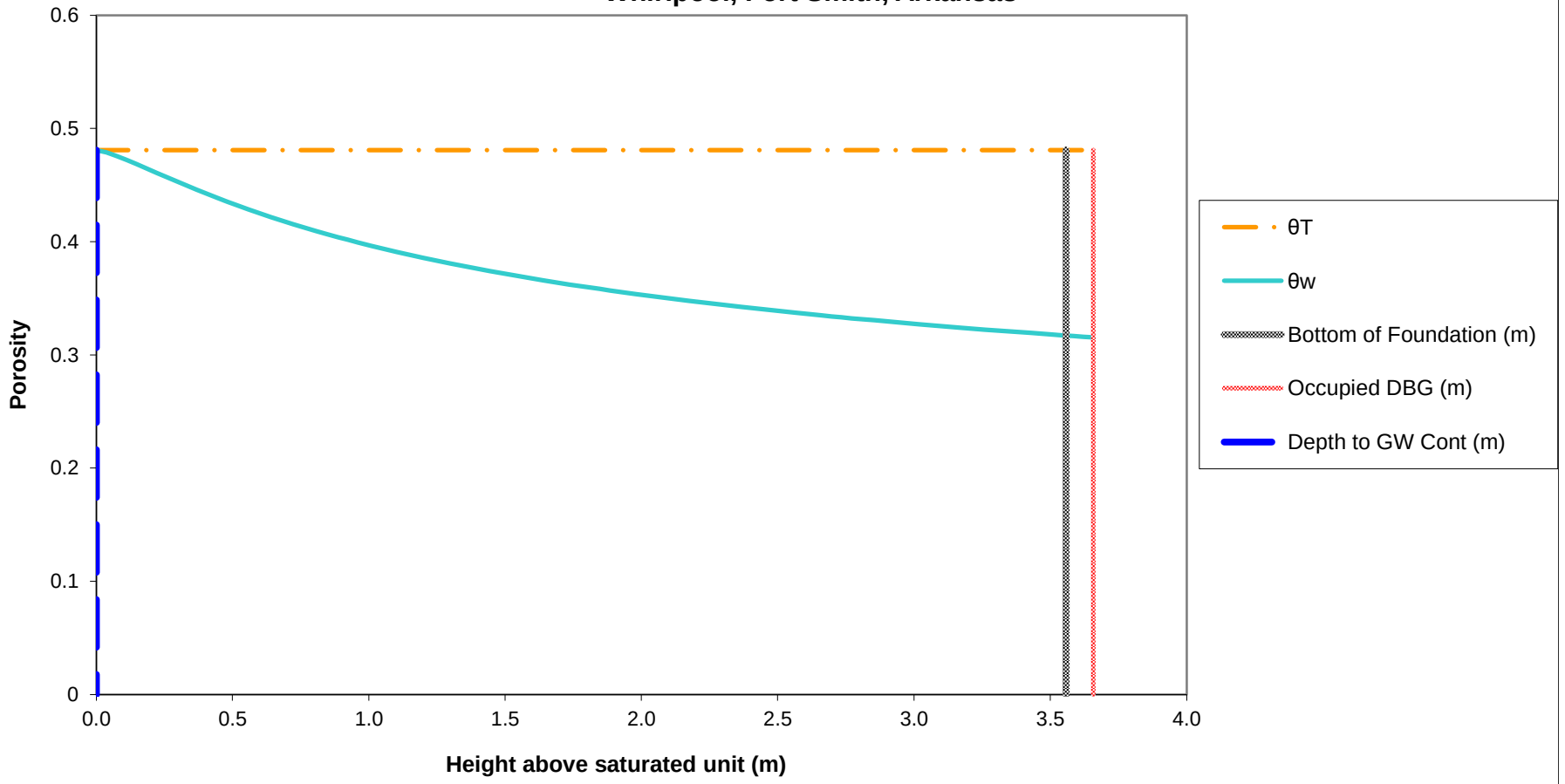
Attachment C.16: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at VP-10 (Parcel 3) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_∞	C_{bldg} (L-water/m^3)
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.22E-01	7.54E-04	3.21E-03	2.73E-03	8.77E-06	1.39E-03
VOC	Chloroform	67-66-3	8.99E-01	8.64E-05	1.07E-01	1.44E-01	1.03E-03	4.38E-03	2.73E-03	1.20E-05	1.28E-03
VOC	1,1-Dichloroethene	75-35-4	7.78E-01	8.99E-05	8.10E-01	1.25E-01	2.87E-04	1.22E-03	2.73E-03	3.34E-06	2.71E-03
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	1.02E-01	9.03E-04	3.84E-03	2.73E-03	1.05E-05	1.24E-03
VOC	trans-1,2-Dichloroethene	156-60-5	6.11E-01	1.03E-04	2.81E-01	9.78E-02	5.51E-04	2.35E-03	2.73E-03	6.41E-06	1.81E-03
VOC	Toluene	108-88-3	7.52E-01	7.43E-05	1.80E-01	1.20E-01	6.43E-04	2.74E-03	2.73E-03	7.49E-06	1.35E-03
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.09E-01	4.82E-04	2.06E-03	2.73E-03	5.62E-06	1.62E-03
VOC	Vinyl Chloride	75-01-4	9.16E-01	1.06E-04	9.00E-01	1.47E-01	3.16E-04	1.35E-03	2.73E-03	3.68E-06	3.31E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.055							
	Air-filled porosity	L/L-soil	θ_a	0.320							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	**K**	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	**g**	980.7							
	Intrinsic permeability	cm^2	**k**	9.9E-08							
	Relative saturation	unitless	S_e	0.005							
	van Genuchten N	unitless	**N**	3.177							
	van Genuchten M	unitless	**M**	0.685							
	Relative air permeability	unitless	k_{rg}	0.997							
	Permeability to vapor	cm^2	k_v	9.89E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.25							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	**ach**	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.17: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Perched Water at VP-10 (Parcel 3) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Benzene	71-43-2	A	N	3.10E-04	4.32E-07	7.8E-03		1.4E-09		3.0E-02	1.4E-05
VOC	Chloroform	67-66-3	B2	N	6.40E-04	8.22E-07	2.3E-02		7.8E-09		5.0E-02	1.6E-05
VOC	1,1-Dichloroethene	75-35-4	C	N	1.80E-03	4.87E-06					2.0E-01	2.3E-05
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	1.25E-02	1.55E-05						
VOC	trans-1,2-Dichloroethene	156-60-5	ID	N	4.80E-04	8.67E-07						
VOC	Toluene	108-88-3	ID	N	4.00E-04	5.40E-07					5.0E+00	1.0E-07
VOC	Trichloroethene	79-01-6	HC	Y	1.10E-01	1.78E-04	4.1E-03	0.2439	4.1E-07		2.0E-03	8.5E-02
VOC	Vinyl Chloride	75-01-4	A	N	4.80E-04	1.59E-06	4.4E-03		9.9E-09		1.0E-01	1.5E-05
							Cumulative Risk:		4E-07		**HI:**	9E-02
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 water sample at VP-10 (Parcel 3) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.18: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Groundwater Monitoring Well MW-176 (Parcel 3) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

Attachment C.19: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Groundwater at MW-176 (Parcel 3) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.72E-01	1.87E-02	6.80E-02	2.73E-03	1.86E-04	2.12E-04
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.22E-01	8.15E-04	3.17E-03	2.73E-03	8.67E-06	1.38E-03
VOC	2-Butanone	78-93-3	6.98E-01	8.47E-05	2.00E-03	1.12E-01	9.94E-03	3.74E-02	2.73E-03	1.02E-04	2.04E-04
VOC	1,1-Dichloroethene	75-35-4	7.78E-01	8.99E-05	8.10E-01	1.25E-01	3.12E-04	1.22E-03	2.73E-03	3.32E-06	2.69E-03
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	1.02E-01	9.72E-04	3.78E-03	2.73E-03	1.03E-05	1.22E-03
VOC	trans-1,2-Dichloroethene	156-60-5	6.11E-01	1.03E-04	2.81E-01	9.81E-02	5.96E-04	2.32E-03	2.73E-03	6.35E-06	1.79E-03
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.10E-01	5.23E-04	2.04E-03	2.73E-03	5.57E-06	1.60E-03
VOC	Vinyl Chloride	75-01-4	9.16E-01	1.06E-04	9.00E-01	1.47E-01	3.44E-04	1.34E-03	2.73E-03	3.66E-06	3.30E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.054							
	Air-filled porosity	L/L-soil	θ_a	0.321							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	**K**	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	**g**	980.7							
	Intrinsic permeability	cm^2	**k**	9.9E-08							
	Relative saturation	unitless	S_e	0.004							
	van Genuchten N	unitless	**N**	3.177							
	van Genuchten M	unitless	**M**	0.685							
	Relative air permeability	unitless	k_{rg}	0.998							
	Permeability to vapor	cm^2	k_v	9.89E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.56							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	**ach**	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.20: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Groundwater at MW-176 (Parcel 3) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Acetone	67-64-1	ID	N	1.26E-02	2.67E-06					3.1E+01	8.3E-08
VOC	Benzene	71-43-2	A	N	1.30E-04	1.79E-07	7.8E-03		5.7E-10		3.0E-02	5.7E-06
VOC	2-Butanone	78-93-3	ID	N	3.20E-03	6.53E-07					5.0E+00	1.3E-07
VOC	1,1-Dichloroethene	75-35-4	C	N	2.80E-03	7.53E-06					2.0E-01	3.6E-05
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	2.82E-02	3.45E-05						
VOC	trans-1,2-Dichloroethene	156-60-5	ID	N	9.00E-04	1.61E-06						
VOC	Trichloroethene	79-01-6	HC	Y	3.59E-01	5.76E-04	4.1E-03	0.2439	1.3E-06		2.0E-03	2.8E-01
VOC	Vinyl Chloride	75-01-4	A	N	2.94E-02	9.70E-05	4.4E-03		6.0E-07		1.0E-01	9.3E-04
							Cumulative Risk:		2E-06		**HI:**	3E-01

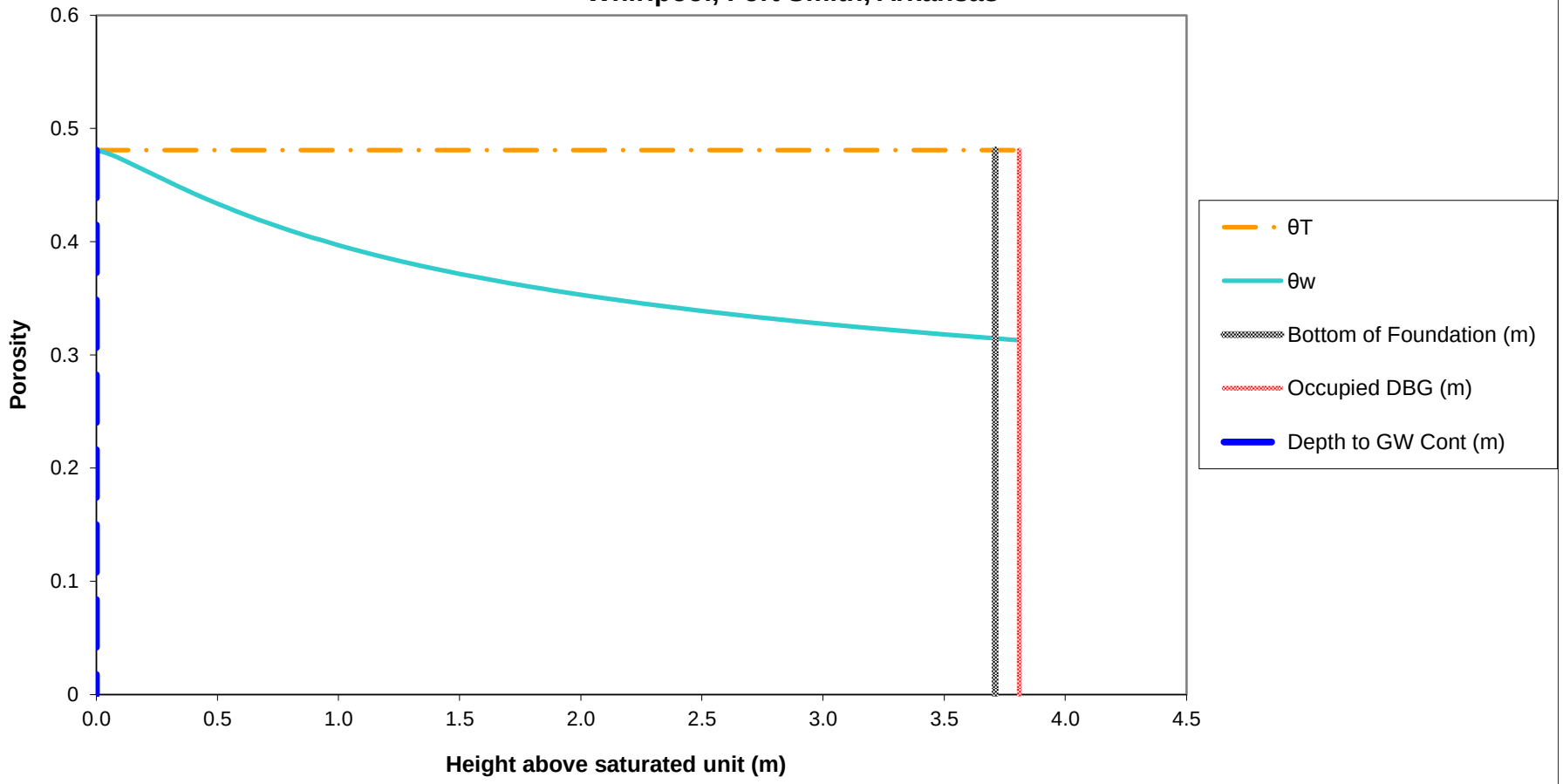
Note:

f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.

Only VOCs detected in the Annual 2020 groundwater sample at MW-176 (Parcel 3) are shown.

Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.

Attachment C.21: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Soil Vapor Monitoring Point VP-12 (Parcel 4) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

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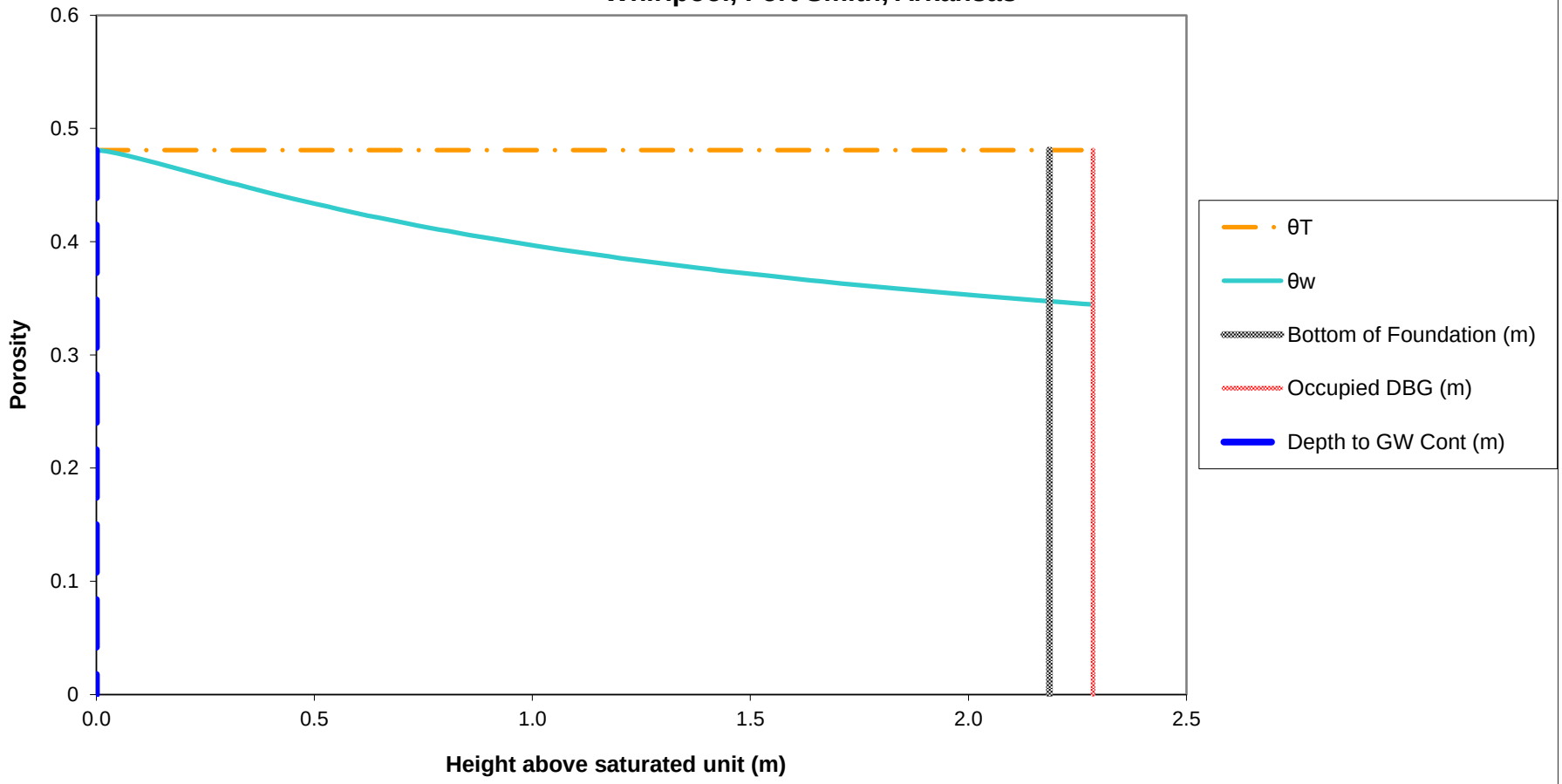
Attachment C.22: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at VP-12 (Parcel 4) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_∞	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.72E-01	1.87E-02	6.55E-02	2.73E-03	1.79E-04	2.04E-04
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.22E-01	8.46E-04	3.16E-03	2.73E-03	8.62E-06	1.37E-03
VOC	Chloroform	67-66-3	8.99E-01	8.64E-05	1.07E-01	1.44E-01	1.15E-03	4.29E-03	2.73E-03	1.17E-05	1.26E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.054							
	Air-filled porosity	L/L-soil	θ_a	0.321							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.004							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.998							
	Permeability to vapor	cm^2	k_v	9.89E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.71							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.23: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Perched Water at VP-12 (Parcel 4) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Acetone	67-64-1	ID	N	5.50E-03	1.12E-06					3.1E+01	3.5E-08
VOC	Benzene	71-43-2	A	N	2.30E-04	3.15E-07	7.8E-03		1.0E-09		3.0E-02	1.0E-05
VOC	Chloroform	67-66-3	B2	N	4.40E-04	5.55E-07	2.3E-02		5.2E-09		5.0E-02	1.1E-05
							Cumulative Risk:		6E-09		**HI:**	2E-05
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 water sample at VP-12 (Parcel 4) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.24: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Groundwater Monitoring Well MW-178 (Parcel 5) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

Attachment C.25: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at MW-178 (Parcel 5) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	9.95E-02	6.44E-04	4.08E-03	2.73E-03	1.11E-05	1.32E-03
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.07E-01	3.33E-04	2.11E-03	2.73E-03	5.76E-06	1.66E-03

Notes:											
	Crack Soil and Building Characteristics			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.057							
	Air-filled porosity	L/L-soil	θ_a	0.318							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.012							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.992							
	Permeability to vapor	cm^2	k_v	9.84E-08							
	Distance from building foundation to source	m	L_{T-gw}	2.19							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							

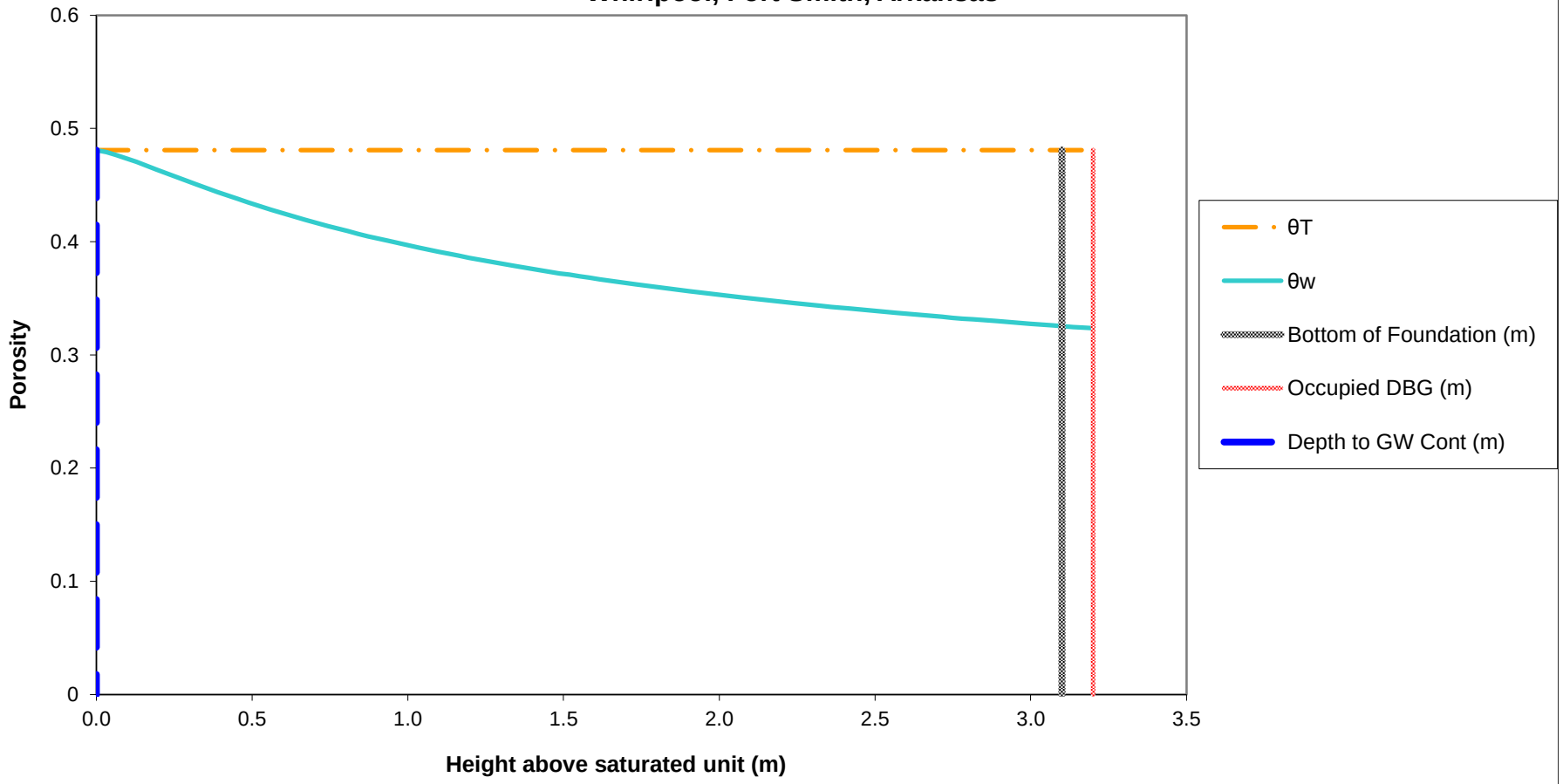
Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.

Attachment C.26: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Perched Water at MW-178 (Parcel 5) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	6.60E-04	8.72E-07						
VOC	Trichloroethene	79-01-6	HC	Y	1.90E-03	3.16E-06	4.1E-03	0.2439	7.3E-09		2.0E-03	1.5E-03
							Cumulative Risk:		7E-09		**HI:**	2E-03
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 groundwater sample at MW-178 (Parcel 5) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.27: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Soil Vapor Monitoring Point VP-14 (Parcel 5) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

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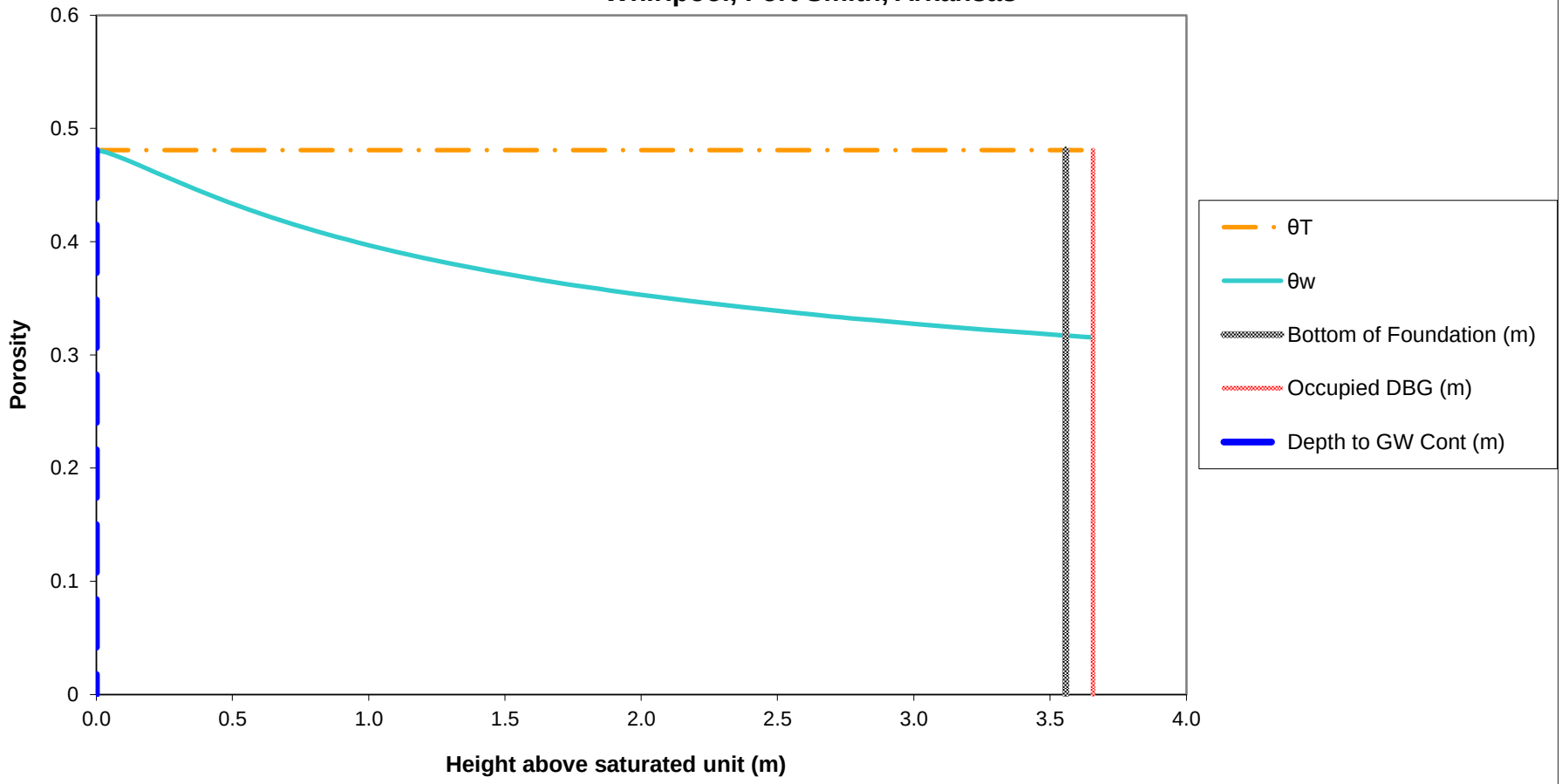
Attachment C.28: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Perched Water at VP-14 (Parcel 5)
Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	Benzene	71-43-2	7.60E-01	8.47E-05	1.59E-01	1.21E-01	7.17E-04	3.20E-03	2.73E-03	8.74E-06	1.39E-03
VOC	Chloroform	67-66-3	8.99E-01	8.64E-05	1.07E-01	1.44E-01	9.79E-04	4.37E-03	2.73E-03	1.19E-05	1.28E-03
VOC	Chloromethane	74-87-3	1.09E+00	5.62E-05	3.33E-01	1.74E-01	4.01E-04	1.79E-03	2.73E-03	4.90E-06	1.63E-03
VOC	1,1-Dichloroethene	75-35-4	7.78E-01	8.99E-05	8.10E-01	1.24E-01	2.71E-04	1.21E-03	2.73E-03	3.32E-06	2.69E-03
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	1.02E-01	8.60E-04	3.84E-03	2.73E-03	1.05E-05	1.24E-03
VOC	trans-1,2-Dichloroethene	156-60-5	6.11E-01	1.03E-04	2.81E-01	9.76E-02	5.23E-04	2.34E-03	2.73E-03	6.39E-06	1.80E-03
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.09E-01	4.58E-04	2.05E-03	2.73E-03	5.59E-06	1.61E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.055							
	Air-filled porosity	L/L-soil	θ_a	0.320							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.005							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.997							
	Permeability to vapor	cm^2	k_v	9.88E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.10							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.29: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Perched Water at VP-14 (Parcel 5) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Benzene	71-43-2	A	N	1.40E-04	1.94E-07	7.8E-03		6.2E-10		3.0E-02	6.2E-06
VOC	Chloroform	67-66-3	B2	N	2.60E-04	3.33E-07	2.3E-02		3.2E-09		5.0E-02	6.4E-06
VOC	Chloromethane	74-87-3	D	N	5.30E-04	8.64E-07					9.0E-02	9.2E-06
VOC	1,1-Dichloroethene	75-35-4	C	N	7.90E-04	2.12E-06					2.0E-01	1.0E-05
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	1.90E-03	2.36E-06						
VOC	trans-1,2-Dichloroethene	156-60-5	ID	N	1.50E-04	2.70E-07						
VOC	Trichloroethene	79-01-6	HC	Y	3.83E-02	6.17E-05	4.1E-03	0.2439	1.4E-07		2.0E-03	3.0E-02
							Cumulative Risk:		1E-07		**HI:**	3E-02
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 water sample at VP-14 (Parcel 5) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C.30: Soil Moisture Profile for Residential Building (Slab-on-Grade) at Groundwater Monitoring Well MW-179 (Parcel 5) Whirlpool, Fort Smith, Arkansas



Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

Attachment C.31: Normalized Indoor Air Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Groundwater at MW-179 (Parcel 5) Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)
VOC	Acetone	67-64-1	1.07E+00	9.85E-05	1.14E-03	1.72E-01	1.87E-02	6.80E-02	2.73E-03	1.86E-04	2.12E-04
VOC	1,1-Dichloroethene	75-35-4	7.78E-01	8.99E-05	8.10E-01	1.25E-01	3.12E-04	1.22E-03	2.73E-03	3.32E-06	2.69E-03
VOC	cis-1,2-Dichloroethene	156-59-2	6.36E-01	9.76E-05	1.19E-01	1.02E-01	9.72E-04	3.78E-03	2.73E-03	1.03E-05	1.22E-03
VOC	Trichloroethene	79-01-6	6.83E-01	7.86E-05	2.88E-01	1.10E-01	5.23E-04	2.04E-03	2.73E-03	5.57E-06	1.60E-03
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**							
	SCS Soil texture class			Sand							
	Bulk density	kg/L	ρ_b	1.66							
	Total porosity	L/L-soil	θ_T	0.375							
	Water-filled porosity	L/L-soil	θ_w	0.054							
	Air-filled porosity	L/L-soil	θ_a	0.321							
	Residual saturation	L/L-soil	θ_r	0.053							
	Hydraulic conductivity	cm/s	K	7.4E-03							
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307							
	Density of water	g/cm^3	ρ_w	1.0							
	Gravitational acceleration	cm/s^2	g	980.7							
	Intrinsic permeability	cm^2	k	9.9E-08							
	Relative saturation	unitless	S_e	0.004							
	van Genuchten N	unitless	N	3.177							
	van Genuchten M	unitless	M	0.685							
	Relative air permeability	unitless	k_{rg}	0.998							
	Permeability to vapor	cm^2	k_v	9.89E-08							
	Distance from building foundation to source	m	L_{T-gw}	3.56							
	Bldg foundation thickness	m	L_{crack}	0.1							
	Bldg foundation length	m		10.00							
	Bldg foundation width	m		10.00							
	Bldg occupied height	m		2.44							
	Bldg occupied volume	m^3		244.00							
	Occupied depth below ground	m		0.0							
	Bldg area for vapor intrusion	m^2	A_B	100.0							
	Ratio of A_{crack} to A_B		η	4E-04							
	Area of cracks	m^2	A_{crack}	4E-02							
	Air exchange rate	$hour^{-1}$	ach	0.45							
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03							
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20							
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.										
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.										

Attachment C.32: Cancer Risk and Hazard Index Calculations for Vapor Intrusion into a Residential Building (Slab-on-Grade) from Shallow Groundwater at MW-179 (Parcel 5) Whirlpool, Fort Smith, Arkansas

							Cancer				Noncancer	
Chem Group	**Chemical**	**CASRN**	**Carc Class**	**ADAF**	**C_{gw}** (mg/L)	**$C_{building}$** (mg/m^3)	**URF** (m^3/mg)	**f_{inh}**	**Risk**		**RfC** (mg/m^3)	**HQ**
VOC	Acetone	67-64-1	ID	N	8.90E-03	1.89E-06					3.1E+01	5.9E-08
VOC	1,1-Dichloroethene	75-35-4	C	N	3.60E-04	9.69E-07					2.0E-01	4.6E-06
VOC	cis-1,2-Dichloroethene	156-59-2	ID	N	1.00E-03	1.22E-06						
VOC	Trichloroethene	79-01-6	HC	Y	2.29E-02	3.67E-05	4.1E-03	0.2439	8.5E-08		2.0E-03	1.8E-02
							Cumulative Risk:		9E-08		**HI:**	2E-02
Note:												
f_{inh} is the fraction of the inhalation URF that USEPA identified as having a mutagenic mode of action.												
Only VOCs detected in the Annual 2020 groundwater sample at MW-179 (Parcel 5) are shown.												
Risks were calculated assuming residential exposure to groundwater-derived vapors in indoor air for 24 hours per day and 350 days per year for 30 years.												

Attachment C

Laboratory Analytical Data

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 26, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 06, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350359001	**TMW-10-202010**	Water	10/05/20 17:16	10/06/20 01:30
60350359002	**TMW-11-202010**	Water	10/05/20 17:15	10/06/20 01:30
60350359003	**MW-50R-202010**	Water	10/05/20 16:35	10/06/20 01:30
60350359004	**MW-36-202010**	Water	10/05/20 16:20	10/06/20 01:30
60350359005	**TMW-19-202010**	Water	10/05/20 16:21	10/06/20 01:30
60350359006	**TMW-29-202010**	Water	10/05/20 16:40	10/06/20 01:30
60350359007	**TMW-36B-202010**	Water	10/05/20 17:50	10/06/20 01:30
60350359008	**TB-01-202010**	Water	10/05/20 08:00	10/06/20 01:30

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350359001	**TMW-10-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350359002	**TMW-11-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350359003	**MW-50R-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350359004	**MW-36-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	DTB, PGH	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350359005	**TMW-19-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK, VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350359006	**TMW-29-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350359007	**TMW-36B-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350359008	**TB-01-202010**	EPA 5030B/8260	PGH	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: October 26, 2020

General Information:
5 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: October 26, 2020

General Information:
5 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 26, 2020

General Information:
8 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681489

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: October 26, 2020

General Information:
1 sample was analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 26, 2020

General Information:
5 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 682950

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350359002,60350800001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2760609)
  - Chloride
  - Sulfate
- MS (Lab ID: 2760611)
  - Chloride
  - Sulfate
- MSD (Lab ID: 2760610)
  - Chloride
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: October 26, 2020

General Information:
5 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681232

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350410002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2753539)
  - Nitrogen, NO2 plus NO3
  - Nitrogen, Nitrite

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: October 26, 2020

General Information:
5 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681758

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60349941003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2755897)
  - Total Organic Carbon

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: October 26, 2020

General Information:
4 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: October 26, 2020

General Information:
4 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-10-202010 **Lab ID: 60350359001** Collected: 10/05/20 17:16 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/15/20 02:41	74-86-2	
Ethane	**0.94J**	ug/L	1.0	0.075	1		10/15/20 02:41	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/15/20 02:41	74-85-1	
Methane	**87**	ug/L	5.0	2.5	1		10/15/20 02:41	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**492**	ug/L	50.0	26.8	1	10/18/20 12:56	10/19/20 20:08	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 12:57	67-64-1	
Benzene	**0.16J**	ug/L	1.0	0.088	1		10/08/20 12:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 12:57	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 12:57	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 12:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 12:57	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 12:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 12:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 12:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 12:57	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 12:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 12:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 12:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/08/20 12:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 12:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/08/20 12:57	75-35-4	
cis-1,2-Dichloroethene	**0.86J**	ug/L	1.0	0.15	1		10/08/20 12:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 12:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 12:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 12:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 12:57	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 12:57	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 12:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 12:57	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 12:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:57	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 12:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 12:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:57	79-00-5	
Trichloroethene	**4.8**	ug/L	1.0	0.25	1		10/08/20 12:57	79-01-6	
Vinyl chloride	**3.8**	ug/L	1.0	0.25	1		10/08/20 12:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 12:57	1330-20-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-10-202010 **Lab ID: 60350359001** Collected: 10/05/20 17:16 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/08/20 12:57	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		10/08/20 12:57	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/08/20 12:57	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 12:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**198**	mg/L	10.0	3.9	10		10/15/20 22:21	16887-00-6	
Sulfate	**1.2**	mg/L	1.0	0.28	1		10/16/20 14:43	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/07/20 08:58		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/07/20 08:58	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/07/20 08:58	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**5.3**	mg/L	2.0	0.72	2		10/12/20 23:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**3.5**	mg/L	1.0	0.36	1		10/26/20 10:27		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**3.9J**	mg/L	5.0	1.2	10		10/10/20 01:23	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/10/20 01:23	107-92-6	
Formic acid	**46**	mg/L	5.0	0.55	10		10/10/20 01:23	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/10/20 01:23	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/10/20 01:23	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/10/20 01:23	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/10/20 01:23	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/10/20 01:23	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/10/20 01:23	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/10/20 01:23	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-11-202010 **Lab ID: 60350359002** Collected: 10/05/20 17:15 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/15/20 02:53	74-86-2	
Ethane	**0.76J**	ug/L	1.0	0.075	1		10/15/20 02:53	74-84-0	
Ethene	**0.48J**	ug/L	1.0	0.12	1		10/15/20 02:53	74-85-1	
Methane	**240**	ug/L	5.0	2.5	1		10/15/20 02:53	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**6180**	ug/L	50.0	26.8	1	10/18/20 12:56	10/19/20 20:15	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 11:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/08/20 11:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 11:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 11:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 11:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 11:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 11:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 11:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 11:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 11:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 11:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 11:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 11:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/08/20 11:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 11:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/08/20 11:44	75-35-4	
cis-1,2-Dichloroethene	**0.66J**	ug/L	1.0	0.15	1		10/08/20 11:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 11:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 11:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 11:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 11:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 11:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 11:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 11:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 11:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 11:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 11:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 11:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 11:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 11:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 11:44	79-00-5	
Trichloroethene	**0.70J**	ug/L	1.0	0.25	1		10/08/20 11:44	79-01-6	
Vinyl chloride	**0.34J**	ug/L	1.0	0.25	1		10/08/20 11:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 11:44	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-11-202010 **Lab ID: 60350359002** Collected: 10/05/20 17:15 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/08/20 11:44	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		10/08/20 11:44	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/08/20 11:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 11:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**167**	mg/L	10.0	3.9	10		10/15/20 22:51	16887-00-6	M1
Sulfate	**99.8**	mg/L	10.0	2.8	10		10/15/20 22:51	14808-79-8	M1
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/07/20 08:55		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/07/20 08:55	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/07/20 08:55	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**2.4**	mg/L	1.0	0.36	1		10/12/20 23:23	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**3.2**	mg/L	1.0	0.36	1		10/26/20 10:28		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.85J**	mg/L	1.0	0.25	2		10/10/20 02:16	64-19-7	
Butyric Acid	ND	mg/L	1.0	0.12	2		10/10/20 02:16	107-92-6	
Formic acid	**10**	mg/L	1.0	0.11	2		10/10/20 02:16	64-18-6	
Hexanoic Acid	**0.18J**	mg/L	1.0	0.12	2		10/10/20 02:16	142-62-1	
Lactic Acid	**0.11J**	mg/L	1.0	0.11	2		10/10/20 02:16	50-21-5	
Pentanoic Acid	ND	mg/L	1.0	0.11	2		10/10/20 02:16	109-52-4	
Propionic Acid	ND	mg/L	1.0	0.11	2		10/10/20 02:16	79-09-4	
Pyruvic Acid	ND	mg/L	1.0	0.12	2		10/10/20 02:16	127-17-3	
i-Hexanoic Acid	ND	mg/L	1.0	0.11	2		10/10/20 02:16	646-07-1	
i-Pentanoic Acid	ND	mg/L	1.0	0.12	2		10/10/20 02:16	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: MW-50R-202010 **Lab ID: 60350359003** Collected: 10/05/20 16:35 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/15/20 03:05	74-86-2	
Ethane	**7.4**	ug/L	1.0	0.075	1		10/15/20 03:05	74-84-0	
Ethene	**1.1**	ug/L	1.0	0.12	1		10/15/20 03:05	74-85-1	
Methane	**4600**	ug/L	5.0	2.5	1		10/15/20 03:05	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**1360**	ug/L	50.0	26.8	1	10/18/20 12:56	10/19/20 20:17	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 11:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/08/20 11:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 11:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 11:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 11:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 11:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 11:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 11:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 11:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 11:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 11:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 11:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 11:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/08/20 11:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 11:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/08/20 11:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 11:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 11:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 11:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 11:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 11:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 11:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 11:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 11:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 11:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 11:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 11:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 11:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 11:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 11:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 11:59	79-00-5	
Trichloroethene	**0.98J**	ug/L	1.0	0.25	1		10/08/20 11:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/08/20 11:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 11:59	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: MW-50R-202010 **Lab ID: 60350359003** Collected: 10/05/20 16:35 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/08/20 11:59	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/08/20 11:59	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/08/20 11:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 11:59		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.28**	mg/L	0.050	0.039	1		10/09/20 12:48	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**11.8**	mg/L	1.0	0.28	1		10/19/20 11:02	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/07/20 08:54		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/07/20 08:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/07/20 08:54	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.36J**	mg/L	1.0	0.36	1		10/12/20 23:36	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: MW-36-202010 **Lab ID: 60350359004** Collected: 10/05/20 16:20 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.2**	ug/L	1.0	0.075	1		10/15/20 03:17	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/15/20 03:17	74-85-1	
Methane	**3300**	ug/L	5.0	2.5	1		10/15/20 03:17	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	ND	ug/L	50.0	26.8	1	10/18/20 12:56	10/19/20 20:19	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 12:42	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/08/20 12:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 12:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 12:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 12:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 12:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 12:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 12:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 12:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 12:42	75-00-3	
Chloroform	**0.22J**	ug/L	1.0	0.17	1		10/08/20 12:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 12:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 12:42	124-48-1	
1,1-Dichloroethane	**1.0**	ug/L	1.0	0.098	1		10/08/20 12:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 12:42	107-06-2	
1,1-Dichloroethene	**1.3**	ug/L	1.0	0.21	1		10/08/20 12:42	75-35-4	
cis-1,2-Dichloroethene	**8.7**	ug/L	1.0	0.15	1		10/08/20 12:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 12:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 12:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 12:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 12:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 12:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 12:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 12:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 12:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:42	79-34-5	
Tetrachloroethene	**0.20J**	ug/L	1.0	0.15	1		10/08/20 12:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 12:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 12:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:42	79-00-5	
Trichloroethene	**299**	ug/L	10.0	2.5	10		10/09/20 03:26	79-01-6	
Vinyl chloride	**0.40J**	ug/L	1.0	0.25	1		10/08/20 12:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 12:42	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: MW-36-202010 **Lab ID: 60350359004** Collected: 10/05/20 16:20 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/08/20 12:42	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/08/20 12:42	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/08/20 12:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 12:42		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**162**	mg/L	10.0	3.9	10		10/16/20 00:36	16887-00-6	
Sulfate	**56.8**	mg/L	10.0	2.8	10		10/16/20 00:36	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**16.7**	mg/L	0.50	0.29	5		10/07/20 09:05		
Nitrogen, Nitrate	**16.7**	mg/L	0.50	0.32	5		10/07/20 09:05	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	0.32	5		10/07/20 09:05	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.37J**	mg/L	1.0	0.36	1		10/12/20 23:50	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.46J**	mg/L	1.0	0.36	1		10/26/20 11:08		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.39J**	mg/L	0.50	0.12	1		10/10/20 04:56	64-19-7	
Butyric Acid	ND	mg/L	0.50	0.058	1		10/10/20 04:56	107-92-6	
Formic acid	**4.5**	mg/L	0.50	0.055	1		10/10/20 04:56	64-18-6	
Hexanoic Acid	ND	mg/L	0.50	0.058	1		10/10/20 04:56	142-62-1	
Lactic Acid	ND	mg/L	0.50	0.053	1		10/10/20 04:56	50-21-5	
Pentanoic Acid	ND	mg/L	0.50	0.056	1		10/10/20 04:56	109-52-4	
Propionic Acid	ND	mg/L	0.50	0.053	1		10/10/20 04:56	79-09-4	
Pyruvic Acid	ND	mg/L	0.50	0.060	1		10/10/20 04:56	127-17-3	
i-Hexanoic Acid	ND	mg/L	0.50	0.056	1		10/10/20 04:56	646-07-1	
i-Pentanoic Acid	ND	mg/L	0.50	0.061	1		10/10/20 04:56	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-19-202010 **Lab ID: 60350359005** Collected: 10/05/20 16:21 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**4.6**	ug/L	1.0	0.075	1		10/15/20 03:29	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/15/20 03:29	74-85-1	
Methane	**440**	ug/L	5.0	2.5	1		10/15/20 03:29	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**337**	ug/L	50.0	26.8	1	10/18/20 12:56	10/19/20 20:22	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 12:13	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/08/20 12:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 12:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 12:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 12:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 12:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 12:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 12:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 12:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 12:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 12:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 12:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 12:13	124-48-1	
1,1-Dichloroethane	**0.24J**	ug/L	1.0	0.098	1		10/08/20 12:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 12:13	107-06-2	
1,1-Dichloroethene	**0.34J**	ug/L	1.0	0.21	1		10/08/20 12:13	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	0.15	1		10/08/20 12:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 12:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 12:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 12:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 12:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 12:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 12:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 12:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 12:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 12:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 12:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:13	79-00-5	
Trichloroethene	**16.0**	ug/L	1.0	0.25	1		10/08/20 12:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/08/20 12:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 12:13	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-19-202010 **Lab ID: 60350359005** Collected: 10/05/20 16:21 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/08/20 12:13	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		10/08/20 12:13	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/08/20 12:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 12:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**74.4**	mg/L	10.0	3.9	10		10/16/20 01:06	16887-00-6	
Sulfate	**14.0**	mg/L	1.0	0.28	1		10/19/20 11:16	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**2.0**	mg/L	0.10	0.058	1		10/07/20 08:53		
Nitrogen, Nitrate	**2.0**	mg/L	0.10	0.063	1		10/07/20 08:53	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/07/20 08:53	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**1.2**	mg/L	1.0	0.36	1		10/13/20 00:03	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**1.3**	mg/L	1.0	0.36	1		10/26/20 11:21		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.40J**	mg/L	0.50	0.12	1		10/10/20 05:50	64-19-7	
Butyric Acid	ND	mg/L	0.50	0.058	1		10/10/20 05:50	107-92-6	
Formic acid	**4.8**	mg/L	0.50	0.055	1		10/10/20 05:50	64-18-6	
Hexanoic Acid	ND	mg/L	0.50	0.058	1		10/10/20 05:50	142-62-1	
Lactic Acid	ND	mg/L	0.50	0.053	1		10/10/20 05:50	50-21-5	
Pentanoic Acid	ND	mg/L	0.50	0.056	1		10/10/20 05:50	109-52-4	
Propionic Acid	ND	mg/L	0.50	0.053	1		10/10/20 05:50	79-09-4	
Pyruvic Acid	ND	mg/L	0.50	0.060	1		10/10/20 05:50	127-17-3	
i-Hexanoic Acid	ND	mg/L	0.50	0.056	1		10/10/20 05:50	646-07-1	
i-Pentanoic Acid	ND	mg/L	0.50	0.061	1		10/10/20 05:50	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-29-202010 **Lab ID: 60350359006** Collected: 10/05/20 16:40 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 12:28	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/08/20 12:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 12:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 12:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 12:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 12:28	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 12:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 12:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 12:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 12:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 12:28	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 12:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 12:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/08/20 12:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 12:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/08/20 12:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 12:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 12:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 12:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 12:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 12:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 12:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 12:28	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 12:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 12:28	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 12:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 12:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 12:28	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/08/20 12:28	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/08/20 12:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 12:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/08/20 12:28	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		10/08/20 12:28	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/08/20 12:28	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 12:28		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TMW-36B-202010 **Lab ID: 60350359007** Collected: 10/05/20 17:50 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 13:11	67-64-1	
Benzene	**0.18J**	ug/L	1.0	0.088	1		10/08/20 13:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 13:11	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 13:11	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 13:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 13:11	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 13:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 13:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 13:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 13:11	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 13:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 13:11	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 13:11	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/08/20 13:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 13:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/08/20 13:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 13:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 13:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 13:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 13:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 13:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 13:11	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 13:11	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 13:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 13:11	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 13:11	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 13:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 13:11	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 13:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 13:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 13:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/08/20 13:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/08/20 13:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 13:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/08/20 13:11	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/08/20 13:11	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/08/20 13:11	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 13:11		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Sample: TB-01-202010 **Lab ID: 60350359008** Collected: 10/05/20 08:00 Received: 10/06/20 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/08/20 08:37	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/08/20 08:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/08/20 08:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/08/20 08:37	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/08/20 08:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/08/20 08:37	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/08/20 08:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/08/20 08:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/08/20 08:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/08/20 08:37	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/08/20 08:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/08/20 08:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/08/20 08:37	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/08/20 08:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/08/20 08:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/08/20 08:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 08:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/08/20 08:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/08/20 08:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/08/20 08:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/08/20 08:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/08/20 08:37	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/08/20 08:37	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/08/20 08:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/08/20 08:37	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/08/20 08:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/08/20 08:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/08/20 08:37	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/08/20 08:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/08/20 08:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/08/20 08:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/08/20 08:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/08/20 08:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/08/20 08:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/08/20 08:37	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/08/20 08:37	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/08/20 08:37	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/08/20 08:37		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 694729
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

METHOD BLANK: 2096648 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/15/20 02:29	
Ethane	ug/L	ND	1.0	0.075	10/15/20 02:29	
Ethene	ug/L	ND	1.0	0.12	10/15/20 02:29	
Methane	ug/L	3.5J	5.0	2.5	10/15/20 02:29	

LABORATORY CONTROL SAMPLE & LCSD: 2096649 2096650

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	39	35	102	91	70-130	11	20	
Ethane	ug/L	100	98	100	97	102	70-130	5	20	
Ethene	ug/L	140	140	150	98	103	70-130	5	20	
Methane	ug/L	490	470	480	96	99	70-130	3	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 683445 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

METHOD BLANK: 2763564 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/19/20 20:03	

LABORATORY CONTROL SAMPLE: 2763565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4930	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2763566 2763567

Parameter	Units	60350359002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6180	5000	5000	10700	10800	90	93	75-125	1	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 681489
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005, 60350359006, 60350359007, 60350359008

METHOD BLANK: 2754716
Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005, 60350359006, 60350359007, 60350359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/08/20 08:23	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/08/20 08:23	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/08/20 08:23	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/08/20 08:23	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/08/20 08:23	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/08/20 08:23	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/08/20 08:23	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/08/20 08:23	
2-Hexanone	ug/L	ND	10.0	1.5	10/08/20 08:23	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/08/20 08:23	
Acetone	ug/L	ND	10.0	4.7	10/08/20 08:23	
Benzene	ug/L	ND	1.0	0.088	10/08/20 08:23	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/08/20 08:23	
Bromoform	ug/L	ND	1.0	0.38	10/08/20 08:23	
Bromomethane	ug/L	ND	5.0	0.99	10/08/20 08:23	
Carbon disulfide	ug/L	ND	5.0	0.24	10/08/20 08:23	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/08/20 08:23	
Chlorobenzene	ug/L	ND	1.0	0.23	10/08/20 08:23	
Chloroethane	ug/L	ND	1.0	0.38	10/08/20 08:23	
Chloroform	ug/L	ND	1.0	0.17	10/08/20 08:23	
Chloromethane	ug/L	ND	1.0	0.44	10/08/20 08:23	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/08/20 08:23	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/08/20 08:23	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/08/20 08:23	
Ethylbenzene	ug/L	ND	1.0	0.18	10/08/20 08:23	
Methylene Chloride	ug/L	ND	1.0	0.81	10/08/20 08:23	
Styrene	ug/L	ND	1.0	0.17	10/08/20 08:23	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/08/20 08:23	
Toluene	ug/L	ND	1.0	0.18	10/08/20 08:23	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/08/20 08:23	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/08/20 08:23	
Trichloroethene	ug/L	ND	1.0	0.25	10/08/20 08:23	
Vinyl chloride	ug/L	ND	1.0	0.25	10/08/20 08:23	
Xylene (Total)	ug/L	ND	3.0	0.54	10/08/20 08:23	
1,2-Dichloroethane-d4 (S)	%	95	86-117		10/08/20 08:23	
4-Bromofluorobenzene (S)	%	100	80-120		10/08/20 08:23	
Toluene-d8 (S)	%	101	80-120		10/08/20 08:23	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

LABORATORY CONTROL SAMPLE: 2754717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.5	98	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	78-118	
1,1,2-Trichloroethane	ug/L	20	20.1	101	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	21.7	108	81-124	
1,2-Dichloroethane	ug/L	20	18.8	94	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	103	103	70-125	
2-Hexanone	ug/L	100	106	106	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	73-131	
Acetone	ug/L	100	133	133	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.0	100	82-123	
Bromoform	ug/L	20	18.3	91	66-133	
Bromomethane	ug/L	20	16.8	84	27-179	
Carbon disulfide	ug/L	20	25.3	127	72-134	
Carbon tetrachloride	ug/L	20	20.2	101	80-121	
Chlorobenzene	ug/L	20	19.5	97	80-120	
Chloroethane	ug/L	20	21.8	109	78-145	
Chloroform	ug/L	20	19.2	96	84-116	
Chloromethane	ug/L	20	16.4	82	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.3	97	85-117	
Dibromochloromethane	ug/L	20	20.0	100	82-122	
Ethylbenzene	ug/L	20	18.7	93	79-115	
Methylene Chloride	ug/L	20	20.5	102	80-126	
Styrene	ug/L	20	20.5	103	80-117	
Tetrachloroethene	ug/L	20	20.0	100	83-119	
Toluene	ug/L	20	19.9	99	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.9	104	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	83-117	
Trichloroethene	ug/L	20	19.5	97	80-118	
Vinyl chloride	ug/L	20	22.8	114	76-144	
Xylene (Total)	ug/L	60	59.6	99	82-120	
1,2-Dichloroethane-d4 (S)	%			99	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 681672
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350359004

METHOD BLANK: 2755339 Matrix: Water
Associated Lab Samples: 60350359004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	0.25	10/09/20 01:54	
1,2-Dichloroethane-d4 (S)	%	96	86-117		10/09/20 01:54	
4-Bromofluorobenzene (S)	%	100	80-120		10/09/20 01:54	
Toluene-d8 (S)	%	102	80-120		10/09/20 01:54	

LABORATORY CONTROL SAMPLE: 2755340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	19.8	99	80-118	
1,2-Dichloroethane-d4 (S)	%			97	86-117	
4-Bromofluorobenzene (S)	%			96	80-120	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 681761
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359003

METHOD BLANK: 2755908 Matrix: Water
Associated Lab Samples: 60350359003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/09/20 11:47	

LABORATORY CONTROL SAMPLE: 2755909

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	99	80-120	

MATRIX SPIKE SAMPLE: 2755911

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.5	0.44	88	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756466 2756467

Parameter	Units	60350560003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.52	0.52	96	97	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756468 2756469

Parameter	Units	60350562001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.50	0.50	97	96	75-125	2	20	

SAMPLE DUPLICATE: 2755912

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 682950
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

METHOD BLANK: 2760607 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/15/20 09:34	
Sulfate	mg/L	ND	1.0	0.28	10/15/20 09:34	

METHOD BLANK: 2761779 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/16/20 09:16	
Sulfate	mg/L	ND	1.0	0.28	10/16/20 09:16	

METHOD BLANK: 2763910 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/19/20 09:07	
Sulfate	mg/L	ND	1.0	0.28	10/19/20 09:07	

LABORATORY CONTROL SAMPLE: 2760608

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	105	90-110	
Sulfate	mg/L	5	5.2	105	90-110	

LABORATORY CONTROL SAMPLE: 2761780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	105	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

LABORATORY CONTROL SAMPLE: 2763911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.2	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760609 2760610

Parameter	Units	60350800001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	176	100	100	313	313	137	137	80-120	0	15	M1
Sulfate	mg/L	718	500	500	1400	1410	137	139	80-120	0	15	M1

MATRIX SPIKE SAMPLE: 2760611

Parameter	Units	60350359002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	167	250	514	139	80-120	M1
Sulfate	mg/L	99.8	50	70.6	-58	80-120	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 681232
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

METHOD BLANK: 2753535 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/07/20 08:47	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/07/20 08:47	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/07/20 08:47	

LABORATORY CONTROL SAMPLE: 2753536

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	0.99	99	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 2753539

Parameter	Units	60350410002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	<0.10	1	1.1	114	70-130	
Nitrogen, Nitrite	mg/L	<0.10	1	1.1	113	90-110	M1
Nitrogen, NO2 plus NO3	mg/L	<0.10	2	2.3	114	90-110	M1

SAMPLE DUPLICATE: 2753538

Parameter	Units	60350359004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	16.7	16.8	1	20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	16.7	16.8	1	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 681758 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

METHOD BLANK: 2755895 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/12/20 18:16	

METHOD BLANK: 2758179 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359003, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/13/20 11:02	

LABORATORY CONTROL SAMPLE: 2755896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.1	103	80-120	

LABORATORY CONTROL SAMPLE: 2758180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.2	105	80-120	

MATRIX SPIKE SAMPLE: 2755897

Parameter	Units	60349941003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	0.63J	5	1.6	19	80-120	M1

SAMPLE DUPLICATE: 2755898

Parameter	Units	60349941005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	4.6	4.7	3	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 684936
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350359001, 60350359002, 60350359004, 60350359005

METHOD BLANK: 2768895 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 01:05	

LABORATORY CONTROL SAMPLE: 2768896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.5	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2768897 2768899

Parameter	Units	10534691004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	1.6	5	5	7.1	6.9	109	106	80-120	3	25	

SAMPLE DUPLICATE: 2768898

Parameter	Units	10534691004 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	1.6	1.6	1	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

QC Batch: 694283
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350359001, 60350359002, 60350359004, 60350359005

METHOD BLANK: 2094529 Matrix: Water
Associated Lab Samples: 60350359001, 60350359002, 60350359004, 60350359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/09/20 17:22	
Butyric Acid	mg/L	ND	0.50	0.058	10/09/20 17:22	
Formic acid	mg/L	ND	0.50	0.055	10/09/20 17:22	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/09/20 17:22	
Lactic Acid	mg/L	ND	0.50	0.053	10/09/20 17:22	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/09/20 17:22	
Propionic Acid	mg/L	ND	0.50	0.053	10/09/20 17:22	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/09/20 17:22	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/09/20 17:22	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/09/20 17:22	

LABORATORY CONTROL SAMPLE & LCSD: 2094530 2094531

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetic Acid	mg/L	2	2.0	2.0	98	98	70-130	0	20	
Butyric Acid	mg/L	2	2.0	2.0	101	100	70-130	1	20	
Formic acid	mg/L	2	2.0	2.0	99	99	70-130	0	20	
Hexanoic Acid	mg/L	2	1.9	1.9	95	96	70-130	1	20	
Lactic Acid	mg/L	2	2.0	2.0	101	103	70-130	2	20	
Pentanoic Acid	mg/L	2	1.9	1.9	96	95	70-130	0	20	
Propionic Acid	mg/L	2	2.0	2.0	100	100	70-130	0	20	
Pyruvic Acid	mg/L	2	1.8	1.7	88	86	70-130	2	20	
i-Hexanoic Acid	mg/L	2	1.9	1.9	96	98	70-130	2	20	
i-Pentanoic Acid	mg/L	2	2.0	2.0	100	99	70-130	1	20	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681489

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350359

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350359001	TMW-10-202010	AM20GAX	694729		
60350359002	TMW-11-202010	AM20GAX	694729		
60350359003	MW-50R-202010	AM20GAX	694729		
60350359004	MW-36-202010	AM20GAX	694729		
60350359005	TMW-19-202010	AM20GAX	694729		
60350359001	TMW-10-202010	EPA 3010	683445	EPA 6010	683462
60350359002	TMW-11-202010	EPA 3010	683445	EPA 6010	683462
60350359003	MW-50R-202010	EPA 3010	683445	EPA 6010	683462
60350359004	MW-36-202010	EPA 3010	683445	EPA 6010	683462
60350359005	TMW-19-202010	EPA 3010	683445	EPA 6010	683462
60350359001	TMW-10-202010	EPA 5030B/8260	681489		
60350359002	TMW-11-202010	EPA 5030B/8260	681489		
60350359003	MW-50R-202010	EPA 5030B/8260	681489		
60350359004	MW-36-202010	EPA 5030B/8260	681489		
60350359004	MW-36-202010	EPA 5030B/8260	681672		
60350359005	TMW-19-202010	EPA 5030B/8260	681489		
60350359006	TMW-29-202010	EPA 5030B/8260	681489		
60350359007	TMW-36B-202010	EPA 5030B/8260	681489		
60350359008	TB-01-202010	EPA 5030B/8260	681489		
60350359003	MW-50R-202010	SM 4500-S-2 D	681761		
60350359001	TMW-10-202010	EPA 300.0	682950		
60350359002	TMW-11-202010	EPA 300.0	682950		
60350359003	MW-50R-202010	EPA 300.0	682950		
60350359004	MW-36-202010	EPA 300.0	682950		
60350359005	TMW-19-202010	EPA 300.0	682950		
60350359001	TMW-10-202010	EPA 353.2	681232		
60350359002	TMW-11-202010	EPA 353.2	681232		
60350359003	MW-50R-202010	EPA 353.2	681232		
60350359004	MW-36-202010	EPA 353.2	681232		
60350359005	TMW-19-202010	EPA 353.2	681232		
60350359001	TMW-10-202010	SM 5310C	681758		
60350359002	TMW-11-202010	SM 5310C	681758		
60350359003	MW-50R-202010	SM 5310C	681758		
60350359004	MW-36-202010	SM 5310C	681758		
60350359005	TMW-19-202010	SM 5310C	681758		
60350359001	TMW-10-202010	SM 5310C	684936		
60350359002	TMW-11-202010	SM 5310C	684936		
60350359004	MW-36-202010	SM 5310C	684936		
60350359005	TMW-19-202010	SM 5310C	684936		
60350359001	TMW-10-202010	AM23G	694283		
60350359002	TMW-11-202010	AM23G	694283		
60350359004	MW-36-202010	AM23G	694283		
60350359005	TMW-19-202010	AM23G	694283		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

WO# : 60350359

60350359

korder Number or MTJL Log-in

USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
	Quote # / DW Location Code #:
Collected by (signature):	Turnaround Date Required: Standard / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:_____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: 3 | iu | iu | iu | 2 | iu | 1 | TSP | 0 | TSP

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other BAF

Lab Project Manager: Jamie Church

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene
TMW-10-202010	GW	G	10/5/20	1710	n/a	n/a		12	X	X	X	X	X	X	X	X	X	X
TMW-11-202010				1715				12	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
MW-50R-202010				1635				10										
MW-36-202010				1620				12		X				X			X	
TMW-19-202010				1621				12		X	↓	↓	↓	X	↓	↓	X	
TMW-29-202010				1640				3										
TMW-36B-202010				1750				3										
TB-01-202010								2	↓									
									N/A									

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	Y	(N)	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	Y	(N)	NA
USDA Regulated Soils	Y	(N)	NA
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:_____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: L03173			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:_____			

L0350359

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (✓) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: Bubble Wrap, Bubble bags, Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [X] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:_____

ACCT #:_____

Template:_____

Prelogin:_____

PM:_____

PB:_____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID#: T295

Cooler Temp Upon Receipt 4.0 oC

Cooler Therm Corr. Factor +0.3 oC

Cooler Temp Corrected 4.3 oC

Comments:_____

Trip Blank Received: (Y) N N/A

HCL MeOH TSP Other

NonConformance(s): (YES) / NO

Page _____ of _____

Relinquished by/Company : (Signature) Haley Ahlers / Ramboll	Date/Time:	Received by/Company : (Signature) S Rhoades / Pace	Date/Time: 10/6/20 0130
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical
www.pacelabs.com

Sample Receiving Non-Conformance Form (NCF)

Date: 10/4/20	**Evaluated by:** Sheri R
Client: Ramboll	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350359

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed	X	Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

COC Id Listed MW-36-202010
Samples Listed with Id TMW-36-202010
TMW-36-202010 - We received 6Dg9H

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered		Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 29, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

REV-1, 10/29/20: Change sample ID TMW-20-202010 to ITMW-20-202010.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350519001	MW-187-202010	Water	10/06/20 09:25	10/07/20 06:40
60350519002	MW-61R-202010	Water	10/06/20 09:53	10/07/20 06:40
60350519003	MW-176-202010	Water	10/06/20 10:14	10/07/20 06:40
60350519004	MW-60R-202010	Water	10/06/20 09:50	10/07/20 06:40
60350519005	MW-189-202010	Water	10/06/20 10:15	10/07/20 06:40
60350519006	MW-188-202010	Water	10/06/20 10:50	10/07/20 06:40
60350519007	MW-40R-202010	Water	10/06/20 14:00	10/07/20 06:40
60350519008	MW-91-202010	Water	10/06/20 14:20	10/07/20 06:40
60350519009	MW-195-202010	Water	10/06/20 14:15	10/07/20 06:40
60350519010	MW-62R-202010	Water	10/06/20 15:30	10/07/20 06:40
60350519011	TMW-20-202010	Water	10/06/20 15:10	10/07/20 06:40
60350519012	MW-29-202010	Water	10/06/20 15:40	10/07/20 06:40
60350519013	MW-55R-202010	Water	10/06/20 15:26	10/07/20 06:40
60350519014	MW-63R-202010	Water	10/06/20 11:25	10/07/20 06:40
60350519015	MW-197-202010	Water	10/06/20 10:42	10/07/20 06:40
60350519016	MW-39R-202010	Water	10/06/20 11:40	10/07/20 06:40
60350519017	TMW-22R-202010	Water	10/06/20 12:06	10/07/20 06:40
60350519018	ITMW-20-202010	Water	10/06/20 12:33	10/07/20 06:40
60350519019	MW-175-202010	Water	10/06/20 12:05	10/07/20 06:40
60350519020	MW-199-202010	Water	10/06/20 12:45	10/07/20 06:40
60350519021	TMW-35-202010	Water	10/06/20 12:45	10/07/20 06:40
60350519022	MW-196-202010	Water	10/06/20 13:41	10/07/20 06:40
60350519023	RW-69-202010	Water	10/06/20 16:27	10/07/20 06:40
60350519024	MW-68-202010	Water	10/06/20 16:45	10/07/20 06:40
60350519025	TMW-21-202010	Water	10/06/20 17:00	10/07/20 06:40
60350519026	MW-56R-202010	Water	10/06/20 17:10	10/07/20 06:40
60350519027	MW-84-202010	Water	10/06/20 17:12	10/07/20 06:40
60350519028	TMW-24-202010	Water	10/06/20 17:31	10/07/20 06:40
60350519029	TB-02-202010	Water	10/06/20 08:00	10/07/20 06:40
60350519030	TB-03-202010	Water	10/06/20 08:00	10/07/20 06:40
60350519031	TB-04-202010	Water	10/06/20 08:00	10/07/20 06:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350519001	**MW-187-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519002	**MW-61R-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK, VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519003	**MW-176-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350519004	**MW-60R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519005	**MW-189-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519006	**MW-188-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519007	**MW-40R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519008	**MW-91-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		EPA 300.0	MJK, VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519009	**MW-195-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519010	**MW-62R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519011	**TMW-20-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519012	**MW-29-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519013	**MW-55R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519014	**MW-63R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519015	**MW-197-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519016	**MW-39R-202010**	EPA 5030B/8260	PGH	38	PASI-K

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350519017	**TMW-22R-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519018	**ITMW-20-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519019	**MW-175-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519020	**MW-199-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350519021	**TMW-35-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519022	**MW-196-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519023	**RW-69-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	VRP	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350519024	**MW-68-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519025	**TMW-21-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		EPA 300.0	VRP	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350519026	**MW-56R-202010**	EPA 5030B/8260	EAG	38	PASI-K
60350519027	**MW-84-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519028	**TMW-24-202010**	EPA 5030B/8260	EAG	38	PASI-K
60350519029	**TB-02-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519030	**TB-03-202010**	EPA 5030B/8260	CJC	38	PASI-K
60350519031	**TB-04-202010**	EPA 5030B/8260	CJC	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: October 29, 2020

General Information:
6 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: October 29, 2020

General Information:
6 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 29, 2020

General Information:
31 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 682080

S0: Surrogate recovery outside laboratory control limits.

- MW-196-202010 (Lab ID: 60350519022)
  - 1,2-Dichloroethane-d4 (S)
- MW-84-202010 (Lab ID: 60350519027)
  - 1,2-Dichloroethane-d4 (S)
- RW-69-202010 (Lab ID: 60350519023)
  - 1,2-Dichloroethane-d4 (S)
- TMW-21-202010 (Lab ID: 60350519025)
  - 1,2-Dichloroethane-d4 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 681636

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2755238)
  - Acetone

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 29, 2020

QC Batch: 682080

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2757494)
  - Acetone

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681636

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519005,60350519006,60350519007,60350519009

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2755240)
  - Acetone
- MS (Lab ID: 2755242)
  - Acetone
- MS (Lab ID: 2755244)
  - Acetone
- MS (Lab ID: 2755246)
  - Acetone
- MSD (Lab ID: 2755241)
  - Acetone
- MSD (Lab ID: 2755243)
  - Acetone
- MSD (Lab ID: 2755245)
  - Acetone

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 2755247)
  - Styrene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2755247)
  - Styrene

QC Batch: 682080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2757510)
  - Tetrachloroethene
  - Trichloroethene
  - trans-1,2-Dichloroethene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2757511)
  - Carbon disulfide

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 29, 2020

QC Batch: 682464

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: October 29, 2020

General Information:
1 sample was analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 29, 2020

General Information:
6 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 683228

B: Analyte was detected in the associated method blank.

- BLANK for HBN 683228 [WETA/724 (Lab ID: 2765218)
  - Chloride

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683228

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519005,60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2761796)
  - Chloride
- MS (Lab ID: 2761798)
  - Chloride
  - Sulfate
- MSD (Lab ID: 2761797)
  - Chloride
- MSD (Lab ID: 2761799)
  - Chloride
  - Sulfate

R1: RPD value was outside control limits.

- MSD (Lab ID: 2761797)
  - Chloride

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 29, 2020

Analyte Comments:

QC Batch: 683228

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2761796)
  - Chloride
- MSD (Lab ID: 2761797)
  - Chloride

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: October 29, 2020

General Information:
6 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.
- MW-61R-202010 (Lab ID: 60350519002)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681487

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350513004,60350519005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 2754709)
  - Nitrogen, Nitrite

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: October 29, 2020

General Information:
6 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683781

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519005,60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2764417)
  - Total Organic Carbon

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: October 29, 2020

General Information:
5 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: October 29, 2020

General Information:
5 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-187-202010 **Lab ID: 60350519001** Collected: 10/06/20 09:25 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 08:29	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 08:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 08:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 08:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 08:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 08:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 08:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 08:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 08:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 08:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 08:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 08:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 08:29	124-48-1	
1,1-Dichloroethane	**0.67J**	ug/L	1.0	0.098	1		10/09/20 08:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 08:29	107-06-2	
1,1-Dichloroethene	**0.50J**	ug/L	1.0	0.21	1		10/09/20 08:29	75-35-4	
cis-1,2-Dichloroethene	**3.7**	ug/L	1.0	0.15	1		10/09/20 08:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 08:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 08:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 08:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 08:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 08:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 08:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 08:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 08:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 08:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 08:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:29	79-00-5	
Trichloroethene	**9.8**	ug/L	1.0	0.25	1		10/09/20 08:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 08:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 08:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 08:29	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/09/20 08:29	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 08:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 08:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-61R-202010 **Lab ID: 60350519002** Collected: 10/06/20 09:53 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/16/20 18:46	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/16/20 18:46	74-85-1	
Methane	**1900**	ug/L	5.0	2.5	1		10/16/20 18:46	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**11000**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:23	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 08:44	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 08:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 08:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 08:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 08:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 08:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 08:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 08:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 08:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 08:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 08:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 08:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 08:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 08:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 08:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 08:44	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/09/20 08:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 08:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 08:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 08:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 08:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 08:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 08:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 08:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 08:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 08:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 08:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:44	79-00-5	
Trichloroethene	**15.8**	ug/L	1.0	0.25	1		10/09/20 08:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 08:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 08:44	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-61R-202010 **Lab ID: 60350519002** Collected: 10/06/20 09:53 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 08:44	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/09/20 08:44	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 08:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 08:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**112**	mg/L	20.0	7.8	20		10/16/20 18:32	16887-00-6	
Sulfate	**10.8**	mg/L	1.0	0.28	1		10/19/20 12:13	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 13:54		H1
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 13:54	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 13:54	14797-65-0	H1
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.50J**	mg/L	1.0	0.36	1		10/24/20 09:29	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.60J**	mg/L	1.0	0.36	1		10/26/20 11:35		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**14**	mg/L	5.0	1.2	10		10/13/20 00:12	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 00:12	107-92-6	
Formic acid	**45**	mg/L	5.0	0.55	10		10/13/20 00:12	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 00:12	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 00:12	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 00:12	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/13/20 00:12	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 00:12	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 00:12	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 00:12	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-176-202010 **Lab ID: 60350519003** Collected: 10/06/20 10:14 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**12.6**	ug/L	10.0	4.7	1		10/09/20 12:50	67-64-1	L1
Benzene	**0.13J**	ug/L	1.0	0.088	1		10/09/20 12:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:50	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:50	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:50	74-83-9	
2-Butanone (MEK)	**3.2J**	ug/L	10.0	2.4	1		10/09/20 12:50	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 12:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 12:50	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 12:50	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:50	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 12:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:50	107-06-2	
1,1-Dichloroethene	**2.8**	ug/L	1.0	0.21	1		10/09/20 12:50	75-35-4	
cis-1,2-Dichloroethene	**28.2**	ug/L	1.0	0.15	1		10/09/20 12:50	156-59-2	
trans-1,2-Dichloroethene	**0.90J**	ug/L	1.0	0.15	1		10/09/20 12:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:50	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:50	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 12:50	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:50	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 12:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:50	79-00-5	
Trichloroethene	**359**	ug/L	10.0	2.5	10		10/13/20 19:29	79-01-6	
Vinyl chloride	**29.4**	ug/L	1.0	0.25	1		10/09/20 12:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/09/20 12:50	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 12:50	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:50	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:50		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-60R-202010 **Lab ID: 60350519004** Collected: 10/06/20 09:50 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 08:58	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 08:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 08:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 08:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 08:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 08:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 08:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 08:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 08:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 08:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 08:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 08:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 08:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 08:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 08:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 08:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 08:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 08:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 08:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 08:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 08:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 08:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 08:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 08:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 08:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 08:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 08:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 08:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 08:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 08:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 08:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 08:58	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 08:58	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/09/20 08:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 08:58		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-189-202010 **Lab ID: 60350519005** Collected: 10/06/20 10:15 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/16/20 18:57	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/16/20 18:57	74-85-1	
Methane	**5.1**	ug/L	5.0	2.5	1		10/16/20 18:57	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**28.2J**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:26	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:01	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:01	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:01	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:01	75-00-3	
Chloroform	**0.32J**	ug/L	1.0	0.17	1		10/13/20 20:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:01	124-48-1	
1,1-Dichloroethane	**0.69J**	ug/L	1.0	0.098	1		10/13/20 20:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:01	107-06-2	
1,1-Dichloroethene	**0.85J**	ug/L	1.0	0.21	1		10/13/20 20:01	75-35-4	
cis-1,2-Dichloroethene	**7.2**	ug/L	1.0	0.15	1		10/13/20 20:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:01	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:01	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:01	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:01	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:01	79-00-5	
Trichloroethene	**359**	ug/L	10.0	2.5	10		10/09/20 13:04	79-01-6	
Vinyl chloride	**0.44J**	ug/L	1.0	0.25	1		10/13/20 20:01	75-01-4	
Xylene (Total)	ND	ug/L	30.0	5.4	10		10/09/20 13:04	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-189-202010 **Lab ID: 60350519005** Collected: 10/06/20 10:15 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		10/13/20 20:01	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/13/20 20:01	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 20:01	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**192**	mg/L	10.0	3.9	10		10/19/20 12:27	16887-00-6	M1,R1
Sulfate	**78.0**	mg/L	10.0	2.8	10		10/19/20 12:27	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**24.9**	mg/L	1.0	0.58	10		10/08/20 07:59		
Nitrogen, Nitrate	**24.9**	mg/L	1.0	0.63	10		10/08/20 07:59	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	1.0	0.63	10		10/08/20 07:59	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.46J**	mg/L	1.0	0.36	1		10/24/20 09:42	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.50J**	mg/L	1.0	0.36	1		10/27/20 15:03		D9
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**10**	mg/L	5.0	1.2	10		10/13/20 02:52	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 02:52	107-92-6	
Formic acid	**50**	mg/L	5.0	0.55	10		10/13/20 02:52	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 02:52	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 02:52	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 02:52	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/13/20 02:52	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 02:52	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 02:52	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 02:52	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-188-202010 **Lab ID: 60350519006** Collected: 10/06/20 10:50 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:12	67-64-1	L1,M0
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:12	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:12	75-35-4	
cis-1,2-Dichloroethene	**1.3**	ug/L	1.0	0.15	1		10/09/20 09:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:12	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:12	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:12	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:12	79-00-5	
Trichloroethene	**11.7**	ug/L	1.0	0.25	1		10/09/20 09:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/09/20 09:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/09/20 09:12	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 09:12	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:12		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-40R-202010 **Lab ID: 60350519007** Collected: 10/06/20 14:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:27	67-64-1	L1,M0
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 09:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 09:27	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 09:27	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/09/20 09:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-91-202010 **Lab ID: 60350519008** Collected: 10/06/20 14:20 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.80J**	ug/L	1.0	0.075	1		10/16/20 19:10	74-84-0	
Ethene	**2.6**	ug/L	1.0	0.12	1		10/16/20 19:10	74-85-1	
Methane	**6900**	ug/L	5.0	2.5	1		10/16/20 19:10	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**24200**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:41	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**77.5**	ug/L	10.0	4.7	1		10/13/20 19:45	67-64-1	
Benzene	**0.19J**	ug/L	1.0	0.088	1		10/09/20 12:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:35	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:35	74-83-9	
2-Butanone (MEK)	**131**	ug/L	10.0	2.4	1		10/09/20 12:35	78-93-3	
Carbon disulfide	**1.3J**	ug/L	5.0	0.24	1		10/09/20 12:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 12:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 12:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:35	124-48-1	
1,1-Dichloroethane	**0.21J**	ug/L	1.0	0.098	1		10/09/20 12:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:35	107-06-2	
1,1-Dichloroethene	**0.76J**	ug/L	1.0	0.21	1		10/09/20 12:35	75-35-4	
cis-1,2-Dichloroethene	**136**	ug/L	1.0	0.15	1		10/09/20 12:35	156-59-2	
trans-1,2-Dichloroethene	**0.41J**	ug/L	1.0	0.15	1		10/09/20 12:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	**8.5J**	ug/L	10.0	1.4	1		10/09/20 12:35	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:35	79-34-5	
Tetrachloroethene	**0.37J**	ug/L	1.0	0.15	1		10/09/20 12:35	127-18-4	
Toluene	**2.2**	ug/L	1.0	0.18	1		10/09/20 12:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:35	79-00-5	
Trichloroethene	**51.9**	ug/L	1.0	0.25	1		10/09/20 12:35	79-01-6	
Vinyl chloride	**0.67J**	ug/L	1.0	0.25	1		10/09/20 12:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:35	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-91-202010 **Lab ID: 60350519008** Collected: 10/06/20 14:20 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/09/20 12:35	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/09/20 12:35	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:35	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:35		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**127**	mg/L	20.0	7.8	20		10/19/20 13:39	16887-00-6	
Sulfate	**1.3**	mg/L	1.0	0.28	1		10/16/20 20:42	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:10		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:10	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**68.5**	mg/L	10.0	3.6	10		10/24/20 10:22	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**52.9**	mg/L	5.0	1.8	5		10/27/20 15:57		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**24**	mg/L	5.0	1.2	10		10/13/20 03:45	64-19-7	
Butyric Acid	**1.8J**	mg/L	5.0	0.58	10		10/13/20 03:45	107-92-6	
Formic acid	**45**	mg/L	5.0	0.55	10		10/13/20 03:45	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 03:45	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 03:45	50-21-5	
Pentanoic Acid	**0.87J**	mg/L	5.0	0.56	10		10/13/20 03:45	109-52-4	
Propionic Acid	**32**	mg/L	5.0	0.53	10		10/13/20 03:45	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 03:45	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 03:45	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 03:45	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-195-202010 **Lab ID: 60350519009** Collected: 10/06/20 14:15 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:41	67-64-1	L1,M0
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:41	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:41	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:41	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:41	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:41	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:41	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:41	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:41	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:41	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:41	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:41	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:41	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:41	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:41	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:41	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:41	100-42-5	M1,R1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:41	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:41	79-00-5	
Trichloroethene	**0.35J**	ug/L	1.0	0.25	1		10/09/20 09:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 09:41	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 09:41	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 09:41	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:41		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-62R-202010 **Lab ID: 60350519010** Collected: 10/06/20 15:30 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 09:56	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 09:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 09:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 09:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 09:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 09:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 09:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 09:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 09:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 09:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 09:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 09:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 09:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 09:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 09:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 09:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 09:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 09:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 09:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 09:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 09:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 09:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 09:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 09:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 09:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 09:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 09:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 09:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 09:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 09:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 09:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/09/20 09:56	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 09:56	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 09:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 09:56		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-20-202010 **Lab ID: 60350519011** Collected: 10/06/20 15:10 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:10	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 10:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:10	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:10	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 10:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:10	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:10	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 10:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:10	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:10	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:10	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 10:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 10:10	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 10:10	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:10	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:10		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-29-202010 **Lab ID: 60350519012** Collected: 10/06/20 15:40 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:25	67-64-1	L1
Benzene	**0.17J**	ug/L	1.0	0.088	1		10/09/20 10:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:25	56-23-5	
Chlorobenzene	**9.0**	ug/L	1.0	0.23	1		10/09/20 10:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:25	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 10:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:25	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 10:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		10/09/20 10:25	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 10:25	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:25		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-55R-202010 **Lab ID: 60350519013** Collected: 10/06/20 15:26 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:39	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 10:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:39	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:39	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:39	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 10:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:39	107-06-2	
1,1-Dichloroethene	**0.32J**	ug/L	1.0	0.21	1		10/09/20 10:39	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	1.0	0.15	1		10/09/20 10:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:39	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:39	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:39	79-00-5	
Trichloroethene	**29.9**	ug/L	1.0	0.25	1		10/09/20 10:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 10:39	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 10:39	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:39	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:39		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-63R-202010 **Lab ID: 60350519014** Collected: 10/06/20 11:25 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 10:54	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 10:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 10:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 10:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 10:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 10:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 10:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 10:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 10:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 10:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 10:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 10:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 10:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 10:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 10:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 10:54	75-35-4	
cis-1,2-Dichloroethene	**0.81J**	ug/L	1.0	0.15	1		10/09/20 10:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 10:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 10:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 10:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 10:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 10:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 10:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 10:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 10:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 10:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 10:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 10:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 10:54	79-00-5	
Trichloroethene	**7.1**	ug/L	1.0	0.25	1		10/09/20 10:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 10:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 10:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 10:54	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 10:54	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 10:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 10:54		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-197-202010 **Lab ID: 60350519015** Collected: 10/06/20 10:42 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 12:06	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 12:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 12:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 12:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:06	56-23-5	
Chlorobenzene	**1.7**	ug/L	1.0	0.23	1		10/09/20 12:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 12:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 12:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 12:06	75-35-4	
cis-1,2-Dichloroethene	**8.4**	ug/L	1.0	0.15	1		10/09/20 12:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 12:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 12:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:06	79-00-5	
Trichloroethene	**20.1**	ug/L	1.0	0.25	1		10/09/20 12:06	79-01-6	
Vinyl chloride	**0.96J**	ug/L	1.0	0.25	1		10/09/20 12:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		10/09/20 12:06	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 12:06	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-39R-202010 **Lab ID: 60350519016** Collected: 10/06/20 11:40 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:08	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 11:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 11:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 11:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:08	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 11:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 11:08	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 11:08	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 11:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/09/20 11:08	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 11:08	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 11:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:08		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-22R-202010 **Lab ID: 60350519017** Collected: 10/06/20 12:06 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**4.8**	ug/L	1.0	0.075	1		10/16/20 19:21	74-84-0	
Ethene	**12**	ug/L	1.0	0.12	1		10/16/20 19:21	74-85-1	
Methane	**5500**	ug/L	5.0	2.5	1		10/16/20 19:21	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**13700**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:43	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 12:20	67-64-1	L1
Benzene	**0.17J**	ug/L	1.0	0.088	1		10/09/20 12:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 12:20	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 12:20	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 12:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 12:20	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 12:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 12:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 12:20	108-90-7	
Chloroethane	**3.3**	ug/L	1.0	0.38	1		10/09/20 12:20	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 12:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 12:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 12:20	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 12:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 12:20	107-06-2	
1,1-Dichloroethene	**0.42J**	ug/L	1.0	0.21	1		10/09/20 12:20	75-35-4	
cis-1,2-Dichloroethene	**70.3**	ug/L	1.0	0.15	1		10/09/20 12:20	156-59-2	
trans-1,2-Dichloroethene	**1.2**	ug/L	1.0	0.15	1		10/09/20 12:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 12:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 12:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 12:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 12:20	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 12:20	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 12:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 12:20	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 12:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 12:20	127-18-4	
Toluene	**0.28J**	ug/L	1.0	0.18	1		10/09/20 12:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 12:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 12:20	79-00-5	
Trichloroethene	**56.6**	ug/L	1.0	0.25	1		10/09/20 12:20	79-01-6	
Vinyl chloride	**15.4**	ug/L	1.0	0.25	1		10/09/20 12:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 12:20	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-22R-202010 **Lab ID: 60350519017** Collected: 10/06/20 12:06 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 12:20	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 12:20	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 12:20	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**199**	mg/L	50.0	19.4	50		10/16/20 21:25	16887-00-6	B
Sulfate	**2.1**	mg/L	1.0	0.28	1		10/16/20 21:10	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:02		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:02	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:02	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.62J**	mg/L	1.0	0.36	1		10/26/20 08:09	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**1.0**	mg/L	1.0	0.36	1		10/27/20 16:10		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**11**	mg/L	5.0	1.2	10		10/13/20 04:39	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 04:39	107-92-6	
Formic acid	**43**	mg/L	5.0	0.55	10		10/13/20 04:39	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 04:39	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 04:39	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 04:39	109-52-4	
Propionic Acid	ND	mg/L	5.0	0.53	10		10/13/20 04:39	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 04:39	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 04:39	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 04:39	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: ITMW-20-202010 **Lab ID: 60350519018** Collected: 10/06/20 12:33 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:22	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 11:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 11:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 11:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 11:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 11:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 11:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 11:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 11:22	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/09/20 11:22	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/09/20 11:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-175-202010 **Lab ID: 60350519019** Collected: 10/06/20 12:05 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:37	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 11:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:37	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:37	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 11:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:37	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 11:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:37	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 11:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:37	107-06-2	
1,1-Dichloroethene	**0.26J**	ug/L	1.0	0.21	1		10/09/20 11:37	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	0.15	1		10/09/20 11:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:37	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:37	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:37	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:37	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:37	79-00-5	
Trichloroethene	**69.5**	ug/L	1.0	0.25	1		10/09/20 11:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 11:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 11:37	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 11:37	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/09/20 11:37	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:37		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-199-202010 **Lab ID: 60350519020** Collected: 10/06/20 12:45 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 11:51	67-64-1	L1
Benzene	**0.15J**	ug/L	1.0	0.088	1		10/09/20 11:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 11:51	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 11:51	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 11:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 11:51	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 11:51	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 11:51	56-23-5	
Chlorobenzene	**0.62J**	ug/L	1.0	0.23	1		10/09/20 11:51	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 11:51	75-00-3	
Chloroform	**0.22J**	ug/L	1.0	0.17	1		10/09/20 11:51	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 11:51	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 11:51	124-48-1	
1,1-Dichloroethane	**0.24J**	ug/L	1.0	0.098	1		10/09/20 11:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 11:51	107-06-2	
1,1-Dichloroethene	**0.49J**	ug/L	1.0	0.21	1		10/09/20 11:51	75-35-4	
cis-1,2-Dichloroethene	**6.7**	ug/L	1.0	0.15	1		10/09/20 11:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 11:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 11:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 11:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 11:51	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 11:51	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 11:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 11:51	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 11:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 11:51	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 11:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 11:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 11:51	79-00-5	
Trichloroethene	**92.3**	ug/L	1.0	0.25	1		10/09/20 11:51	79-01-6	
Vinyl chloride	**0.35J**	ug/L	1.0	0.25	1		10/09/20 11:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 11:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 11:51	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/09/20 11:51	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 11:51	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 11:51		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-35-202010 **Lab ID: 60350519021** Collected: 10/06/20 12:45 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 14:58	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 14:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 14:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 14:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 14:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 14:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 14:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 14:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 14:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 14:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 14:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 14:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 14:58	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 14:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 14:58	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 14:58	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 14:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 14:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 14:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 14:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 14:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 14:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 14:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 14:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 14:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 14:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 14:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 14:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 14:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 14:58	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/13/20 14:58	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 14:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 14:58		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-196-202010 **Lab ID: 60350519022** Collected: 10/06/20 13:41 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 15:13	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 15:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 15:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 15:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 15:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 15:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 15:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 15:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 15:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 15:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 15:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 15:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 15:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 15:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 15:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 15:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 15:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 15:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 15:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 15:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 15:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 15:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 15:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 15:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 15:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 15:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:13	79-00-5	
Trichloroethene	**0.54J**	ug/L	1.0	0.25	1		10/13/20 15:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 15:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 15:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	80-120		1		10/13/20 15:13	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	86-117		1		10/13/20 15:13	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 15:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 15:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: RW-69-202010 **Lab ID: 60350519023** Collected: 10/06/20 16:27 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/16/20 19:33	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/16/20 19:33	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/16/20 19:33	74-85-1	
Methane	**67**	ug/L	5.0	2.5	1		10/16/20 19:33	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**1280**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:46	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 15:28	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 15:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 15:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 15:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 15:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 15:28	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 15:28	75-15-0	R1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 15:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 15:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 15:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 15:28	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 15:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 15:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 15:28	75-34-3	
1,2-Dichloroethane	**0.25J**	ug/L	1.0	0.23	1		10/13/20 15:28	107-06-2	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.21	1		10/13/20 15:28	75-35-4	
cis-1,2-Dichloroethene	**4.6**	ug/L	1.0	0.15	1		10/13/20 15:28	156-59-2	
trans-1,2-Dichloroethene	**0.16J**	ug/L	1.0	0.15	1		10/13/20 15:28	156-60-5	M1
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 15:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 15:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 15:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 15:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 15:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 15:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 15:28	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 15:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 15:28	127-18-4	M1
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 15:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 15:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 15:28	79-00-5	
Trichloroethene	**101**	ug/L	1.0	0.25	1		10/13/20 15:28	79-01-6	M1
Vinyl chloride	**0.60J**	ug/L	1.0	0.25	1		10/13/20 15:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 15:28	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: RW-69-202010 **Lab ID: 60350519023** Collected: 10/06/20 16:27 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 15:28	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	86-117		1		10/13/20 15:28	17060-07-0	S0
Toluene-d8 (S)	105	%	80-120		1		10/13/20 15:28	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 15:28		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/09/20 12:50	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**1.6**	mg/L	1.0	0.28	1		10/16/20 21:39	14808-79-8	M1
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:22		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:22	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	ND	mg/L	1.0	0.36	1		10/24/20 10:49	7440-44-0	M1

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-68-202010 **Lab ID: 60350519024** Collected: 10/06/20 16:45 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 16:13	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 16:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 16:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 16:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 16:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 16:13	78-93-3	
Carbon disulfide	**0.26J**	ug/L	5.0	0.24	1		10/13/20 16:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 16:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 16:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 16:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 16:13	67-66-3	
Chloromethane	**0.62J**	ug/L	1.0	0.44	1		10/13/20 16:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 16:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 16:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 16:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 16:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 16:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 16:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 16:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 16:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 16:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 16:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 16:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 16:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 16:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 16:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:13	79-00-5	
Trichloroethene	**0.57J**	ug/L	1.0	0.25	1		10/13/20 16:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 16:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 16:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	80-120		1		10/13/20 16:13	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 16:13	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 16:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 16:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-21-202010 **Lab ID: 60350519025** Collected: 10/06/20 17:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.62J**	ug/L	1.0	0.075	1		10/16/20 19:45	74-84-0	
Ethene	**1.2**	ug/L	1.0	0.12	1		10/16/20 19:45	74-85-1	
Methane	**7600**	ug/L	5.0	2.5	1		10/16/20 19:45	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**11100**	ug/L	50.0	26.8	1	10/20/20 07:50	10/21/20 17:51	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 16:28	67-64-1	L1
Benzene	**0.10J**	ug/L	1.0	0.088	1		10/13/20 16:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 16:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 16:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 16:28	74-83-9	
2-Butanone (MEK)	**21.8**	ug/L	10.0	2.4	1		10/13/20 16:28	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 16:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 16:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 16:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 16:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 16:28	67-66-3	
Chloromethane	**0.57J**	ug/L	1.0	0.44	1		10/13/20 16:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 16:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 16:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 16:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 16:28	75-35-4	
cis-1,2-Dichloroethene	**3.2**	ug/L	1.0	0.15	1		10/13/20 16:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 16:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 16:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 16:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 16:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 16:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 16:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 16:28	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 16:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:28	127-18-4	
Toluene	**4.0**	ug/L	1.0	0.18	1		10/13/20 16:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 16:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:28	79-00-5	
Trichloroethene	**7.2**	ug/L	1.0	0.25	1		10/13/20 16:28	79-01-6	
Vinyl chloride	**1.9**	ug/L	1.0	0.25	1		10/13/20 16:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 16:28	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-21-202010 **Lab ID: 60350519025** Collected: 10/06/20 17:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	107	%	80-120		1		10/13/20 16:28	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	86-117		1		10/13/20 16:28	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 16:28	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 16:28		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**197**	mg/L	50.0	19.4	50		10/16/20 23:48	16887-00-6	B
Sulfate	**16.0**	mg/L	1.0	0.28	1		10/16/20 23:34	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/08/20 08:24		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/08/20 08:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/08/20 08:24	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**28.2**	mg/L	5.0	1.8	5		10/24/20 11:29	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**21.0**	mg/L	2.0	0.72	2		10/27/20 16:50		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**13**	mg/L	5.0	1.2	10		10/13/20 05:32	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/13/20 05:32	107-92-6	
Formic acid	**46**	mg/L	5.0	0.55	10		10/13/20 05:32	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/13/20 05:32	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/13/20 05:32	50-21-5	
Pentanoic Acid	**0.94J**	mg/L	5.0	0.56	10		10/13/20 05:32	109-52-4	
Propionic Acid	**20**	mg/L	5.0	0.53	10		10/13/20 05:32	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/13/20 05:32	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/13/20 05:32	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/13/20 05:32	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-56R-202010 **Lab ID: 60350519026** Collected: 10/06/20 17:10 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:17	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:17	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:17	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:17	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:17	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:17	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:17	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:17	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:17	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:17	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:17	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:17	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:17	107-06-2	
1,1-Dichloroethene	**2.0**	ug/L	1.0	0.21	1		10/13/20 20:17	75-35-4	
cis-1,2-Dichloroethene	**16.8**	ug/L	1.0	0.15	1		10/13/20 20:17	156-59-2	
trans-1,2-Dichloroethene	**0.28J**	ug/L	1.0	0.15	1		10/13/20 20:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:17	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:17	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:17	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:17	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:17	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:17	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:17	79-00-5	
Trichloroethene	**706**	ug/L	10.0	2.5	10		10/13/20 20:33	79-01-6	
Vinyl chloride	**0.36J**	ug/L	1.0	0.25	1		10/13/20 20:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:17	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/13/20 20:17	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/13/20 20:17	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 20:17	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:17		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: MW-84-202010 **Lab ID: 60350519027** Collected: 10/06/20 17:12 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.7J**	ug/L	10.0	4.7	1		10/13/20 16:43	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 16:43	71-43-2	
Bromodichloromethane	**0.13J**	ug/L	1.0	0.12	1		10/13/20 16:43	75-27-4	
Bromoform	**6.6**	ug/L	1.0	0.38	1		10/13/20 16:43	75-25-2	
Bromomethane	**1.7J**	ug/L	5.0	0.99	1		10/13/20 16:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 16:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 16:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 16:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 16:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 16:43	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 16:43	67-66-3	
Chloromethane	**2.5**	ug/L	1.0	0.44	1		10/13/20 16:43	74-87-3	
Dibromochloromethane	**0.45J**	ug/L	1.0	0.17	1		10/13/20 16:43	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 16:43	75-34-3	
1,2-Dichloroethane	**0.29J**	ug/L	1.0	0.23	1		10/13/20 16:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 16:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 16:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 16:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 16:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 16:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 16:43	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 16:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 16:43	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 16:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 16:43	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 16:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 16:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 16:43	79-00-5	
Trichloroethene	**1.6**	ug/L	1.0	0.25	1		10/13/20 16:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 16:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 16:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 16:43	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	86-117		1		10/13/20 16:43	17060-07-0	S0
Toluene-d8 (S)	95	%	80-120		1		10/13/20 16:43	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 16:43		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TMW-24-202010 **Lab ID: 60350519028** Collected: 10/06/20 17:31 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:49	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:49	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:49	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:49	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:49	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:49	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:49	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:49	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:49	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:49	107-06-2	
1,1-Dichloroethene	**1.4**	ug/L	1.0	0.21	1		10/13/20 20:49	75-35-4	
cis-1,2-Dichloroethene	**11.1**	ug/L	1.0	0.15	1		10/13/20 20:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:49	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:49	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:49	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:49	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:49	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:49	79-00-5	
Trichloroethene	**495**	ug/L	10.0	2.5	10		10/13/20 21:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 20:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 20:49	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 20:49	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/13/20 20:49	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:49		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TB-02-202010 **Lab ID: 60350519029** Collected: 10/06/20 08:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 13:57	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 13:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 13:57	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 13:57	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 13:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 13:57	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 13:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 13:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 13:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 13:57	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 13:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 13:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 13:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 13:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 13:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 13:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 13:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 13:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 13:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 13:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 13:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 13:57	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 13:57	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 13:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 13:57	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 13:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 13:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 13:57	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 13:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 13:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 13:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 13:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 13:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 13:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 13:57	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	86-117		1		10/13/20 13:57	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 13:57	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 13:57		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TB-03-202010 **Lab ID: 60350519030** Collected: 10/06/20 08:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 14:12	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 14:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 14:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 14:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 14:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 14:12	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 14:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 14:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 14:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 14:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 14:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 14:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 14:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 14:12	75-34-3	
1,2-Dichloroethane	**0.26J**	ug/L	1.0	0.23	1		10/13/20 14:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 14:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 14:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 14:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 14:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 14:12	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 14:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 14:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 14:12	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 14:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:12	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 14:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 14:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 14:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 14:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 14:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 14:12	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	86-117		1		10/13/20 14:12	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 14:12	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 14:12		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Sample: TB-04-202010 **Lab ID: 60350519031** Collected: 10/06/20 08:00 Received: 10/07/20 06:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 14:27	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 14:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 14:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 14:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 14:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 14:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 14:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 14:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 14:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 14:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 14:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 14:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 14:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 14:27	75-34-3	
1,2-Dichloroethane	**0.29J**	ug/L	1.0	0.23	1		10/13/20 14:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 14:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 14:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 14:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 14:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 14:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 14:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 14:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 14:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 14:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 14:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 14:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 14:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 14:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 14:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 14:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 14:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	86-117		1		10/13/20 14:27	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 14:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 14:27		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 694863
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2097192 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/16/20 17:10	
Ethane	ug/L	ND	1.0	0.075	10/16/20 17:10	
Ethene	ug/L	ND	1.0	0.12	10/16/20 17:10	
Methane	ug/L	2.8J	5.0	2.5	10/16/20 17:10	B0

LABORATORY CONTROL SAMPLE & LCSD: 2097193 2097194

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	33	34	86	90	70-130	4	20	
Ethane	ug/L	100	87	94	86	93	70-130	8	20	
Ethene	ug/L	140	130	140	89	96	70-130	8	20	
Methane	ug/L	490	410	440	84	90	70-130	6	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 683682
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2764180 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/21/20 17:21	

LABORATORY CONTROL SAMPLE: 2764181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4980	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764182 2764183

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	28.2J	5000	5000	5160	5120	103	102	75-125	1	20	

MATRIX SPIKE SAMPLE: 2764184

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	1280	5000	6440	103	75-125	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681636
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519001, 60350519002, 60350519003, 60350519004, 60350519005, 60350519006, 60350519007, 60350519008, 60350519009, 60350519010, 60350519011, 60350519012, 60350519013, 60350519014, 60350519015, 60350519016, 60350519017, 60350519018, 60350519019, 60350519020

METHOD BLANK: 2755237
Matrix: Water
Associated Lab Samples: 60350519001, 60350519002, 60350519003, 60350519004, 60350519005, 60350519006, 60350519007, 60350519008, 60350519009, 60350519010, 60350519011, 60350519012, 60350519013, 60350519014, 60350519015, 60350519016, 60350519017, 60350519018, 60350519019, 60350519020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/09/20 08:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/09/20 08:15	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/09/20 08:15	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/09/20 08:15	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/09/20 08:15	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/09/20 08:15	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/09/20 08:15	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/09/20 08:15	
2-Hexanone	ug/L	ND	10.0	1.5	10/09/20 08:15	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/09/20 08:15	
Acetone	ug/L	ND	10.0	4.7	10/09/20 08:15	
Benzene	ug/L	ND	1.0	0.088	10/09/20 08:15	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/09/20 08:15	
Bromoform	ug/L	ND	1.0	0.38	10/09/20 08:15	
Bromomethane	ug/L	ND	5.0	0.99	10/09/20 08:15	
Carbon disulfide	ug/L	ND	5.0	0.24	10/09/20 08:15	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/09/20 08:15	
Chlorobenzene	ug/L	ND	1.0	0.23	10/09/20 08:15	
Chloroethane	ug/L	ND	1.0	0.38	10/09/20 08:15	
Chloroform	ug/L	ND	1.0	0.17	10/09/20 08:15	
Chloromethane	ug/L	ND	1.0	0.44	10/09/20 08:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 08:15	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/09/20 08:15	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/09/20 08:15	
Ethylbenzene	ug/L	ND	1.0	0.18	10/09/20 08:15	
Methylene Chloride	ug/L	ND	1.0	0.81	10/09/20 08:15	
Styrene	ug/L	ND	1.0	0.17	10/09/20 08:15	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/09/20 08:15	
Toluene	ug/L	ND	1.0	0.18	10/09/20 08:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 08:15	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/09/20 08:15	
Trichloroethene	ug/L	ND	1.0	0.25	10/09/20 08:15	
Vinyl chloride	ug/L	ND	1.0	0.25	10/09/20 08:15	
Xylene (Total)	ug/L	ND	3.0	0.54	10/09/20 08:15	
1,2-Dichloroethane-d4 (S)	%	103	86-117		10/09/20 08:15	
4-Bromofluorobenzene (S)	%	100	80-120		10/09/20 08:15	
Toluene-d8 (S)	%	98	80-120		10/09/20 08:15	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2755238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.9	105	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	21.7	108	78-118	
1,1,2-Trichloroethane	ug/L	20	21.9	109	82-117	
1,1-Dichloroethane	ug/L	20	22.2	111	85-120	
1,1-Dichloroethene	ug/L	20	22.0	110	81-124	
1,2-Dichloroethane	ug/L	20	21.8	109	79-118	
1,2-Dichloropropane	ug/L	20	21.5	108	85-117	
2-Butanone (MEK)	ug/L	100	121	121	70-125	
2-Hexanone	ug/L	100	123	123	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	123	123	73-131	
Acetone	ug/L	100	160	160	59-135	L1
Benzene	ug/L	20	20.9	105	82-115	
Bromodichloromethane	ug/L	20	21.5	108	82-123	
Bromoform	ug/L	20	20.0	100	66-133	
Bromomethane	ug/L	20	18.7	93	27-179	
Carbon disulfide	ug/L	20	24.4	122	72-134	
Carbon tetrachloride	ug/L	20	21.2	106	80-121	
Chlorobenzene	ug/L	20	20.9	104	80-120	
Chloroethane	ug/L	20	21.9	109	78-145	
Chloroform	ug/L	20	20.9	104	84-116	
Chloromethane	ug/L	20	18.9	94	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.7	108	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.9	105	85-117	
Dibromochloromethane	ug/L	20	21.1	106	82-122	
Ethylbenzene	ug/L	20	19.5	98	79-115	
Methylene Chloride	ug/L	20	21.6	108	80-126	
Styrene	ug/L	20	21.7	109	80-117	
Tetrachloroethene	ug/L	20	20.5	102	83-119	
Toluene	ug/L	20	20.9	105	83-115	
trans-1,2-Dichloroethene	ug/L	20	21.5	107	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	83-117	
Trichloroethene	ug/L	20	20.8	104	80-118	
Vinyl chloride	ug/L	20	23.6	118	76-144	
Xylene (Total)	ug/L	60	63.0	105	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755240 2755241

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND			212	213				1	20	
1,1,2,2-Tetrachloroethane	ug/L	ND			218	207				5	19	
1,1,2-Trichloroethane	ug/L	ND			213	212				0	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755240 2755241

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	0.69J			218	221				1	23	
1,1-Dichloroethene	ug/L	0.85J			217	225				3	21	
1,2-Dichloroethane	ug/L	ND			218	209				4	22	
1,2-Dichloropropane	ug/L	ND			200	206				3	19	
2-Butanone (MEK)	ug/L	ND			1140	1090				4	22	
2-Hexanone	ug/L	ND			1160	1110				5	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND			1210	1170				4	20	
Acetone	ug/L	ND			1340	1290				4	32	M0
Benzene	ug/L	ND			209	208				0	25	
Bromodichloromethane	ug/L	ND			212	211				1	19	
Bromoform	ug/L	ND			191	183				4	18	
Bromomethane	ug/L	ND			146	179				21	43	
Carbon disulfide	ug/L	ND			250	260				4	18	
Carbon tetrachloride	ug/L	ND			210	208				1	21	
Chlorobenzene	ug/L	ND			201	199				1	14	
Chloroethane	ug/L	ND			222	215				3	28	
Chloroform	ug/L	0.32J			204	205				1	17	
Chloromethane	ug/L	ND			178	187				5	34	
cis-1,2-Dichloroethene	ug/L	7.2			217	211				3	18	
cis-1,3-Dichloropropene	ug/L	ND			184	182				1	20	
Dibromochloromethane	ug/L	ND			205	189				8	24	
Ethylbenzene	ug/L	ND			191	193				1	28	
Methylene Chloride	ug/L	ND			211	216				2	24	
Styrene	ug/L	ND			211	209				1	20	
Tetrachloroethene	ug/L	ND			196	196				0	28	
Toluene	ug/L	ND			205	205				0	21	
trans-1,2-Dichloroethene	ug/L	ND			218	219				0	24	
trans-1,3-Dichloropropene	ug/L	ND			187	187				0	24	
Trichloroethene	ug/L	359	200	200	583	576	112	109	68-128	1	23	
Vinyl chloride	ug/L	0.44J			232	241				4	23	
Xylene (Total)	ug/L	ND	600	600	610	600	102	100	59-139	2	22	
1,2-Dichloroethane-d4 (S)	%						107	107	86-117			
4-Bromofluorobenzene (S)	%						99	99	80-120			
Toluene-d8 (S)	%						99	100	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755242 2755243

Parameter	Units	60350519006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	20.8	21.7	104	108	74-130	4	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.3	19.6	97	98	60-128	2	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.2	20.4	101	102	66-125	1	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755242 2755243

Parameter	Units	60350519006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	21.1	22.0	105	110	81-124	4	23	
1,1-Dichloroethene	ug/L	ND	20	20	22.1	23.0	110	115	64-141	4	21	
1,2-Dichloroethane	ug/L	ND	20	20	19.4	20.5	97	102	64-135	6	22	
1,2-Dichloropropane	ug/L	ND	20	20	19.6	20.6	98	103	73-125	5	19	
2-Butanone (MEK)	ug/L	ND	100	100	99.7	104	100	104	58-121	4	22	
2-Hexanone	ug/L	ND	100	100	104	108	104	108	61-125	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	109	114	109	114	67-125	5	20	
Acetone	ug/L	ND	100	100	115	121	115	121	49-113	5	32	M0
Benzene	ug/L	ND	20	20	20.0	21.0	100	105	49-140	5	25	
Bromodichloromethane	ug/L	ND	20	20	19.9	20.2	100	101	71-124	1	19	
Bromoform	ug/L	ND	20	20	17.3	18.8	86	94	56-113	9	18	
Bromomethane	ug/L	ND	20	20	16.5	17.7	82	88	12-165	7	43	
Carbon disulfide	ug/L	ND	20	20	24.9	25.8	125	129	66-145	3	18	
Carbon tetrachloride	ug/L	ND	20	20	21.0	22.0	105	110	84-130	5	21	
Chlorobenzene	ug/L	ND	20	20	19.1	20.0	96	100	68-126	5	14	
Chloroethane	ug/L	ND	20	20	22.3	23.7	112	119	67-145	6	28	
Chloroform	ug/L	ND	20	20	19.6	20.5	98	102	72-123	5	17	
Chloromethane	ug/L	ND	20	20	16.7	18.0	83	90	31-175	8	34	
cis-1,2-Dichloroethene	ug/L	1.3	20	20	21.5	22.0	101	104	69-127	2	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.0	18.5	85	92	60-124	9	20	
Dibromochloromethane	ug/L	ND	20	20	18.9	19.9	94	100	68-123	5	24	
Ethylbenzene	ug/L	ND	20	20	18.4	19.0	92	95	52-140	3	28	
Methylene Chloride	ug/L	ND	20	20	20.1	21.1	100	105	68-125	5	24	
Styrene	ug/L	ND	20	20	19.9	20.0	100	100	56-136	0	20	
Tetrachloroethene	ug/L	ND	20	20	18.6	19.9	93	99	59-133	7	28	
Toluene	ug/L	ND	20	20	19.6	20.2	98	101	56-137	3	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.2	21.4	101	107	70-130	6	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.6	18.0	88	90	69-121	2	24	
Trichloroethene	ug/L	11.7	20	20	31.2	32.0	98	102	68-128	2	23	
Vinyl chloride	ug/L	ND	20	20	24.4	24.3	122	121	51-148	1	23	
Xylene (Total)	ug/L	ND	60	60	57.7	59.7	96	100	59-139	3	22	
1,2-Dichloroethane-d4 (S)	%						105	107	86-117			
4-Bromofluorobenzene (S)	%						99	96	80-120			
Toluene-d8 (S)	%						100	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755244 2755245

Parameter	Units	60350519007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	21.3	21.5	106	107	74-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.2	19.7	96	99	60-128	2	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.0	19.6	100	98	66-125	2	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2755244			2755245							
Parameter	Units	60350519007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	20.9	21.2	105	106	81-124	1	23	
1,1-Dichloroethene	ug/L	ND	20	20	22.2	21.8	111	109	64-141	2	21	
1,2-Dichloroethane	ug/L	ND	20	20	20.0	19.5	99	97	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	19.9	19.7	100	98	73-125	1	19	
2-Butanone (MEK)	ug/L	ND	100	100	102	99.4	102	99	58-121	2	22	
2-Hexanone	ug/L	ND	100	100	103	104	103	104	61-125	2	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	109	109	109	109	67-125	0	20	
Acetone	ug/L	ND	100	100	117	117	117	117	49-113	0	32	M0
Benzene	ug/L	ND	20	20	20.3	20.3	101	102	49-140	0	25	
Bromodichloromethane	ug/L	ND	20	20	19.5	19.5	98	97	71-124	0	19	
Bromoform	ug/L	ND	20	20	17.3	17.2	87	86	56-113	0	18	
Bromomethane	ug/L	ND	20	20	18.4	19.1	92	96	12-165	4	43	
Carbon disulfide	ug/L	ND	20	20	25.2	25.1	126	126	66-145	0	18	
Carbon tetrachloride	ug/L	ND	20	20	21.2	21.2	106	106	84-130	0	21	
Chlorobenzene	ug/L	ND	20	20	19.7	19.7	99	98	68-126	0	14	
Chloroethane	ug/L	ND	20	20	22.2	22.1	111	110	67-145	0	28	
Chloroform	ug/L	ND	20	20	20.1	19.8	100	99	72-123	2	17	
Chloromethane	ug/L	ND	20	20	17.5	17.1	87	86	31-175	2	34	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.3	20.0	102	100	69-127	2	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.0	17.6	85	88	60-124	3	20	
Dibromochloromethane	ug/L	ND	20	20	19.4	19.6	97	98	68-123	1	24	
Ethylbenzene	ug/L	ND	20	20	19.4	19.0	97	95	52-140	2	28	
Methylene Chloride	ug/L	ND	20	20	20.6	20.3	103	102	68-125	1	24	
Styrene	ug/L	ND	20	20	20.2	20.3	101	102	56-136	0	20	
Tetrachloroethene	ug/L	ND	20	20	19.8	19.4	99	97	59-133	2	28	
Toluene	ug/L	ND	20	20	19.9	20.3	99	102	56-137	2	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.7	20.8	104	104	70-130	0	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.1	18.0	90	90	69-121	0	24	
Trichloroethene	ug/L	ND	20	20	19.8	20.0	99	100	68-128	1	23	
Vinyl chloride	ug/L	ND	20	20	24.1	24.2	121	121	51-148	0	23	
Xylene (Total)	ug/L	ND	60	60	59.9	60.7	100	101	59-139	1	22	
1,2-Dichloroethane-d4 (S)	%						105	103	86-117			
4-Bromofluorobenzene (S)	%						98	100	80-120			
Toluene-d8 (S)	%						99	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2755246			2755247							
Parameter	Units	60350519009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	21.5	18.8	107	94	74-130	13	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.0	16.7	95	83	60-128	13	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.3	17.5	96	88	66-125	10	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755246 2755247

Parameter	Units	60350519009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	21.0	18.6	105	93	81-124	12	23	
1,1-Dichloroethene	ug/L	ND	20	20	22.4	19.9	112	100	64-141	12	21	
1,2-Dichloroethane	ug/L	ND	20	20	19.5	17.7	97	88	64-135	10	22	
1,2-Dichloropropane	ug/L	ND	20	20	19.9	17.9	99	89	73-125	11	19	
2-Butanone (MEK)	ug/L	ND	100	100	98.0	87.8	98	88	58-121	11	22	
2-Hexanone	ug/L	ND	100	100	100	90.8	100	91	61-125	10	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	104	97.1	104	97	67-125	7	20	
Acetone	ug/L	ND	100	100	117	110	117	110	49-113	7	32	M0
Benzene	ug/L	ND	20	20	20.2	18.0	101	90	49-140	12	25	
Bromodichloromethane	ug/L	ND	20	20	19.6	16.7	98	83	71-124	16	19	
Bromoform	ug/L	ND	20	20	17.3	14.6	86	73	56-113	17	18	
Bromomethane	ug/L	ND	20	20	18.8	16.3	94	82	12-165	14	43	
Carbon disulfide	ug/L	ND	20	20	25.0	22.4	125	112	66-145	11	18	
Carbon tetrachloride	ug/L	ND	20	20	21.3	19.0	107	95	84-130	12	21	
Chlorobenzene	ug/L	ND	20	20	19.5	17.3	97	87	68-126	12	14	
Chloroethane	ug/L	ND	20	20	21.3	19.0	106	95	67-145	12	28	
Chloroform	ug/L	ND	20	20	19.6	17.8	98	89	72-123	10	17	
Chloromethane	ug/L	ND	20	20	18.4	15.2	92	76	31-175	19	34	
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.3	17.6	102	88	69-127	14	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.0	15.4	85	77	60-124	10	20	
Dibromochloromethane	ug/L	ND	20	20	19.2	16.6	96	83	68-123	14	24	
Ethylbenzene	ug/L	ND	20	20	18.5	16.2	93	81	52-140	14	28	
Methylene Chloride	ug/L	ND	20	20	20.6	17.9	103	89	68-125	14	24	
Styrene	ug/L	ND	20	20	12.0	6.1	60	30	56-136	66	20	M1,R1
Tetrachloroethene	ug/L	ND	20	20	19.1	17.3	95	86	59-133	10	28	
Toluene	ug/L	ND	20	20	19.6	17.6	98	88	56-137	11	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.8	18.6	104	93	70-130	11	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.1	15.0	86	75	69-121	13	24	
Trichloroethene	ug/L	0.35J	20	20	20.2	18.1	99	89	68-128	11	23	
Vinyl chloride	ug/L	ND	20	20	23.7	21.2	118	106	51-148	11	23	
Xylene (Total)	ug/L	ND	60	60	59.3	50.9	99	85	59-139	15	22	
1,2-Dichloroethane-d4 (S)	%						105	105	86-117			
4-Bromofluorobenzene (S)	%						98	101	80-120			
Toluene-d8 (S)	%						99	99	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 682080
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519021, 60350519022, 60350519023, 60350519024, 60350519025, 60350519027, 60350519029, 60350519030, 60350519031

METHOD BLANK: 2757493
Matrix: Water
Associated Lab Samples: 60350519021, 60350519022, 60350519023, 60350519024, 60350519025, 60350519027, 60350519029, 60350519030, 60350519031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 13:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 13:42	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 13:42	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 13:42	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 13:42	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 13:42	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 13:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 13:42	
Acetone	ug/L	ND	10.0	4.7	10/13/20 13:42	
Benzene	ug/L	ND	1.0	0.088	10/13/20 13:42	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 13:42	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 13:42	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 13:42	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 13:42	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 13:42	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 13:42	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 13:42	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 13:42	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 13:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 13:42	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 13:42	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 13:42	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 13:42	
Styrene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
Toluene	ug/L	ND	1.0	0.18	10/13/20 13:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 13:42	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 13:42	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 13:42	
1,2-Dichloroethane-d4 (S)	%	116	86-117		10/13/20 13:42	
4-Bromofluorobenzene (S)	%	111	80-120		10/13/20 13:42	
Toluene-d8 (S)	%	96	80-120		10/13/20 13:42	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2757494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	97	78-118	
1,1,2-Trichloroethane	ug/L	20	18.8	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	20.3	101	81-124	
1,2-Dichloroethane	ug/L	20	21.9	110	79-118	
1,2-Dichloropropane	ug/L	20	18.6	93	85-117	
2-Butanone (MEK)	ug/L	100	106	106	70-125	
2-Hexanone	ug/L	100	96.2	96	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	73-131	
Acetone	ug/L	100	146	146	59-135	L1
Benzene	ug/L	20	19.2	96	82-115	
Bromodichloromethane	ug/L	20	21.8	109	82-123	
Bromoform	ug/L	20	19.1	95	66-133	
Bromomethane	ug/L	20	25.2	126	27-179	
Carbon disulfide	ug/L	20	23.3	116	72-134	
Carbon tetrachloride	ug/L	20	20.9	104	80-121	
Chlorobenzene	ug/L	20	18.0	90	80-120	
Chloroethane	ug/L	20	19.3	97	78-145	
Chloroform	ug/L	20	20.2	101	84-116	
Chloromethane	ug/L	20	16.9	84	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.9	100	85-117	
Dibromochloromethane	ug/L	20	19.4	97	82-122	
Ethylbenzene	ug/L	20	17.5	87	79-115	
Methylene Chloride	ug/L	20	18.9	95	80-126	
Styrene	ug/L	20	19.0	95	80-117	
Tetrachloroethene	ug/L	20	17.2	86	83-119	
Toluene	ug/L	20	18.4	92	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	83-117	
Trichloroethene	ug/L	20	19.1	96	80-118	
Vinyl chloride	ug/L	20	19.0	95	76-144	
Xylene (Total)	ug/L	60	53.9	90	82-120	
1,2-Dichloroethane-d4 (S)	%			109	86-117	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	18.8	19.9	94	99	74-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.6	17.7	88	89	60-128	1	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	15.7	16.7	79	83	66-125	6	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	17.2	17.9	86	90	81-124	4	23	
1,1-Dichloroethene	ug/L	1.8	20	20	17.9	20.6	81	94	64-141	14	21	
1,2-Dichloroethane	ug/L	0.25J	20	20	19.6	20.0	97	99	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	15.8	17.2	79	86	73-125	9	19	
2-Butanone (MEK)	ug/L	ND	100	100	85.3	70.2	85	70	58-121	19	22	
2-Hexanone	ug/L	ND	100	100	80.9	81.3	81	81	61-125	0	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	87.9	90.2	88	90	67-125	3	20	
Acetone	ug/L	ND	100	100	113	109	113	109	49-113	4	32	
Benzene	ug/L	ND	20	20	16.5	17.7	83	88	49-140	7	25	
Bromodichloromethane	ug/L	ND	20	20	18.1	19.0	90	95	71-124	5	19	
Bromoform	ug/L	ND	20	20	15.4	15.8	77	79	56-113	2	18	
Bromomethane	ug/L	ND	20	20	21.9	22.7	110	114	12-165	3	43	
Carbon disulfide	ug/L	ND	20	20	14.2	20.3	71	101	66-145	35	18	R1
Carbon tetrachloride	ug/L	ND	20	20	18.4	20.1	92	100	84-130	9	21	
Chlorobenzene	ug/L	ND	20	20	13.8	15.4	69	77	68-126	11	14	
Chloroethane	ug/L	ND	20	20	17.5	19.7	87	99	67-145	12	28	
Chloroform	ug/L	ND	20	20	17.7	18.7	89	94	72-123	5	17	
Chloromethane	ug/L	ND	20	20	16.1	18.1	79	89	31-175	11	34	
cis-1,2-Dichloroethene	ug/L	4.6	20	20	19.9	21.5	76	84	69-127	8	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	15.0	15.6	75	78	60-124	4	20	
Dibromochloromethane	ug/L	ND	20	20	16.0	16.8	80	84	68-123	5	24	
Ethylbenzene	ug/L	ND	20	20	13.1	15.0	66	75	52-140	13	28	
Methylene Chloride	ug/L	ND	20	20	15.8	17.1	79	86	68-125	8	24	
Styrene	ug/L	ND	20	20	13.9	15.8	69	79	56-136	13	20	
Tetrachloroethene	ug/L	ND	20	20	11.6	14.6	58	73	59-133	23	28	M1
Toluene	ug/L	ND	20	20	15.0	16.4	75	82	56-137	9	21	
trans-1,2-Dichloroethene	ug/L	0.16J	20	20	13.8	17.3	68	86	70-130	23	24	M1
trans-1,3-Dichloropropene	ug/L	ND	20	20	15.3	15.7	76	79	69-121	3	24	
Trichloroethene	ug/L	101	20	20	114	120	67	98	68-128	5	23	M1
Vinyl chloride	ug/L	0.60J	20	20	16.4	18.6	79	90	51-148	13	23	
Xylene (Total)	ug/L	ND	60	60	40.6	45.2	68	75	59-139	11	22	
1,2-Dichloroethane-d4 (S)	%						115	113	86-117			
4-Bromofluorobenzene (S)	%						107	107	80-120			
Toluene-d8 (S)	%						97	96	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 682464
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519003, 60350519005, 60350519008, 60350519026, 60350519028

METHOD BLANK: 2758667 Matrix: Water
Associated Lab Samples: 60350519003, 60350519005, 60350519008, 60350519026, 60350519028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 18:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 18:41	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 18:41	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 18:41	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 18:41	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 18:41	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 18:41	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 18:41	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 18:41	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 18:41	
Acetone	ug/L	ND	10.0	4.7	10/13/20 18:41	
Benzene	ug/L	ND	1.0	0.088	10/13/20 18:41	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 18:41	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 18:41	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 18:41	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 18:41	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 18:41	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 18:41	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 18:41	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 18:41	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 18:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 18:41	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 18:41	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 18:41	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 18:41	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 18:41	
Styrene	ug/L	ND	1.0	0.17	10/13/20 18:41	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 18:41	
Toluene	ug/L	ND	1.0	0.18	10/13/20 18:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 18:41	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 18:41	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 18:41	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 18:41	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 18:41	
1,2-Dichloroethane-d4 (S)	%	104	86-117		10/13/20 18:41	
4-Bromofluorobenzene (S)	%	104	80-120		10/13/20 18:41	
Toluene-d8 (S)	%	98	80-120		10/13/20 18:41	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2758668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.4	92	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	78-118	
1,1,2-Trichloroethane	ug/L	20	19.3	96	82-117	
1,1-Dichloroethane	ug/L	20	19.7	98	85-120	
1,1-Dichloroethene	ug/L	20	19.8	99	81-124	
1,2-Dichloroethane	ug/L	20	18.8	94	79-118	
1,2-Dichloropropane	ug/L	20	19.5	97	85-117	
2-Butanone (MEK)	ug/L	100	101	101	70-125	
2-Hexanone	ug/L	100	100	100	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	73-131	
Acetone	ug/L	100	104	104	59-135	
Benzene	ug/L	20	18.9	95	82-115	
Bromodichloromethane	ug/L	20	19.1	96	82-123	
Bromoform	ug/L	20	18.3	92	66-133	
Bromomethane	ug/L	20	20.2	101	27-179	
Carbon disulfide	ug/L	20	24.1	121	72-134	
Carbon tetrachloride	ug/L	20	19.7	99	80-121	
Chlorobenzene	ug/L	20	18.8	94	80-120	
Chloroethane	ug/L	20	21.0	105	78-145	
Chloroform	ug/L	20	18.8	94	84-116	
Chloromethane	ug/L	20	17.7	89	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.9	95	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.5	98	85-117	
Dibromochloromethane	ug/L	20	18.6	93	82-122	
Ethylbenzene	ug/L	20	18.5	92	79-115	
Methylene Chloride	ug/L	20	19.8	99	80-126	
Styrene	ug/L	20	20.1	100	80-117	
Tetrachloroethene	ug/L	20	17.9	90	83-119	
Toluene	ug/L	20	18.5	92	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.0	95	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.1	96	83-117	
Trichloroethene	ug/L	20	18.8	94	80-118	
Vinyl chloride	ug/L	20	21.6	108	76-144	
Xylene (Total)	ug/L	60	57.8	96	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681761
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519023

METHOD BLANK: 2755908 Matrix: Water
Associated Lab Samples: 60350519023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/09/20 11:47	

LABORATORY CONTROL SAMPLE: 2755909

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	99	80-120	

MATRIX SPIKE SAMPLE: 2755911

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.5	0.44	88	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756466 2756467

Parameter	Units	60350560003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.52	0.52	96	97	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756468 2756469

Parameter	Units	60350562001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.50	0.50	97	96	75-125	2	20	

SAMPLE DUPLICATE: 2755912

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 683228
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2761794 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/16/20 15:54	
Sulfate	mg/L	ND	1.0	0.28	10/16/20 15:54	

METHOD BLANK: 2763752 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/19/20 09:07	
Sulfate	mg/L	ND	1.0	0.28	10/19/20 09:07	

METHOD BLANK: 2765218 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.41J	1.0	0.39	10/20/20 09:38	
Sulfate	mg/L	ND	1.0	0.28	10/20/20 09:38	

LABORATORY CONTROL SAMPLE: 2761795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.5	109	90-110	

LABORATORY CONTROL SAMPLE: 2763753

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.2	105	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

LABORATORY CONTROL SAMPLE: 2763779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	105	90-110	
Sulfate	mg/L	5	5.3	105	90-110	

LABORATORY CONTROL SAMPLE: 2765219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	105	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2761796 2761797

Parameter	Units	60350519005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	192	50	50	254	253	125	124	80-120	0	15	E,M1, R1
Sulfate	mg/L	78.0	50	50	132	132	108	107	80-120	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2761798 2761799

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	270	250	250	749	741	192	188	80-120	1	15	M1
Sulfate	mg/L	1.6	5	5	11.0	11.2	189	193	80-120	2	15	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681487
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519005, 60350519008, 60350519017

METHOD BLANK: 2754705 Matrix: Water
Associated Lab Samples: 60350519005, 60350519008, 60350519017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/08/20 07:38	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/08/20 07:38	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/08/20 07:38	

LABORATORY CONTROL SAMPLE: 2754706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	0.97	97	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	100	90-110	

MATRIX SPIKE SAMPLE: 2754707

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	24.9	10	32.6	77	70-130	
Nitrogen, Nitrite	mg/L	ND	10	10.8	108	90-110	
Nitrogen, NO2 plus NO3	mg/L	24.9	20	43.4	93	90-110	

MATRIX SPIKE SAMPLE: 2754709

Parameter	Units	60350513004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	109	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	112	90-110	M1
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	110	90-110	

SAMPLE DUPLICATE: 2754708

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	24.9	24.7	1	20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	24.9	24.7	1	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

SAMPLE DUPLICATE: 2754710

Parameter	Units	60350513004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681488
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519023, 60350519025

METHOD BLANK: 2754711 Matrix: Water
Associated Lab Samples: 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/08/20 08:10	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/08/20 08:10	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/08/20 08:10	

LABORATORY CONTROL SAMPLE: 2754712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	100	70-130	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	99	90-110	

MATRIX SPIKE SAMPLE: 2754713

Parameter	Units	60350513010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	107	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	109	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 2754714

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	106	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	106	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.1	106	90-110	

SAMPLE DUPLICATE: 2754715

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 681663
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002

METHOD BLANK: 2755313 Matrix: Water
Associated Lab Samples: 60350519002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/08/20 13:52	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/08/20 13:52	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/08/20 13:52	

LABORATORY CONTROL SAMPLE: 2755314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	1.0	101	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 2755315

Parameter	Units	60350687002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	<0.063	1	1.1	105	70-130	
Nitrogen, Nitrite	mg/L	<0.063	1	1.1	106	90-110	
Nitrogen, NO2 plus NO3	mg/L	<0.058	2	2.1	106	90-110	

SAMPLE DUPLICATE: 2755316

Parameter	Units	60350700001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	1.7	1.7	0	20	
Nitrogen, Nitrite	mg/L	<0.063	ND		20	
Nitrogen, NO2 plus NO3	mg/L	1.7	1.7	0	20	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 683781
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

METHOD BLANK: 2764413 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/19/20 23:31	

METHOD BLANK: 2764568 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519023, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/24/20 09:02	

LABORATORY CONTROL SAMPLE: 2764414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	106	80-120	

LABORATORY CONTROL SAMPLE: 2764569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	106	80-120	

MATRIX SPIKE SAMPLE: 2764415

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	0.46J	5	4.6	82	80-120	

MATRIX SPIKE SAMPLE: 2764417

Parameter	Units	60350519023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	ND	5	4.2	78	80-120	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

SAMPLE DUPLICATE: 2764416

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	0.46J	0.46J		25	

SAMPLE DUPLICATE: 2764418

Parameter	Units	60350519023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 684936
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519002

METHOD BLANK: 2768895 Matrix: Water
Associated Lab Samples: 60350519002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 01:05	

LABORATORY CONTROL SAMPLE: 2768896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.5	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2768897 2768899

Parameter	Units	10534691004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	1.6	5	5	7.1	6.9	109	106	80-120	3	25	

SAMPLE DUPLICATE: 2768898

Parameter	Units	10534691004 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	1.6	1.6	1	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 685224
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350519005, 60350519008, 60350519017, 60350519025

METHOD BLANK: 2770142 Matrix: Water
Associated Lab Samples: 60350519005, 60350519008, 60350519017, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 14:10	

LABORATORY CONTROL SAMPLE: 2770143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	104	80-120	

MATRIX SPIKE SAMPLE: 2770145

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	5	4.5	81	80-120	

SAMPLE DUPLICATE: 2770144

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	0.48J		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

QC Batch: 694427
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519025

METHOD BLANK: 2095206 Matrix: Water
Associated Lab Samples: 60350519002, 60350519005, 60350519008, 60350519017, 60350519025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/12/20 15:18	
Butyric Acid	mg/L	ND	0.50	0.058	10/12/20 15:18	
Formic acid	mg/L	ND	0.50	0.055	10/12/20 15:18	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/12/20 15:18	
Lactic Acid	mg/L	ND	0.50	0.053	10/12/20 15:18	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/12/20 15:18	
Propionic Acid	mg/L	ND	0.50	0.053	10/12/20 15:18	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/12/20 15:18	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/12/20 15:18	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/12/20 15:18	

LABORATORY CONTROL SAMPLE & LCSD: 2095207 2095208

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetic Acid	mg/L	2	2.3	2.3	116	115	70-130	1	20	
Butyric Acid	mg/L	2	2.1	2.0	105	102	70-130	3	20	
Formic acid	mg/L	2	2.0	2.0	101	100	70-130	0	20	
Hexanoic Acid	mg/L	2	2.0	2.0	102	100	70-130	2	20	
Lactic Acid	mg/L	2	2.0	1.9	98	97	70-130	1	20	
Pentanoic Acid	mg/L	2	2.0	2.0	100	98	70-130	2	20	
Propionic Acid	mg/L	2	2.0	2.0	103	102	70-130	0	20	
Pyruvic Acid	mg/L	2	1.6	1.7	83	86	70-130	5	20	
i-Hexanoic Acid	mg/L	2	2.1	2.0	103	101	70-130	2	20	
i-Pentanoic Acid	mg/L	2	2.1	2.0	104	102	70-130	1	20	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 682464

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350519002	**MW-61R-202010**	AM20GAX	694863		
60350519005	**MW-189-202010**	AM20GAX	694863		
60350519008	**MW-91-202010**	AM20GAX	694863		
60350519017	**TMW-22R-202010**	AM20GAX	694863		
60350519023	**RW-69-202010**	AM20GAX	694863		
60350519025	**TMW-21-202010**	AM20GAX	694863		
60350519002	**MW-61R-202010**	EPA 3010	683682	EPA 6010	683851
60350519005	**MW-189-202010**	EPA 3010	683682	EPA 6010	683851
60350519008	**MW-91-202010**	EPA 3010	683682	EPA 6010	683851
60350519017	**TMW-22R-202010**	EPA 3010	683682	EPA 6010	683851
60350519023	**RW-69-202010**	EPA 3010	683682	EPA 6010	683851
60350519025	**TMW-21-202010**	EPA 3010	683682	EPA 6010	683851
60350519001	**MW-187-202010**	EPA 5030B/8260	681636		
60350519002	**MW-61R-202010**	EPA 5030B/8260	681636		
60350519003	**MW-176-202010**	EPA 5030B/8260	681636		
60350519003	**MW-176-202010**	EPA 5030B/8260	682464		
60350519004	**MW-60R-202010**	EPA 5030B/8260	681636		
60350519005	**MW-189-202010**	EPA 5030B/8260	681636		
60350519005	**MW-189-202010**	EPA 5030B/8260	682464		
60350519006	**MW-188-202010**	EPA 5030B/8260	681636		
60350519007	**MW-40R-202010**	EPA 5030B/8260	681636		
60350519008	**MW-91-202010**	EPA 5030B/8260	681636		
60350519008	**MW-91-202010**	EPA 5030B/8260	682464		
60350519009	**MW-195-202010**	EPA 5030B/8260	681636		
60350519010	**MW-62R-202010**	EPA 5030B/8260	681636		
60350519011	**TMW-20-202010**	EPA 5030B/8260	681636		
60350519012	**MW-29-202010**	EPA 5030B/8260	681636		
60350519013	**MW-55R-202010**	EPA 5030B/8260	681636		
60350519014	**MW-63R-202010**	EPA 5030B/8260	681636		
60350519015	**MW-197-202010**	EPA 5030B/8260	681636		
60350519016	**MW-39R-202010**	EPA 5030B/8260	681636		
60350519017	**TMW-22R-202010**	EPA 5030B/8260	681636		
60350519018	**ITMW-20-202010**	EPA 5030B/8260	681636		
60350519019	**MW-175-202010**	EPA 5030B/8260	681636		
60350519020	**MW-199-202010**	EPA 5030B/8260	681636		
60350519021	**TMW-35-202010**	EPA 5030B/8260	682080		
60350519022	**MW-196-202010**	EPA 5030B/8260	682080		
60350519023	**RW-69-202010**	EPA 5030B/8260	682080		
60350519024	**MW-68-202010**	EPA 5030B/8260	682080		
60350519025	**TMW-21-202010**	EPA 5030B/8260	682080		
60350519026	**MW-56R-202010**	EPA 5030B/8260	682464		
60350519027	**MW-84-202010**	EPA 5030B/8260	682080		
60350519028	**TMW-24-202010**	EPA 5030B/8260	682464		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350519

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350519029	**TB-02-202010**	EPA 5030B/8260	682080		
60350519030	**TB-03-202010**	EPA 5030B/8260	682080		
60350519031	**TB-04-202010**	EPA 5030B/8260	682080		
60350519023	**RW-69-202010**	SM 4500-S-2 D	681761		
60350519002	**MW-61R-202010**	EPA 300.0	683228		
60350519005	**MW-189-202010**	EPA 300.0	683228		
60350519008	**MW-91-202010**	EPA 300.0	683228		
60350519017	**TMW-22R-202010**	EPA 300.0	683228		
60350519023	**RW-69-202010**	EPA 300.0	683228		
60350519025	**TMW-21-202010**	EPA 300.0	683228		
60350519002	**MW-61R-202010**	EPA 353.2	681663		
60350519005	**MW-189-202010**	EPA 353.2	681487		
60350519008	**MW-91-202010**	EPA 353.2	681487		
60350519017	**TMW-22R-202010**	EPA 353.2	681487		
60350519023	**RW-69-202010**	EPA 353.2	681488		
60350519025	**TMW-21-202010**	EPA 353.2	681488		
60350519002	**MW-61R-202010**	SM 5310C	683781		
60350519005	**MW-189-202010**	SM 5310C	683781		
60350519008	**MW-91-202010**	SM 5310C	683781		
60350519017	**TMW-22R-202010**	SM 5310C	683781		
60350519023	**RW-69-202010**	SM 5310C	683781		
60350519025	**TMW-21-202010**	SM 5310C	683781		
60350519002	**MW-61R-202010**	SM 5310C	684936		
60350519005	**MW-189-202010**	SM 5310C	685224		
60350519008	**MW-91-202010**	SM 5310C	685224		
60350519017	**TMW-22R-202010**	SM 5310C	685224		
60350519025	**TMW-21-202010**	SM 5310C	685224		
60350519002	**MW-61R-202010**	AM23G	694427		
60350519005	**MW-189-202010**	AM23G	694427		
60350519008	**MW-91-202010**	AM23G	694427		
60350519017	**TMW-22R-202010**	AM23G	694427		
60350519025	**TMW-21-202010**	AM23G	694427		

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CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix WO# : 60350519 MTJL Log-in

ALL S 60350519

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print): Haley Ahlers	Purchase Order # / DW PWS ID #:
Collected by (signature): Haley Ahlers	Quote # / DW Location Code #:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: _____ / Immediately Packed on Ice? [ ] Yes [ ] No
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: _____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	LAB USE ONLY: Lab Sample # / Comments
MW-187-202010	GW	G	10/6/20	0925	n/a	n/a		3	X							~~X~~		
MW-61R-202010				0953				12		X	X	X	X	X	X	X	X	
MW-176-202010				1014				3										
MW-60R-202010				0950				3										
MW-189-202010-MS				1015				3										
MW-189-202010-~~MSD~~				1015				12		X	X	X	X	X	X	X	X	
MW-189-202010-MSD				1015				3										
MW-188-202010				1050				3										
MW-188-202010-MS				1050				3										
MW-188-202010-MSD				1050				3										

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	~~N~~	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

10/7/20 SR

Customer Remarks/ Special Conditions/ Possible Hazards:
-no MEE sample for MW-187

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: 2pic, bubble bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N (X) NA

Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.5, 1.0c 1.4

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.7, 1.2c 1.6

Comments: _____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s) YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/6/20 1830	[illegible] / Pace	10/7/20 0640
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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6035051 9

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
	Quote # / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Lab Sample # / Comments
MW-40R-202010-MS	GW	G	10/6/20	1400	n/a	1400		3	X									
MW-40R-202010-MSD				1400		1400		3	X									
MW-91-202010				1420		1420		12	X	X	X	X	X	X	X	X	X	
MW-195-202010				1415		1415		3										
MW-195-202010-MS				1415		1415		3										
MW-195-202010-MSD				1415		1415		3										
MW-62R-202010				1530		n/a		3										
MW-20-202010				1510				3										
MW-29-202010				1540				3										
MW-55R-202010				1526				3										

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA 10/7/20 SLC
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet X Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: 2pk, Bubble Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID#: T290

Cooler Temp Upon Receipt 1.5 1.0 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.2 1.6

Comments:

Trip Blank Received: Y N N/A

HCl MeOH TSP Other

NonConformance(s) YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See Page 1		SRoads/Pace	10/7/20 0040
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6035059

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Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: / Email:	Site/Facility ID #: / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Lab Sample # / Comments
3 MW-63R-202010	GW	G	10/6/20	1125	n/a	n/a		3	X									
3 MW-197-202010				1042				3										
2 MW-39R-202010				1140				3										
3 TMW-22R-202010				1206				12		X	X	X	X	X	X	X	X	
4 TMW-20-202010				1233				3										
3 MW-175-202010				1205				3										
3 MW-199-202010				1245				3										
3 TMW-35-202010				1245				3										
2 MW-196-202010				1341				3										
3 MW-40R-202010				1400				3										

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	(N)	NA 10/7/20 SC
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	(Y)	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: Zplc Bub. Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N (X) NA

Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID#: T299

Cooler Temp Upon Receipt 1.5 1.9 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.2c 1.6

Comments:

Trip Blank Received: Y N N/A

HCl MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See Page 1		S Woods/Pace	10/7/20 0040
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 3 of 5

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6035 0519

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / Quote # / DW PWS ID #: / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:_____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate / Sulfide (RW-69 only)	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene
*10	RW-69-202010	GW	G	10/6/20	1627				10	X		X	X	X		X	X		X
3	RW-69-202010-MS				1627				3	X									
3	RW-69-202010-MSD				1627				3	X									
3	MW-68-202010				1645				3	X									
*1	TMW-21-202010				1700				12	X	X	X	X	X	X	X	X	X	
*1	MW-56R-202010				1710				3	X									
1	MW-84-202010				1712				3	X									
2	TMW-24-202010				1731				3	X									
3	TB-02-202010								2	X									
2	TB-03-202010								2	X									

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	(N)	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	(Y)	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

10/7/20 SR

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

* only run Sulfide for RW-69, ran out of Columns for analytes

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (N) N N/A

Packing Material Used: Zplc Bub. bags

LAB Tracking #:

Radchem sample(s) screened (<500 cpm): [ ] Y [ ] N (X) NA

Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.5 1.6 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.8 1.6

Comments:

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See page 1		B Woods/Pace	10/7/20 0740
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 4 of 5

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6075-0519

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID #
Collected by (print):	Purchase Order #
Collected by (signature):	Quote #
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: _____ RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [ ] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
#1 TB-04-202010								2	X									

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: 2pk, Bub bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.5 1.0 1.4

Cooler Therm Corr. Factor +0.2 °C

Cooler Temp Corrected 1.7 1.2 1.6

Comments: _____

Trip Blank Received: (Y) N N/A

HCL MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
See Page1		S Woods/Pace	10/7/20 0640

Page 5 of 5

Page 87 of 87

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 27, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350715001	MW-99-202010	Water	10/07/20 08:00	10/08/20 01:50
60350715002	MW-191-202010	Water	10/07/20 08:50	10/08/20 01:50
60350715003	MW-182-202010	Water	10/07/20 08:51	10/08/20 01:50
60350715004	MW-190-202010	Water	10/07/20 09:08	10/08/20 01:50
60350715005	TMW-30-202010	Water	10/07/20 10:25	10/08/20 01:50
60350715006	MW-194-202010	Water	10/07/20 09:15	10/08/20 01:50
60350715007	TMW-23-202010	Water	10/07/20 10:41	10/08/20 01:50
60350715008	MW-192-202010	Water	10/07/20 10:00	10/08/20 01:50
60350715009	TMW-27-202010	Water	10/07/20 10:00	10/08/20 01:50
60350715010	TMW-26-202010	Water	10/07/20 11:10	10/08/20 01:50
60350715011	MW-57R-202010	Water	10/07/20 11:35	10/08/20 01:50
60350715012	DUP-02-202010	Water	10/07/20 11:35	10/08/20 01:50
60350715013	MW-183R-202010	Water	10/07/20 11:15	10/08/20 01:50
60350715014	DUP-03-202010	Water	10/07/20 10:41	10/08/20 01:50
60350715015	ITMW-9-202010	Water	10/07/20 12:15	10/08/20 01:50
60350715016	TMW-12-202010	Water	10/07/20 12:48	10/08/20 01:50
60350715017	TMW-14-202010	Water	10/07/20 11:37	10/08/20 01:50
60350715018	DUP-04-202010	Water	10/07/20 10:00	10/08/20 01:50
60350715019	IW-73-202010	Water	10/07/20 13:45	10/08/20 01:50
60350715020	MW-58R-202010	Water	10/07/20 12:37	10/08/20 01:50
60350715021	MW-83-202010	Water	10/07/20 14:36	10/08/20 01:50
60350715022	DUP-01-202010	Water	10/07/20 14:36	10/08/20 01:50
60350715023	MW-38-202010	Water	10/07/20 14:03	10/08/20 01:50
60350715024	TMW-34-202010	Water	10/07/20 14:45	10/08/20 01:50
60350715025	MW-185-202010	Water	10/07/20 12:55	10/08/20 01:50
60350715026	IW-78-202010	Water	10/07/20 16:00	10/08/20 01:50
60350715027	MW-82-202010	Water	10/07/20 13:55	10/08/20 01:50
60350715028	MW-201-202010	Water	10/07/20 16:09	10/08/20 01:50
60350715029	MW-27-202010	Water	10/07/20 16:19	10/08/20 01:50
60350715030	IW-147-202010	Water	10/07/20 16:00	10/08/20 01:50
60350715031	MW-184-202010	Water	10/07/20 16:25	10/08/20 01:50
60350715032	DUP-05-202010	Water	10/07/20 16:25	10/08/20 01:50
60350715033	MW-178-202010	Water	10/07/20 16:49	10/08/20 01:50
60350715034	MW-26-202010	Water	10/07/20 17:10	10/08/20 01:50
60350715035	EB-01-202010	Water	10/07/20 17:28	10/08/20 01:50
60350715036	EB-02-202010	Water	10/07/20 17:25	10/08/20 01:50
60350715037	EB-03-202010	Water	10/07/20 17:22	10/08/20 01:50

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350715038	**MW-98-202010**	Water	10/07/20 17:28	10/08/20 01:50
60350715039	**TMW-25-202010**	Water	10/07/20 17:50	10/08/20 01:50
60350715040	**TB-05-202010**	Water	10/07/20 08:00	10/08/20 01:50
60350715041	**TB-06-202010**	Water	10/07/20 08:00	10/08/20 01:50
60350715042	**TB-07-202010**	Water	10/07/20 08:00	10/08/20 01:50
60350715043	**DUP-06-202010**	Water	10/07/20 10:00	10/08/20 01:50

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350715001	**MW-99-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715002	**MW-191-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350715003	**MW-182-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715004	**MW-190-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715005	**TMW-30-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	TDS	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715006	**MW-194-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715007	**TMW-23-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350715008	**MW-192-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715009	**TMW-27-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350715010	**TMW-26-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		AM23G	MOS	10	GCLA
60350715011	MW-57R-202010	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350715012	DUP-02-202010	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350715013	MW-183R-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715014	DUP-03-202010	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350715015	ITMW-9-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715016	TMW-12-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715017	TMW-14-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715018	DUP-04-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715019	IW-73-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	EAG, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715020	MW-58R-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715021	MW-83-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715022	DUP-01-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715023	MW-38-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 5310C	LDB	1	PASI-K
60350715024	TMW-34-202010	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350715025	MW-185-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715026	IW-78-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715027	MW-82-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715028	MW-201-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715029	MW-27-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715030	IW-147-202010	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350715031	MW-184-202010	EPA 5030B/8260	EAG	38	PASI-K
60350715032	DUP-05-202010	EPA 5030B/8260	EAG	38	PASI-K
60350715033	MW-178-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715034	MW-26-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715035	EB-01-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715036	EB-02-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715037	EB-03-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715038	MW-98-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715039	TMW-25-202010	EPA 5030B/8260	CJC	38	PASI-K
60350715040	TB-05-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715041	TB-06-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715042	TB-07-202010	EPA 5030B/8260	PGH	38	PASI-K
60350715043	DUP-06-202010	EPA 5030B/8260	CJC	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 695115

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2098802)
  - Methane

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683767

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350715001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2764380)
  - Iron
- MSD (Lab ID: 2764381)
  - Iron

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 27, 2020

General Information:
43 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- MW-99-202010 (Lab ID: 60350715001)
- TMW-30-202010 (Lab ID: 60350715005)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 682488

S0: Surrogate recovery outside laboratory control limits.
- MW-38-202010 (Lab ID: 60350715023)
  - 1,2-Dichloroethane-d4 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 681805

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- LCS (Lab ID: 2756057)
  - Acetone

QC Batch: 681810

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- LCS (Lab ID: 2756067)
  - Acetone

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 27, 2020

QC Batch: 682488

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2758836)
  - 2-Butanone (MEK)

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681805

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 681810

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 681957

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2757510)
  - Trichloroethene

QC Batch: 682464

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682488

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682998

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350921001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2760915)
  - Acetone
  - Carbon disulfide
  - Methylene Chloride

Additional Comments:

Analyte Comments:

QC Batch: 681805

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- TMW-30-202010 (Lab ID: 60350715005)
  - 4-Bromofluorobenzene (S)

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 27, 2020

Analyte Comments:

QC Batch: 682488

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- IW-147-202010 (Lab ID: 60350715030)
  - Vinyl chloride

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: October 27, 2020

General Information:
5 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683744

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350715006,60350977032

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2764361)
  - Chloride
- MSD (Lab ID: 2764360)
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: October 27, 2020

General Information:
10 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: October 27, 2020

General Information:
5 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 685224

1e: Dissolved result is greater than the total. Data is within laboratory control limits.
- TMW-34-202010 (Lab ID: 60350715024)
  - Dissolved Organic Carbon

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: October 27, 2020

General Information:
5 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-99-202010 **Lab ID: 60350715001** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.2**	ug/L	1.0	0.075	1		10/20/20 12:36	74-84-0	
Ethene	**2.5**	ug/L	1.0	0.12	1		10/20/20 12:36	74-85-1	
Methane	**12000**	ug/L	5.0	2.5	1		10/20/20 12:36	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**130000**	ug/L	500	268	10	10/19/20 18:38	10/20/20 20:58	7439-89-6	M1
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**330**	ug/L	10.0	4.7	1		10/09/20 16:12	67-64-1	L1
Benzene	**0.16J**	ug/L	1.0	0.088	1		10/09/20 16:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:12	74-83-9	
2-Butanone (MEK)	**1360**	ug/L	100	24.0	10		10/13/20 22:25	78-93-3	
Carbon disulfide	**1.1J**	ug/L	5.0	0.24	1		10/09/20 16:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 16:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 16:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 16:12	75-35-4	
cis-1,2-Dichloroethene	**5.0**	ug/L	1.0	0.15	1		10/09/20 16:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:12	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:12	100-41-4	
2-Hexanone	**32.5**	ug/L	10.0	1.5	1		10/09/20 16:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.6J**	ug/L	10.0	1.4	1		10/09/20 16:12	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:12	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:12	79-00-5	
Trichloroethene	**0.85J**	ug/L	1.0	0.25	1		10/09/20 16:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:12	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-99-202010 **Lab ID: 60350715001** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 16:12	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 16:12	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 16:12	2037-26-5	
Preservation pH	**5.0**		0.10		1		10/09/20 16:12		pH
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**137**	mg/L	20.0	7.8	20		10/19/20 21:19	16887-00-6	
Sulfate	**24.7**	mg/L	2.0	0.56	2		10/20/20 15:52	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:46		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:46	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:46	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**2850**	mg/L	500	180	500		10/26/20 22:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**2920**	mg/L	500	180	500		10/27/20 17:03		D9
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Hexanoic Acid	**37**	mg/L	10	1.2	20		10/20/20 11:09	142-62-1	
Propionic Acid	**3300**	mg/L	250	26	500		10/21/20 10:50	79-09-4	
Acetic Acid	**940**	mg/L	50	12	100		10/20/20 20:03	64-19-7	
Pyruvic Acid	**21**	mg/L	10	1.2	20		10/20/20 11:09	127-17-3	
Butyric Acid	**450**	mg/L	50	5.8	100		10/20/20 20:03	107-92-6	
Formic acid	**110**	mg/L	50	5.5	100		10/20/20 20:03	64-18-6	
i-Hexanoic Acid	ND	mg/L	10	1.1	20		10/20/20 11:09	646-07-1	
Lactic Acid	ND	mg/L	50	5.3	100		10/20/20 20:03	50-21-5	
i-Pentanoic Acid	**23**	mg/L	10	1.2	20		10/20/20 11:09	503-74-2	
Pentanoic Acid	**250**	mg/L	50	5.6	100		10/20/20 20:03	109-52-4	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-191-202010 **Lab ID: 60350715002** Collected: 10/07/20 08:50 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:41	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 16:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:26	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:26	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:41	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 16:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 16:26	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:26	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:26	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:26	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:26	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 16:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 16:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:26	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:26	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:26	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 16:26	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 16:26	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:26	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:26	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 16:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:26	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/09/20 16:26	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/09/20 16:26	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/09/20 16:26	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 16:26		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-182-202010 **Lab ID: 60350715003** Collected: 10/07/20 08:51 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 16:40	67-64-1	L1
Benzene	**0.16J**	ug/L	1.0	0.088	1		10/09/20 16:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:40	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 16:40	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 16:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:40	56-23-5	
Chlorobenzene	**7.3**	ug/L	1.0	0.23	1		10/09/20 16:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:40	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:40	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:40	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 16:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 16:40	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	0.15	1		10/09/20 16:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:40	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 16:40	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 16:40	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:40	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:40	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:40	79-00-5	
Trichloroethene	**24.9**	ug/L	1.0	0.25	1		10/09/20 16:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/09/20 16:40	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 16:40	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 16:40	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 16:40		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-190-202010 **Lab ID: 60350715004** Collected: 10/07/20 09:08 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 16:54	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 16:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 16:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 16:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 16:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 16:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 16:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 16:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 16:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 16:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 16:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 16:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 16:54	124-48-1	
1,1-Dichloroethane	**0.21J**	ug/L	1.0	0.098	1		10/09/20 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 16:54	107-06-2	
1,1-Dichloroethene	**0.49J**	ug/L	1.0	0.21	1		10/09/20 16:54	75-35-4	
cis-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		10/09/20 16:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 16:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 16:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 16:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 16:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 16:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 16:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 16:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 16:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 16:54	79-00-5	
Trichloroethene	**14.5**	ug/L	1.0	0.25	1		10/09/20 16:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 16:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 16:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 16:54	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 16:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 16:54		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-30-202010 **Lab ID: 60350715005** Collected: 10/07/20 10:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.1**	ug/L	1.0	0.075	1		10/20/20 12:48	74-84-0	
Ethene	**2.3**	ug/L	1.0	0.12	1		10/20/20 12:48	74-85-1	
Methane	**14000**	ug/L	5.0	2.5	1		10/20/20 12:48	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**101000**	ug/L	500	268	10	10/19/20 18:38	10/20/20 21:06	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	200	94.0	20		10/09/20 18:50	67-64-1	L1
Benzene	ND	ug/L	20.0	1.8	20		10/09/20 18:50	71-43-2	
Bromodichloromethane	ND	ug/L	20.0	2.4	20		10/09/20 18:50	75-27-4	
Bromoform	ND	ug/L	20.0	7.6	20		10/09/20 18:50	75-25-2	
Bromomethane	ND	ug/L	100	19.8	20		10/09/20 18:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	200	48.0	20		10/09/20 18:50	78-93-3	
Carbon disulfide	**8.7J**	ug/L	100	4.8	20		10/09/20 18:50	75-15-0	
Carbon tetrachloride	ND	ug/L	20.0	3.8	20		10/09/20 18:50	56-23-5	
Chlorobenzene	ND	ug/L	20.0	4.6	20		10/09/20 18:50	108-90-7	
Chloroethane	ND	ug/L	20.0	7.6	20		10/09/20 18:50	75-00-3	
Chloroform	ND	ug/L	20.0	3.4	20		10/09/20 18:50	67-66-3	
Chloromethane	ND	ug/L	20.0	8.8	20		10/09/20 18:50	74-87-3	
Dibromochloromethane	ND	ug/L	20.0	3.4	20		10/09/20 18:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	20.0	2.0	20		10/09/20 18:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	20.0	4.6	20		10/09/20 18:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	20.0	4.2	20		10/09/20 18:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	20.0	3.0	20		10/09/20 18:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	20.0	3.0	20		10/09/20 18:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	20.0	3.2	20		10/09/20 18:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	20.0	2.6	20		10/09/20 18:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	20.0	3.4	20		10/09/20 18:50	10061-02-6	
Ethylbenzene	ND	ug/L	20.0	3.6	20		10/09/20 18:50	100-41-4	
2-Hexanone	ND	ug/L	200	30.0	20		10/09/20 18:50	591-78-6	
Methylene Chloride	ND	ug/L	20.0	16.2	20		10/09/20 18:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	200	28.0	20		10/09/20 18:50	108-10-1	
Styrene	ND	ug/L	20.0	3.4	20		10/09/20 18:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	20.0	5.6	20		10/09/20 18:50	79-34-5	
Tetrachloroethene	ND	ug/L	20.0	3.0	20		10/09/20 18:50	127-18-4	
Toluene	ND	ug/L	20.0	3.6	20		10/09/20 18:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	20.0	2.6	20		10/09/20 18:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	20.0	5.6	20		10/09/20 18:50	79-00-5	
Trichloroethene	**12.7J**	ug/L	20.0	5.0	20		10/09/20 18:50	79-01-6	
Vinyl chloride	ND	ug/L	20.0	5.0	20		10/09/20 18:50	75-01-4	
Xylene (Total)	ND	ug/L	60.0	10.8	20		10/09/20 18:50	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-30-202010 **Lab ID: 60350715005** Collected: 10/07/20 10:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		20		10/09/20 18:50	460-00-4	D3
1,2-Dichloroethane-d4 (S)	107	%	86-117		20		10/09/20 18:50	17060-07-0	
Toluene-d8 (S)	100	%	80-120		20		10/09/20 18:50	2037-26-5	
Preservation pH	**6.0**		0.10		20		10/09/20 18:50		pH
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**188**	mg/L	20.0	7.8	20		10/19/20 21:34	16887-00-6	
Sulfate	**14.4**	mg/L	1.0	0.28	1		10/20/20 16:37	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:50		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:50	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:50	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**284**	mg/L	100	36.0	100		10/27/20 09:59	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**195**	mg/L	100	36.0	100		10/27/20 17:03		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**15**	mg/L	10	2.5	20		10/20/20 12:02	64-19-7	
Butyric Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	107-92-6	
Formic acid	**93**	mg/L	10	1.1	20		10/20/20 12:02	64-18-6	
Hexanoic Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	142-62-1	
Lactic Acid	ND	mg/L	10	1.1	20		10/20/20 12:02	50-21-5	
Pentanoic Acid	ND	mg/L	10	1.1	20		10/20/20 12:02	109-52-4	
Propionic Acid	**15**	mg/L	10	1.1	20		10/20/20 12:02	79-09-4	
Pyruvic Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	127-17-3	
i-Hexanoic Acid	ND	mg/L	10	1.1	20		10/20/20 12:02	646-07-1	
i-Pentanoic Acid	ND	mg/L	10	1.2	20		10/20/20 12:02	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-194-202010 **Lab ID: 60350715006** Collected: 10/07/20 09:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.39J**	ug/L	1.0	0.075	1		10/20/20 12:59	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 12:59	74-85-1	
Methane	**6400**	ug/L	5.0	2.5	1		10/20/20 12:59	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**6200**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:09	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 17:09	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:09	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:09	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:09	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 17:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:09	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:09	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:09	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:09	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:09	75-35-4	
cis-1,2-Dichloroethene	**0.78J**	ug/L	1.0	0.15	1		10/09/20 17:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:09	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:09	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:09	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:09	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:09	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:09	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 17:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:09	79-00-5	
Trichloroethene	**5.6**	ug/L	1.0	0.25	1		10/09/20 17:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 17:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:09	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-194-202010 **Lab ID: 60350715006** Collected: 10/07/20 09:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/09/20 17:09	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 17:09	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 17:09	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:09		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**165**	mg/L	20.0	7.8	20		10/19/20 22:18	16887-00-6	M1
Sulfate	**11.4**	mg/L	1.0	0.28	1		10/19/20 21:49	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:49		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:49	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:49	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.64J**	mg/L	1.0	0.36	1		10/26/20 23:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.63J**	mg/L	1.0	0.36	1		10/27/20 17:30		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**2.0J**	mg/L	2.5	0.62	5		10/20/20 12:56	64-19-7	
Butyric Acid	ND	mg/L	2.5	0.29	5		10/20/20 12:56	107-92-6	
Formic acid	**23**	mg/L	2.5	0.27	5		10/20/20 12:56	64-18-6	
Hexanoic Acid	ND	mg/L	2.5	0.29	5		10/20/20 12:56	142-62-1	
Lactic Acid	ND	mg/L	2.5	0.26	5		10/20/20 12:56	50-21-5	
Pentanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 12:56	109-52-4	
Propionic Acid	**0.30J**	mg/L	2.5	0.26	5		10/20/20 12:56	79-09-4	
Pyruvic Acid	ND	mg/L	2.5	0.30	5		10/20/20 12:56	127-17-3	
i-Hexanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 12:56	646-07-1	
i-Pentanoic Acid	ND	mg/L	2.5	0.30	5		10/20/20 12:56	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-23-202010 **Lab ID: 60350715007** Collected: 10/07/20 10:41 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 18:35	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 18:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 18:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 18:35	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 18:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 18:35	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 18:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 18:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 18:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 18:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 18:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 18:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 18:35	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 18:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 18:35	107-06-2	
1,1-Dichloroethene	**0.41J**	ug/L	1.0	0.21	1		10/09/20 18:35	75-35-4	
cis-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		10/09/20 18:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 18:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 18:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 18:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 18:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 18:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 18:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 18:35	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 18:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:35	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 18:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 18:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:35	79-00-5	
Trichloroethene	**168**	ug/L	5.0	1.2	5		10/13/20 17:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 18:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 18:35	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		10/09/20 18:35	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/09/20 18:35	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/09/20 18:35	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 18:35		

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-192-202010 **Lab ID: 60350715008** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 17:23	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:23	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:23	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:23	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 17:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:23	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:23	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:23	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:23	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:23	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:23	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:23	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:23	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:23	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:23	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 17:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 17:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 17:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 17:23	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 17:23	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/09/20 17:23	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-27-202010 **Lab ID: 60350715009** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 17:38	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:38	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:38	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:38	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:38	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 17:38	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:38	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:38	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:38	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:38	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:38	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:38	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:38	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:38	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:38	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:38	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:38	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:38	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:38	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:38	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:38	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 17:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:38	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/09/20 17:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/09/20 17:38	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 17:38	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/09/20 17:38	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/09/20 17:38	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:38		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-26-202010 **Lab ID: 60350715010** Collected: 10/07/20 11:10 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**0.58J**	ug/L	1.0	0.075	1		10/20/20 13:11	74-84-0	
Ethene	**1.0**	ug/L	1.0	0.12	1		10/20/20 13:11	74-85-1	
Methane	**16000**	ug/L	5.0	2.5	1		10/20/20 13:11	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**34800**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:11	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.5J**	ug/L	10.0	4.7	1		10/09/20 17:52	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 17:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 17:52	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 17:52	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 17:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 17:52	78-93-3	
Carbon disulfide	**0.50J**	ug/L	5.0	0.24	1		10/09/20 17:52	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 17:52	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 17:52	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 17:52	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 17:52	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 17:52	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 17:52	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 17:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 17:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/09/20 17:52	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/09/20 17:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:52	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 17:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 17:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 17:52	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 17:52	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 17:52	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 17:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 17:52	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 17:52	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:52	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 17:52	127-18-4	
Toluene	**8.2**	ug/L	1.0	0.18	1		10/09/20 17:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 17:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 17:52	79-00-5	
Trichloroethene	**3.7**	ug/L	1.0	0.25	1		10/09/20 17:52	79-01-6	
Vinyl chloride	**0.99J**	ug/L	1.0	0.25	1		10/09/20 17:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 17:52	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-26-202010 **Lab ID: 60350715010** Collected: 10/07/20 11:10 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		10/09/20 17:52	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 17:52	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 17:52	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 17:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**196**	mg/L	20.0	7.8	20		10/19/20 23:18	16887-00-6	
Sulfate	**5.3**	mg/L	1.0	0.28	1		10/20/20 16:52	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.16**	mg/L	0.10	0.058	1		10/09/20 07:56		
Nitrogen, Nitrate	**0.16**	mg/L	0.10	0.063	1		10/09/20 07:56	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:56	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**58.7**	mg/L	50.0	18.0	50		10/26/20 23:32	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**58.7**	mg/L	10.0	3.6	10		10/27/20 17:43		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**12**	mg/L	10	2.5	20		10/20/20 13:49	64-19-7	
Butyric Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	107-92-6	
Formic acid	**90**	mg/L	10	1.1	20		10/20/20 13:49	64-18-6	
Hexanoic Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	142-62-1	
Lactic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	50-21-5	
Pentanoic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	109-52-4	
Propionic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	79-09-4	
Pyruvic Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	127-17-3	
i-Hexanoic Acid	ND	mg/L	10	1.1	20		10/20/20 13:49	646-07-1	
i-Pentanoic Acid	ND	mg/L	10	1.2	20		10/20/20 13:49	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-57R-202010 **Lab ID: 60350715011** Collected: 10/07/20 11:35 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 18:21	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 18:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 18:21	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 18:21	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 18:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 18:21	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 18:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 18:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 18:21	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 18:21	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 18:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 18:21	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 18:21	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 18:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 18:21	107-06-2	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.21	1		10/09/20 18:21	75-35-4	
cis-1,2-Dichloroethene	**14.2**	ug/L	1.0	0.15	1		10/09/20 18:21	156-59-2	
trans-1,2-Dichloroethene	**0.22J**	ug/L	1.0	0.15	1		10/09/20 18:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 18:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 18:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 18:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 18:21	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 18:21	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 18:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 18:21	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 18:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:21	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 18:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 18:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:21	79-00-5	
Trichloroethene	**327**	ug/L	10.0	2.5	10		10/13/20 18:14	79-01-6	
Vinyl chloride	**0.41J**	ug/L	1.0	0.25	1		10/09/20 18:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 18:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/09/20 18:21	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/09/20 18:21	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/09/20 18:21	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 18:21		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-02-202010 **Lab ID: 60350715012** Collected: 10/07/20 11:35 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/09/20 18:06	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/09/20 18:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/09/20 18:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/09/20 18:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/09/20 18:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/09/20 18:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/09/20 18:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/09/20 18:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/09/20 18:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/09/20 18:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/09/20 18:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/09/20 18:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/09/20 18:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/09/20 18:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/09/20 18:06	107-06-2	
1,1-Dichloroethene	**1.7**	ug/L	1.0	0.21	1		10/09/20 18:06	75-35-4	
cis-1,2-Dichloroethene	**14.4**	ug/L	1.0	0.15	1		10/09/20 18:06	156-59-2	
trans-1,2-Dichloroethene	**0.24J**	ug/L	1.0	0.15	1		10/09/20 18:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/09/20 18:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/09/20 18:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/09/20 18:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/09/20 18:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/09/20 18:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/09/20 18:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/09/20 18:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/09/20 18:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/09/20 18:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/09/20 18:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/09/20 18:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/09/20 18:06	79-00-5	
Trichloroethene	**326**	ug/L	10.0	2.5	10		10/13/20 18:29	79-01-6	
Vinyl chloride	**0.37J**	ug/L	1.0	0.25	1		10/09/20 18:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/09/20 18:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/09/20 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/09/20 18:06	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/09/20 18:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/09/20 18:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-183R-202010 **Lab ID: 60350715013** Collected: 10/07/20 11:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:15	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 02:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 02:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 02:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 02:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:15	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:15	79-00-5	
Trichloroethene	**0.82J**	ug/L	1.0	0.25	1		10/10/20 02:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/10/20 02:15	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 02:15	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/10/20 02:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-03-202010 **Lab ID: 60350715014** Collected: 10/07/20 10:41 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:10	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 04:10	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:10	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:10	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 04:10	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:10	107-06-2	
1,1-Dichloroethene	**0.42J**	ug/L	1.0	0.21	1		10/10/20 04:10	75-35-4	
cis-1,2-Dichloroethene	**2.9**	ug/L	1.0	0.15	1		10/10/20 04:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:10	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:10	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:10	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:10	79-00-5	
Trichloroethene	**164**	ug/L	5.0	1.2	5		10/13/20 22:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 04:10	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 04:10	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 04:10	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:10		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: ITMW-9-202010 **Lab ID: 60350715015** Collected: 10/07/20 12:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 13:23	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 13:23	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 13:23	74-85-1	
Methane	**25**	ug/L	5.0	2.5	1		10/20/20 13:23	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	ND	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:14	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:15	67-64-1	
Benzene	**0.81J**	ug/L	1.0	0.088	1		10/13/20 22:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 22:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 22:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 22:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:15	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 22:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 22:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 22:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 22:15	75-00-3	
Chloroform	**0.60J**	ug/L	1.0	0.17	1		10/13/20 22:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 22:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 22:15	124-48-1	
1,1-Dichloroethane	**2.5**	ug/L	1.0	0.098	1		10/13/20 22:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 22:15	107-06-2	
1,1-Dichloroethene	**7.2**	ug/L	1.0	0.21	1		10/13/20 22:15	75-35-4	
cis-1,2-Dichloroethene	**67.6**	ug/L	1.0	0.15	1		10/13/20 22:15	156-59-2	
trans-1,2-Dichloroethene	**2.3**	ug/L	1.0	0.15	1		10/13/20 22:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 22:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 22:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 22:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 22:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 22:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 22:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 22:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 22:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:15	79-34-5	
Tetrachloroethene	**1.6**	ug/L	1.0	0.15	1		10/13/20 22:15	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 22:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 22:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:15	79-00-5	
Trichloroethene	**1770**	ug/L	50.0	12.5	50		10/10/20 06:20	79-01-6	
Vinyl chloride	**1.2**	ug/L	1.0	0.25	1		10/13/20 22:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 22:15	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: ITMW-9-202010 **Lab ID: 60350715015** Collected: 10/07/20 12:15 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 22:15	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	86-117		1		10/13/20 22:15	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 22:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 22:15		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**26.1**	mg/L	2.0	0.56	2		10/20/20 17:06	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**9.2**	mg/L	0.50	0.29	5		10/09/20 08:10		
Nitrogen, Nitrate	**9.2**	mg/L	0.50	0.32	5		10/09/20 08:10	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.50	0.32	5		10/09/20 08:10	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.85J**	mg/L	1.0	0.36	1		10/26/20 23:59	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-12-202010 **Lab ID: 60350715016** Collected: 10/07/20 12:48 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 05:22	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 05:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 05:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 05:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 05:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 05:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 05:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 05:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 05:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 05:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 05:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 05:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 05:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 05:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 05:22	107-06-2	
1,1-Dichloroethene	**1.6**	ug/L	1.0	0.21	1		10/10/20 05:22	75-35-4	
cis-1,2-Dichloroethene	**11.1**	ug/L	1.0	0.15	1		10/10/20 05:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 05:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 05:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 05:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 05:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 05:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 05:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 05:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 05:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 05:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 05:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:22	79-00-5	
Trichloroethene	**415**	ug/L	10.0	2.5	10		10/10/20 05:37	79-01-6	
Vinyl chloride	**0.32J**	ug/L	1.0	0.25	1		10/10/20 05:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 05:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 05:22	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/10/20 05:22	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 05:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 05:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-14-202010 **Lab ID: 60350715017** Collected: 10/07/20 11:37 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:29	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 02:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 02:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 02:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 02:29	75-35-4	
cis-1,2-Dichloroethene	**3.2**	ug/L	1.0	0.15	1		10/10/20 02:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:29	79-00-5	
Trichloroethene	**3.0**	ug/L	1.0	0.25	1		10/10/20 02:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	80-120		1		10/10/20 02:29	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/10/20 02:29	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/10/20 02:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:29		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-04-202010 **Lab ID: 60350715018** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:25	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 04:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:25	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 04:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 04:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:25	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:25	79-00-5	
Trichloroethene	**0.42J**	ug/L	1.0	0.25	1		10/10/20 04:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/10/20 04:25	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 04:25	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/10/20 04:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:25		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-73-202010 **Lab ID: 60350715019** Collected: 10/07/20 13:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 13:35	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 13:35	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 13:35	74-85-1	
Methane	**9.6**	ug/L	5.0	2.5	1		10/20/20 13:35	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**389**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:17	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 05:08	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 05:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 05:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 05:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 05:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 05:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 05:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 05:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 05:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 05:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 05:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 05:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 05:08	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 05:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 05:08	107-06-2	
1,1-Dichloroethene	**0.89J**	ug/L	1.0	0.21	1		10/10/20 05:08	75-35-4	
cis-1,2-Dichloroethene	**7.6**	ug/L	1.0	0.15	1		10/10/20 05:08	156-59-2	
trans-1,2-Dichloroethene	**0.16J**	ug/L	1.0	0.15	1		10/10/20 05:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 05:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 05:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 05:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 05:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 05:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 05:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 05:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 05:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:08	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 05:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 05:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:08	79-00-5	
Trichloroethene	**211**	ug/L	10.0	2.5	10		10/13/20 23:13	79-01-6	
Vinyl chloride	**0.27J**	ug/L	1.0	0.25	1		10/10/20 05:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 05:08	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-73-202010 **Lab ID: 60350715019** Collected: 10/07/20 13:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/10/20 05:08	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/10/20 05:08	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 05:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 05:08		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**4.0**	mg/L	1.0	0.28	1		10/20/20 17:21	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.23**	mg/L	0.10	0.058	1		10/09/20 08:04		
Nitrogen, Nitrate	**0.23**	mg/L	0.10	0.063	1		10/09/20 08:04	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:04	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.38J**	mg/L	1.0	0.36	1		10/27/20 00:39	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-58R-202010 **Lab ID: 60350715020** Collected: 10/07/20 12:37 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 13:48	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 13:48	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 13:48	74-85-1	
Methane	**31**	ug/L	5.0	2.5	1		10/20/20 13:48	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**374**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:19	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 05:51	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 05:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 05:51	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 05:51	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 05:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 05:51	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 05:51	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 05:51	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 05:51	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 05:51	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 05:51	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 05:51	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 05:51	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 05:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 05:51	107-06-2	
1,1-Dichloroethene	**2.0**	ug/L	1.0	0.21	1		10/10/20 05:51	75-35-4	
cis-1,2-Dichloroethene	**9.7**	ug/L	1.0	0.15	1		10/10/20 05:51	156-59-2	
trans-1,2-Dichloroethene	**0.22J**	ug/L	1.0	0.15	1		10/10/20 05:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 05:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 05:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 05:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 05:51	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 05:51	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 05:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 05:51	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 05:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 05:51	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 05:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 05:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 05:51	79-00-5	
Trichloroethene	**298**	ug/L	10.0	2.5	10		10/10/20 06:06	79-01-6	
Vinyl chloride	**0.61J**	ug/L	1.0	0.25	1		10/10/20 05:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 05:51	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-58R-202010 **Lab ID: 60350715020** Collected: 10/07/20 12:37 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/10/20 05:51	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 05:51	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/10/20 05:51	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 05:51		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**2.2**	mg/L	1.0	0.28	1		10/20/20 17:36	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 07:59		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 07:59	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 07:59	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	ND	mg/L	1.0	0.36	1		10/27/20 00:52	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-83-202010 **Lab ID: 60350715021** Collected: 10/07/20 14:36 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:44	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:44	75-27-4	
Bromoform	**1.9**	ug/L	1.0	0.38	1		10/10/20 02:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:44	74-87-3	
Dibromochloromethane	**0.28J**	ug/L	1.0	0.17	1		10/10/20 02:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 02:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 02:44	75-35-4	
cis-1,2-Dichloroethene	**0.81J**	ug/L	1.0	0.15	1		10/10/20 02:44	156-59-2	
trans-1,2-Dichloroethene	**0.19J**	ug/L	1.0	0.15	1		10/10/20 02:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:44	79-00-5	
Trichloroethene	**40.5**	ug/L	1.0	0.25	1		10/10/20 02:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 02:44	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/10/20 02:44	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/10/20 02:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:44		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-01-202010 **Lab ID: 60350715022** Collected: 10/07/20 14:36 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:39	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:39	75-27-4	
Bromoform	**1.7**	ug/L	1.0	0.38	1		10/10/20 04:39	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:39	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:39	74-87-3	
Dibromochloromethane	**0.24J**	ug/L	1.0	0.17	1		10/10/20 04:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 04:39	75-35-4	
cis-1,2-Dichloroethene	**0.82J**	ug/L	1.0	0.15	1		10/10/20 04:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:39	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:39	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:39	79-00-5	
Trichloroethene	**40.9**	ug/L	1.0	0.25	1		10/10/20 04:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/10/20 04:39	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/10/20 04:39	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 04:39	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:39		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-38-202010 **Lab ID: 60350715023** Collected: 10/07/20 14:03 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 22:24	74-86-2	
Ethane	**0.26J**	ug/L	1.0	0.075	1		10/20/20 22:24	74-84-0	
Ethene	**14**	ug/L	1.0	0.12	1		10/20/20 22:24	74-85-1	
Methane	**9.8**	ug/L	5.0	2.5	1		10/20/20 22:24	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**5710**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:22	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:30	67-64-1	
Benzene	**0.21J**	ug/L	1.0	0.088	1		10/13/20 22:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 22:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 22:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 22:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:30	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 22:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 22:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 22:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 22:30	75-00-3	
Chloroform	**0.20J**	ug/L	1.0	0.17	1		10/13/20 22:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 22:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 22:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 22:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 22:30	107-06-2	
1,1-Dichloroethene	**3.4**	ug/L	1.0	0.21	1		10/13/20 22:30	75-35-4	
cis-1,2-Dichloroethene	**353**	ug/L	100	15.0	100		10/10/20 06:34	156-59-2	
trans-1,2-Dichloroethene	**2.6**	ug/L	1.0	0.15	1		10/13/20 22:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 22:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 22:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 22:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 22:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 22:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 22:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 22:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 22:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 22:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 22:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 22:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 22:30	79-00-5	
Trichloroethene	**1110**	ug/L	100	25.0	100		10/10/20 06:34	79-01-6	
Vinyl chloride	**237**	ug/L	100	25.0	100		10/10/20 06:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 22:30	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-38-202010 **Lab ID: 60350715023** Collected: 10/07/20 14:03 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	106	%	80-120		1		10/13/20 22:30	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	86-117		1		10/13/20 22:30	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 22:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 22:30		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/12/20 13:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**250**	mg/L	20.0	5.6	20		10/20/20 00:18	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.15**	mg/L	0.10	0.058	1		10/09/20 08:05		
Nitrogen, Nitrate	**0.15**	mg/L	0.10	0.063	1		10/09/20 08:05	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:05	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.62J**	mg/L	1.0	0.36	1		10/27/20 01:06	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-34-202010 **Lab ID: 60350715024** Collected: 10/07/20 14:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 22:37	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/20/20 22:37	74-85-1	
Methane	**3900**	ug/L	5.0	2.5	1		10/20/20 22:37	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**2260**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:24	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 02:58	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 02:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 02:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 02:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 02:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 02:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 02:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 02:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 02:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 02:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 02:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 02:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 02:58	124-48-1	
1,1-Dichloroethane	**0.44J**	ug/L	1.0	0.098	1		10/10/20 02:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 02:58	107-06-2	
1,1-Dichloroethene	**1.3**	ug/L	1.0	0.21	1		10/10/20 02:58	75-35-4	
cis-1,2-Dichloroethene	**46.0**	ug/L	1.0	0.15	1		10/10/20 02:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 02:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 02:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 02:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 02:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 02:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 02:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 02:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 02:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 02:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:58	79-34-5	
Tetrachloroethene	**0.15J**	ug/L	1.0	0.15	1		10/10/20 02:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 02:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 02:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 02:58	79-00-5	
Trichloroethene	**84.4**	ug/L	1.0	0.25	1		10/10/20 02:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 02:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 02:58	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-34-202010 **Lab ID: 60350715024** Collected: 10/07/20 14:45 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/10/20 02:58	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/10/20 02:58	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 02:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 02:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**35.8**	mg/L	5.0	1.9	5		10/20/20 17:51	16887-00-6	
Sulfate	**8.5**	mg/L	1.0	0.28	1		10/20/20 18:06	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**1.5**	mg/L	0.10	0.058	1		10/09/20 08:07		
Nitrogen, Nitrate	**1.5**	mg/L	0.10	0.063	1		10/09/20 08:07	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:07	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.48J**	mg/L	1.0	0.36	1		10/27/20 01:19	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.69J**	mg/L	1.0	0.36	1		10/27/20 17:56		1e
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.38J**	mg/L	0.50	0.12	1		10/20/20 14:42	64-19-7	
Butyric Acid	ND	mg/L	0.50	0.058	1		10/20/20 14:42	107-92-6	
Formic acid	**4.7**	mg/L	0.50	0.055	1		10/20/20 14:42	64-18-6	
Hexanoic Acid	ND	mg/L	0.50	0.058	1		10/20/20 14:42	142-62-1	
Lactic Acid	ND	mg/L	0.50	0.053	1		10/20/20 14:42	50-21-5	
Pentanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 14:42	109-52-4	
Propionic Acid	ND	mg/L	0.50	0.053	1		10/20/20 14:42	79-09-4	
Pyruvic Acid	ND	mg/L	0.50	0.060	1		10/20/20 14:42	127-17-3	
i-Hexanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 14:42	646-07-1	
i-Pentanoic Acid	ND	mg/L	0.50	0.061	1		10/20/20 14:42	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-185-202010 **Lab ID: 60350715025** Collected: 10/07/20 12:55 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 03:13	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 03:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 03:13	124-48-1	
1,1-Dichloroethane	**0.63J**	ug/L	1.0	0.098	1		10/10/20 03:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:13	107-06-2	
1,1-Dichloroethene	**1.4**	ug/L	1.0	0.21	1		10/10/20 03:13	75-35-4	
cis-1,2-Dichloroethene	**10.6**	ug/L	1.0	0.15	1		10/10/20 03:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:13	79-00-5	
Trichloroethene	**176**	ug/L	1.0	0.25	1		10/10/20 03:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/10/20 03:13	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/10/20 03:13	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/10/20 03:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-78-202010 **Lab ID: 60350715026** Collected: 10/07/20 16:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**8.3J**	ug/L	10.0	4.7	1		10/10/20 03:27	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:27	75-27-4	
Bromoform	**7.4**	ug/L	1.0	0.38	1		10/10/20 03:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:27	74-87-3	
Dibromochloromethane	**0.47J**	ug/L	1.0	0.17	1		10/10/20 03:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 03:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 03:27	75-35-4	
cis-1,2-Dichloroethene	**0.66J**	ug/L	1.0	0.15	1		10/10/20 03:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:27	79-00-5	
Trichloroethene	**25.0**	ug/L	1.0	0.25	1		10/10/20 03:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		10/10/20 03:27	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 03:27	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 03:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-82-202010 **Lab ID: 60350715027** Collected: 10/07/20 13:55 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 03:42	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 03:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 03:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 03:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 03:42	75-35-4	
cis-1,2-Dichloroethene	**1.3**	ug/L	1.0	0.15	1		10/10/20 03:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:42	79-00-5	
Trichloroethene	**55.1**	ug/L	1.0	0.25	1		10/10/20 03:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		10/10/20 03:42	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 03:42	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/10/20 03:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:42		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-201-202010 **Lab ID: 60350715028** Collected: 10/07/20 16:09 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 04:54	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 04:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 04:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 04:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 04:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 04:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 04:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 04:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 04:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 04:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 04:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 04:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 04:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 04:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 04:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 04:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 04:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 04:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 04:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 04:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 04:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 04:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 04:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 04:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 04:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 04:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 04:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 04:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/10/20 04:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 04:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 04:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/10/20 04:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	86-117		1		10/10/20 04:54	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/10/20 04:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 04:54		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-27-202010 **Lab ID: 60350715029** Collected: 10/07/20 16:19 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/10/20 03:56	67-64-1	L1
Benzene	ND	ug/L	1.0	0.088	1		10/10/20 03:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/10/20 03:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/10/20 03:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/10/20 03:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/10/20 03:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/10/20 03:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/10/20 03:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/10/20 03:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/10/20 03:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/10/20 03:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/10/20 03:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/10/20 03:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/10/20 03:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/10/20 03:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/10/20 03:56	75-35-4	
cis-1,2-Dichloroethene	**0.42J**	ug/L	1.0	0.15	1		10/10/20 03:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/10/20 03:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/10/20 03:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/10/20 03:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/10/20 03:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/10/20 03:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/10/20 03:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/10/20 03:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/10/20 03:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/10/20 03:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/10/20 03:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/10/20 03:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/10/20 03:56	79-00-5	
Trichloroethene	**10.2**	ug/L	1.0	0.25	1		10/10/20 03:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/10/20 03:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/10/20 03:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/10/20 03:56	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	86-117		1		10/10/20 03:56	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/10/20 03:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/10/20 03:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-147-202010 **Lab ID: 60350715030** Collected: 10/07/20 16:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	**3.3**	ug/L	0.74	0.11	1		10/20/20 22:49	74-86-2	
Ethane	**7.8**	ug/L	1.0	0.075	1		10/20/20 22:49	74-84-0	
Ethene	**0.37J**	ug/L	1.0	0.12	1		10/20/20 22:49	74-85-1	
Methane	**38**	ug/L	5.0	2.5	1		10/20/20 22:49	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**173**	ug/L	50.0	26.8	1	10/19/20 18:38	10/21/20 10:27	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 22:45	67-64-1	
Benzene	**0.42J**	ug/L	1.0	0.088	1		10/13/20 22:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 22:45	75-27-4	
Bromoform	**2.8**	ug/L	1.0	0.38	1		10/13/20 22:45	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 22:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 22:45	78-93-3	L2
Carbon disulfide	**0.73J**	ug/L	5.0	0.24	1		10/13/20 22:45	75-15-0	
Carbon tetrachloride	**0.86J**	ug/L	1.0	0.19	1		10/13/20 22:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 22:45	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 22:45	75-00-3	
Chloroform	**20.4**	ug/L	1.0	0.17	1		10/13/20 22:45	67-66-3	
Chloromethane	**0.91J**	ug/L	1.0	0.44	1		10/13/20 22:45	74-87-3	
Dibromochloromethane	**0.41J**	ug/L	1.0	0.17	1		10/13/20 22:45	124-48-1	
1,1-Dichloroethane	**3.4**	ug/L	1.0	0.098	1		10/13/20 22:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 22:45	107-06-2	
1,1-Dichloroethene	**72.7**	ug/L	1.0	0.21	1		10/13/20 22:45	75-35-4	
cis-1,2-Dichloroethene	**8340**	ug/L	1000	150	1000		10/10/20 06:49	156-59-2	
trans-1,2-Dichloroethene	**189**	ug/L	1.0	0.15	1		10/13/20 22:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 22:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 22:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 22:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 22:45	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 22:45	591-78-6	
Methylene Chloride	**4.3**	ug/L	1.0	0.81	1		10/13/20 22:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 22:45	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 22:45	100-42-5	
1,1,2,2-Tetrachloroethane	**52.6**	ug/L	1.0	0.28	1		10/13/20 22:45	79-34-5	
Tetrachloroethene	**27.7**	ug/L	1.0	0.15	1		10/13/20 22:45	127-18-4	
Toluene	**4.2**	ug/L	1.0	0.18	1		10/13/20 22:45	108-88-3	
1,1,1-Trichloroethane	**60.8**	ug/L	1.0	0.13	1		10/13/20 22:45	71-55-6	
1,1,2-Trichloroethane	**2.3**	ug/L	1.0	0.28	1		10/13/20 22:45	79-00-5	
Trichloroethene	**76800**	ug/L	1000	250	1000		10/10/20 06:49	79-01-6	
Vinyl chloride	**329**	ug/L	1.0	0.25	1		10/13/20 22:45	75-01-4	E
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 22:45	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: IW-147-202010 **Lab ID: 60350715030** Collected: 10/07/20 16:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 22:45	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	86-117		1		10/13/20 22:45	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 22:45	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 22:45		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/14/20 14:54	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**501**	mg/L	50.0	13.9	50		10/20/20 18:21	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.099J**	mg/L	0.10	0.058	1		10/09/20 08:08		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 08:08	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 08:08	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**1.1**	mg/L	1.0	0.36	1		10/27/20 01:32	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-184-202010 **Lab ID: 60350715031** Collected: 10/07/20 16:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/15/20 14:21	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/15/20 14:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/15/20 14:21	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/15/20 14:21	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/15/20 14:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/15/20 14:21	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/15/20 14:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/15/20 14:21	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/15/20 14:21	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/15/20 14:21	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/15/20 14:21	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/15/20 14:21	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/15/20 14:21	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/15/20 14:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/15/20 14:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/15/20 14:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/15/20 14:21	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/15/20 14:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/15/20 14:21	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/15/20 14:21	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/15/20 14:21	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/15/20 14:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/15/20 14:21	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/15/20 14:21	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:21	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/15/20 14:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/15/20 14:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:21	79-00-5	
Trichloroethene	**0.40J**	ug/L	1.0	0.25	1		10/15/20 14:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/15/20 14:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/15/20 14:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/15/20 14:21	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/15/20 14:21	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/15/20 14:21	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/15/20 14:21		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-05-202010 **Lab ID: 60350715032** Collected: 10/07/20 16:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/15/20 14:53	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/15/20 14:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/15/20 14:53	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/15/20 14:53	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/15/20 14:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/15/20 14:53	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/15/20 14:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/15/20 14:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/15/20 14:53	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/15/20 14:53	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/15/20 14:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/15/20 14:53	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/15/20 14:53	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/15/20 14:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/15/20 14:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/15/20 14:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/15/20 14:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/15/20 14:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/15/20 14:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/15/20 14:53	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/15/20 14:53	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/15/20 14:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/15/20 14:53	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/15/20 14:53	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:53	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/15/20 14:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/15/20 14:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/15/20 14:53	79-00-5	
Trichloroethene	**0.29J**	ug/L	1.0	0.25	1		10/15/20 14:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/15/20 14:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/15/20 14:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	106	%	80-120		1		10/15/20 14:53	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/15/20 14:53	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/15/20 14:53	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/15/20 14:53		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-178-202010 **Lab ID: 60350715033** Collected: 10/07/20 16:49 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:42	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:42	75-35-4	
cis-1,2-Dichloroethene	**0.66J**	ug/L	1.0	0.15	1		10/12/20 17:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:42	79-00-5	
Trichloroethene	**1.9**	ug/L	1.0	0.25	1		10/12/20 17:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		10/12/20 17:42	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/12/20 17:42	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 17:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:42		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-26-202010 **Lab ID: 60350715034** Collected: 10/07/20 17:10 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:56	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 17:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 17:56	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 17:56	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 17:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: EB-01-202010 **Lab ID: 60350715035** Collected: 10/07/20 17:28 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 16:59	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 16:59	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 16:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:59		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: EB-02-202010 **Lab ID: 60350715036** Collected: 10/07/20 17:25 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:13	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 17:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 17:13	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 17:13	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 17:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:13		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: EB-03-202010 **Lab ID: 60350715037** Collected: 10/07/20 17:22 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 17:27	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 17:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 17:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 17:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 17:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 17:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 17:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 17:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 17:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 17:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 17:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 17:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 17:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 17:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 17:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 17:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 17:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 17:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 17:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 17:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 17:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 17:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 17:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 17:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 17:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 17:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 17:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 17:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 17:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 17:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 17:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 17:27	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 17:27	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 17:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 17:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: MW-98-202010 **Lab ID: 60350715038** Collected: 10/07/20 17:28 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 18:10	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 18:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:10	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:10	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 18:10	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:10	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:10	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:10	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 18:10	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:10	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:10	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:10	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:10	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:10	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 18:10	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:10	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:10	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:10	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 18:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 18:10	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 18:10	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 18:10	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:10		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TMW-25-202010 **Lab ID: 60350715039** Collected: 10/07/20 17:50 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:29	67-64-1	
Benzene	**0.15J**	ug/L	1.0	0.088	1		10/13/20 20:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:29	78-93-3	L2
Carbon disulfide	**0.54J**	ug/L	5.0	0.24	1		10/13/20 20:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:29	56-23-5	
Chlorobenzene	**2.9**	ug/L	1.0	0.23	1		10/13/20 20:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 20:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 20:29	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/13/20 20:29	156-59-2	
trans-1,2-Dichloroethene	**0.17J**	ug/L	1.0	0.15	1		10/13/20 20:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:29	127-18-4	
Toluene	**0.21J**	ug/L	1.0	0.18	1		10/13/20 20:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:29	79-00-5	
Trichloroethene	**3.1**	ug/L	1.0	0.25	1		10/13/20 20:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 20:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 20:29	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	86-117		1		10/13/20 20:29	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 20:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:29		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TB-05-202010 **Lab ID: 60350715040** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:15	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:15	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 16:15	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/12/20 16:15	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/12/20 16:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TB-06-202010 **Lab ID: 60350715041** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:30	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:30	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:30	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 16:30	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		10/12/20 16:30	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 16:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:30		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: TB-07-202010 **Lab ID: 60350715042** Collected: 10/07/20 08:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 16:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 16:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 16:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 16:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 16:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 16:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 16:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 16:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 16:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 16:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 16:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 16:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 16:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 16:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 16:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 16:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 16:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 16:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 16:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 16:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 16:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 16:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 16:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 16:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 16:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 16:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 16:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 16:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 16:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 16:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 16:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 16:44	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 16:44	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 16:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 16:44		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Sample: DUP-06-202010 **Lab ID: 60350715043** Collected: 10/07/20 10:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:44	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 20:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:44	75-34-3	
1,2-Dichloroethane	**0.26J**	ug/L	1.0	0.23	1		10/13/20 20:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 20:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 20:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 20:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	80-120		1		10/13/20 20:44	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	86-117		1		10/13/20 20:44	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 20:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:44		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695051
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020

METHOD BLANK: 2098533 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/20/20 09:47	
Ethane	ug/L	ND	1.0	0.075	10/20/20 09:47	
Ethene	ug/L	ND	1.0	0.12	10/20/20 09:47	
Methane	ug/L	2.8J	5.0	2.5	10/20/20 09:47	

LABORATORY CONTROL SAMPLE & LCSD: 2098534 2098535

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	31	35	80	90	70-130	11	20	
Ethane	ug/L	100	83	97	82	96	70-130	16	20	
Ethene	ug/L	140	120	140	82	96	70-130	15	20	
Methane	ug/L	490	400	460	82	94	70-130	13	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695115
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350715023, 60350715024, 60350715030

METHOD BLANK: 2098800 Matrix: Water
Associated Lab Samples: 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/20/20 21:25	
Ethane	ug/L	ND	1.0	0.075	10/20/20 21:25	
Ethene	ug/L	ND	1.0	0.12	10/20/20 21:25	
Methane	ug/L	3.0J	5.0	2.5	10/20/20 21:25	B0

LABORATORY CONTROL SAMPLE & LCSD: 2098801 2098802

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	31	37	81	97	70-130	18	20	
Ethane	ug/L	100	84	100	83	102	70-130	21	20	
Ethene	ug/L	140	120	150	85	105	70-130	21	20	
Methane	ug/L	490	390	480	79	99	70-130	23	20	R1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 683767
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2764378 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/20/20 20:53	

LABORATORY CONTROL SAMPLE: 2764379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4540	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764380 2764381

Parameter	Units	60350715001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	130000	5000	5000	132000	137000	54	156	75-125	4	20	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681805
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715002, 60350715003, 60350715004, 60350715005, 60350715006, 60350715007, 60350715008, 60350715009, 60350715010, 60350715011, 60350715012

METHOD BLANK: 2756056
Matrix: Water
Associated Lab Samples: 60350715001, 60350715002, 60350715003, 60350715004, 60350715005, 60350715006, 60350715007, 60350715008, 60350715009, 60350715010, 60350715011, 60350715012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/09/20 15:57	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/09/20 15:57	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/09/20 15:57	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/09/20 15:57	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/09/20 15:57	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/09/20 15:57	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/09/20 15:57	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/09/20 15:57	
2-Hexanone	ug/L	ND	10.0	1.5	10/09/20 15:57	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/09/20 15:57	
Acetone	ug/L	ND	10.0	4.7	10/09/20 15:57	
Benzene	ug/L	ND	1.0	0.088	10/09/20 15:57	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/09/20 15:57	
Bromoform	ug/L	ND	1.0	0.38	10/09/20 15:57	
Bromomethane	ug/L	ND	5.0	0.99	10/09/20 15:57	
Carbon disulfide	ug/L	ND	5.0	0.24	10/09/20 15:57	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/09/20 15:57	
Chlorobenzene	ug/L	ND	1.0	0.23	10/09/20 15:57	
Chloroethane	ug/L	ND	1.0	0.38	10/09/20 15:57	
Chloroform	ug/L	ND	1.0	0.17	10/09/20 15:57	
Chloromethane	ug/L	ND	1.0	0.44	10/09/20 15:57	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 15:57	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/09/20 15:57	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/09/20 15:57	
Ethylbenzene	ug/L	ND	1.0	0.18	10/09/20 15:57	
Methylene Chloride	ug/L	ND	1.0	0.81	10/09/20 15:57	
Styrene	ug/L	ND	1.0	0.17	10/09/20 15:57	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/09/20 15:57	
Toluene	ug/L	ND	1.0	0.18	10/09/20 15:57	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/09/20 15:57	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/09/20 15:57	
Trichloroethene	ug/L	ND	1.0	0.25	10/09/20 15:57	
Vinyl chloride	ug/L	ND	1.0	0.25	10/09/20 15:57	
Xylene (Total)	ug/L	ND	3.0	0.54	10/09/20 15:57	
1,2-Dichloroethane-d4 (S)	%	106	86-117		10/09/20 15:57	
4-Bromofluorobenzene (S)	%	100	80-120		10/09/20 15:57	
Toluene-d8 (S)	%	99	80-120		10/09/20 15:57	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2756057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.6	103	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	97	78-118	
1,1,2-Trichloroethane	ug/L	20	21.0	105	82-117	
1,1-Dichloroethane	ug/L	20	21.7	109	85-120	
1,1-Dichloroethene	ug/L	20	21.9	110	81-124	
1,2-Dichloroethane	ug/L	20	21.3	106	79-118	
1,2-Dichloropropane	ug/L	20	21.1	106	85-117	
2-Butanone (MEK)	ug/L	100	105	105	70-125	
2-Hexanone	ug/L	100	112	112	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	73-131	
Acetone	ug/L	100	137	137	59-135	L1
Benzene	ug/L	20	21.0	105	82-115	
Bromodichloromethane	ug/L	20	20.7	104	82-123	
Bromoform	ug/L	20	17.2	86	66-133	
Bromomethane	ug/L	20	18.2	91	27-179	
Carbon disulfide	ug/L	20	25.6	128	72-134	
Carbon tetrachloride	ug/L	20	21.0	105	80-121	
Chlorobenzene	ug/L	20	20.9	104	80-120	
Chloroethane	ug/L	20	21.6	108	78-145	
Chloroform	ug/L	20	20.3	101	84-116	
Chloromethane	ug/L	20	18.2	91	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.0	95	85-117	
Dibromochloromethane	ug/L	20	20.6	103	82-122	
Ethylbenzene	ug/L	20	19.7	98	79-115	
Methylene Chloride	ug/L	20	21.6	108	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.1	100	83-119	
Toluene	ug/L	20	20.5	102	83-115	
trans-1,2-Dichloroethene	ug/L	20	21.0	105	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	83-117	
Trichloroethene	ug/L	20	21.7	108	80-118	
Vinyl chloride	ug/L	20	23.4	117	76-144	
Xylene (Total)	ug/L	60	61.9	103	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681810
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715013, 60350715014, 60350715015, 60350715016, 60350715017, 60350715018, 60350715019, 60350715020, 60350715021, 60350715022, 60350715023, 60350715024, 60350715025, 60350715026, 60350715027, 60350715028, 60350715029, 60350715030

METHOD BLANK: 2756066
Matrix: Water
Associated Lab Samples: 60350715013, 60350715014, 60350715015, 60350715016, 60350715017, 60350715018, 60350715019, 60350715020, 60350715021, 60350715022, 60350715023, 60350715024, 60350715025, 60350715026, 60350715027, 60350715028, 60350715029, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/10/20 02:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/10/20 02:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/10/20 02:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/10/20 02:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/10/20 02:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/10/20 02:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/10/20 02:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/10/20 02:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/10/20 02:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/10/20 02:01	
Acetone	ug/L	ND	10.0	4.7	10/10/20 02:01	
Benzene	ug/L	ND	1.0	0.088	10/10/20 02:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/10/20 02:01	
Bromoform	ug/L	ND	1.0	0.38	10/10/20 02:01	
Bromomethane	ug/L	ND	5.0	0.99	10/10/20 02:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/10/20 02:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/10/20 02:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/10/20 02:01	
Chloroethane	ug/L	ND	1.0	0.38	10/10/20 02:01	
Chloroform	ug/L	ND	1.0	0.17	10/10/20 02:01	
Chloromethane	ug/L	ND	1.0	0.44	10/10/20 02:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/10/20 02:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/10/20 02:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/10/20 02:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/10/20 02:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/10/20 02:01	
Styrene	ug/L	ND	1.0	0.17	10/10/20 02:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/10/20 02:01	
Toluene	ug/L	ND	1.0	0.18	10/10/20 02:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/10/20 02:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/10/20 02:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/10/20 02:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/10/20 02:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/10/20 02:01	
1,2-Dichloroethane-d4 (S)	%	108	86-117		10/10/20 02:01	
4-Bromofluorobenzene (S)	%	98	80-120		10/10/20 02:01	
Toluene-d8 (S)	%	100	80-120		10/10/20 02:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2756067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.1	111	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	93	78-118	
1,1,2-Trichloroethane	ug/L	20	20.8	104	82-117	
1,1-Dichloroethane	ug/L	20	22.2	111	85-120	
1,1-Dichloroethene	ug/L	20	22.4	112	81-124	
1,2-Dichloroethane	ug/L	20	20.7	104	79-118	
1,2-Dichloropropane	ug/L	20	21.2	106	85-117	
2-Butanone (MEK)	ug/L	100	104	104	70-125	
2-Hexanone	ug/L	100	108	108	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	73-131	
Acetone	ug/L	100	137	137	59-135	L1
Benzene	ug/L	20	20.7	104	82-115	
Bromodichloromethane	ug/L	20	20.8	104	82-123	
Bromoform	ug/L	20	16.6	83	66-133	
Bromomethane	ug/L	20	17.2	86	27-179	
Carbon disulfide	ug/L	20	25.9	130	72-134	
Carbon tetrachloride	ug/L	20	21.6	108	80-121	
Chlorobenzene	ug/L	20	20.6	103	80-120	
Chloroethane	ug/L	20	22.6	113	78-145	
Chloroform	ug/L	20	20.7	103	84-116	
Chloromethane	ug/L	20	16.2	81	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.1	105	85-115	
cis-1,3-Dichloropropene	ug/L	20	18.5	93	85-117	
Dibromochloromethane	ug/L	20	19.5	98	82-122	
Ethylbenzene	ug/L	20	19.8	99	79-115	
Methylene Chloride	ug/L	20	21.4	107	80-126	
Styrene	ug/L	20	21.7	109	80-117	
Tetrachloroethene	ug/L	20	21.2	106	83-119	
Toluene	ug/L	20	21.1	105	83-115	
trans-1,2-Dichloroethene	ug/L	20	22.0	110	80-124	
trans-1,3-Dichloropropene	ug/L	20	18.7	93	83-117	
Trichloroethene	ug/L	20	23.1	115	80-118	
Vinyl chloride	ug/L	20	24.0	120	76-144	
Xylene (Total)	ug/L	60	62.9	105	82-120	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681957
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715033, 60350715034, 60350715035, 60350715036, 60350715037, 60350715038, 60350715040, 60350715041, 60350715042

METHOD BLANK: 2756627
Matrix: Water
Associated Lab Samples: 60350715033, 60350715034, 60350715035, 60350715036, 60350715037, 60350715038, 60350715040, 60350715041, 60350715042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 16:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 16:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 16:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 16:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 16:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 16:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 16:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 16:01	
Acetone	ug/L	ND	10.0	4.7	10/12/20 16:01	
Benzene	ug/L	ND	1.0	0.088	10/12/20 16:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 16:01	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 16:01	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 16:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 16:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 16:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 16:01	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 16:01	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 16:01	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 16:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 16:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 16:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 16:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 16:01	
Styrene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
Toluene	ug/L	ND	1.0	0.18	10/12/20 16:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 16:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 16:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 16:01	
1,2-Dichloroethane-d4 (S)	%	98	86-117		10/12/20 16:01	
4-Bromofluorobenzene (S)	%	100	80-120		10/12/20 16:01	
Toluene-d8 (S)	%	100	80-120		10/12/20 16:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2756628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	78-118	
1,1,2-Trichloroethane	ug/L	20	20.4	102	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	20.6	103	81-124	
1,2-Dichloroethane	ug/L	20	17.6	88	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	89.7	90	70-125	
2-Hexanone	ug/L	100	92.3	92	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	73-131	
Acetone	ug/L	100	99.8	100	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	15.5	77	66-133	
Bromomethane	ug/L	20	23.7	118	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	20.1	100	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	101	85-117	
Dibromochloromethane	ug/L	20	17.8	89	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.5	103	83-119	
Toluene	ug/L	20	20.2	101	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	83-117	
Trichloroethene	ug/L	20	21.2	106	80-118	
Vinyl chloride	ug/L	20	22.9	114	76-144	
Xylene (Total)	ug/L	60	62.2	104	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682080
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715007, 60350715011, 60350715012

METHOD BLANK: 2757493 Matrix: Water
Associated Lab Samples: 60350715007, 60350715011, 60350715012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 13:42	
1,2-Dichloroethane-d4 (S)	%	116	86-117		10/13/20 13:42	
4-Bromofluorobenzene (S)	%	111	80-120		10/13/20 13:42	
Toluene-d8 (S)	%	96	80-120		10/13/20 13:42	

LABORATORY CONTROL SAMPLE: 2757494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	19.1	96	80-118	
1,2-Dichloroethane-d4 (S)	%			109	86-117	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Trichloroethene	ug/L	101	20	20	114	120	67	98	68-128	5	23	M1
1,2-Dichloroethane-d4 (S)	%						115	113	86-117			
4-Bromofluorobenzene (S)	%						107	107	80-120			
Toluene-d8 (S)	%						97	96	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682464
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715002, 60350715014, 60350715019

METHOD BLANK: 2758667 Matrix: Water
Associated Lab Samples: 60350715001, 60350715002, 60350715014, 60350715019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 18:41	
Acetone	ug/L	ND	10.0	4.7	10/13/20 18:41	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 18:41	
1,2-Dichloroethane-d4 (S)	%	104	86-117		10/13/20 18:41	
4-Bromofluorobenzene (S)	%	104	80-120		10/13/20 18:41	
Toluene-d8 (S)	%	98	80-120		10/13/20 18:41	

LABORATORY CONTROL SAMPLE: 2758668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100	101	101	70-125	
Acetone	ug/L	100	104	104	59-135	
Trichloroethene	ug/L	20	18.8	94	80-118	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682488
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715015, 60350715023, 60350715030, 60350715039, 60350715043

METHOD BLANK: 2758835 Matrix: Water
Associated Lab Samples: 60350715015, 60350715023, 60350715030, 60350715039, 60350715043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 20:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 20:14	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 20:14	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 20:14	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 20:14	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 20:14	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 20:14	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 20:14	
Acetone	ug/L	ND	10.0	4.7	10/13/20 20:14	
Benzene	ug/L	ND	1.0	0.088	10/13/20 20:14	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 20:14	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 20:14	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 20:14	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 20:14	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 20:14	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 20:14	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 20:14	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 20:14	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 20:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 20:14	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 20:14	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 20:14	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 20:14	
Styrene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
Toluene	ug/L	ND	1.0	0.18	10/13/20 20:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 20:14	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 20:14	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 20:14	
1,2-Dichloroethane-d4 (S)	%	115	86-117		10/13/20 20:14	
4-Bromofluorobenzene (S)	%	108	80-120		10/13/20 20:14	
Toluene-d8 (S)	%	97	80-120		10/13/20 20:14	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2758836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.2	106	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.1	91	78-118	
1,1,2-Trichloroethane	ug/L	20	18.7	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	21.7	108	81-124	
1,2-Dichloroethane	ug/L	20	21.4	107	79-118	
1,2-Dichloropropane	ug/L	20	19.0	95	85-117	
2-Butanone (MEK)	ug/L	100	62.3	62	70-125	L2
2-Hexanone	ug/L	100	88.8	89	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.6	98	73-131	
Acetone	ug/L	100	112	112	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.9	105	82-123	
Bromoform	ug/L	20	17.6	88	66-133	
Bromomethane	ug/L	20	25.0	125	27-179	
Carbon disulfide	ug/L	20	24.2	121	72-134	
Carbon tetrachloride	ug/L	20	23.0	115	80-121	
Chlorobenzene	ug/L	20	17.9	90	80-120	
Chloroethane	ug/L	20	21.5	107	78-145	
Chloroform	ug/L	20	20.5	103	84-116	
Chloromethane	ug/L	20	18.0	90	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.6	98	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	17.3	87	79-115	
Methylene Chloride	ug/L	20	19.7	99	80-126	
Styrene	ug/L	20	18.9	95	80-117	
Tetrachloroethene	ug/L	20	18.3	91	83-119	
Toluene	ug/L	20	18.8	94	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	83-117	
Trichloroethene	ug/L	20	21.1	105	80-118	
Vinyl chloride	ug/L	20	20.5	102	76-144	
Xylene (Total)	ug/L	60	54.2	90	82-120	
1,2-Dichloroethane-d4 (S)	%			108	86-117	
4-Bromofluorobenzene (S)	%			106	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682998
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715031, 60350715032

METHOD BLANK: 2760913 Matrix: Water
Associated Lab Samples: 60350715031, 60350715032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/15/20 13:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/15/20 13:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/15/20 13:49	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/15/20 13:49	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/15/20 13:49	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/15/20 13:49	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/15/20 13:49	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/15/20 13:49	
2-Hexanone	ug/L	ND	10.0	1.5	10/15/20 13:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/15/20 13:49	
Acetone	ug/L	ND	10.0	4.7	10/15/20 13:49	
Benzene	ug/L	ND	1.0	0.088	10/15/20 13:49	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/15/20 13:49	
Bromoform	ug/L	ND	1.0	0.38	10/15/20 13:49	
Bromomethane	ug/L	ND	5.0	0.99	10/15/20 13:49	
Carbon disulfide	ug/L	ND	5.0	0.24	10/15/20 13:49	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/15/20 13:49	
Chlorobenzene	ug/L	ND	1.0	0.23	10/15/20 13:49	
Chloroethane	ug/L	ND	1.0	0.38	10/15/20 13:49	
Chloroform	ug/L	ND	1.0	0.17	10/15/20 13:49	
Chloromethane	ug/L	ND	1.0	0.44	10/15/20 13:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/15/20 13:49	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/15/20 13:49	
Ethylbenzene	ug/L	ND	1.0	0.18	10/15/20 13:49	
Methylene Chloride	ug/L	ND	1.0	0.81	10/15/20 13:49	
Styrene	ug/L	ND	1.0	0.17	10/15/20 13:49	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
Toluene	ug/L	ND	1.0	0.18	10/15/20 13:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/15/20 13:49	
Trichloroethene	ug/L	ND	1.0	0.25	10/15/20 13:49	
Vinyl chloride	ug/L	ND	1.0	0.25	10/15/20 13:49	
Xylene (Total)	ug/L	ND	3.0	0.54	10/15/20 13:49	
1,2-Dichloroethane-d4 (S)	%	105	86-117		10/15/20 13:49	
4-Bromofluorobenzene (S)	%	102	80-120		10/15/20 13:49	
Toluene-d8 (S)	%	96	80-120		10/15/20 13:49	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

LABORATORY CONTROL SAMPLE: 2760914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.8	109	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	22.9	115	78-118	
1,1,2-Trichloroethane	ug/L	20	19.8	99	82-117	
1,1-Dichloroethane	ug/L	20	21.1	105	85-120	
1,1-Dichloroethene	ug/L	20	22.7	113	81-124	
1,2-Dichloroethane	ug/L	20	20.5	103	79-118	
1,2-Dichloropropane	ug/L	20	22.0	110	85-117	
2-Butanone (MEK)	ug/L	100	104	104	70-125	
2-Hexanone	ug/L	100	101	101	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	111	111	73-131	
Acetone	ug/L	100	111	111	59-135	
Benzene	ug/L	20	21.1	106	82-115	
Bromodichloromethane	ug/L	20	22.3	111	82-123	
Bromoform	ug/L	20	20.1	100	66-133	
Bromomethane	ug/L	20	26.1	130	27-179	
Carbon disulfide	ug/L	20	26.1	130	72-134	
Carbon tetrachloride	ug/L	20	22.4	112	80-121	
Chlorobenzene	ug/L	20	19.9	99	80-120	
Chloroethane	ug/L	20	22.6	113	78-145	
Chloroform	ug/L	20	20.5	102	84-116	
Chloromethane	ug/L	20	18.1	91	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	85-115	
cis-1,3-Dichloropropene	ug/L	20	22.6	113	85-117	
Dibromochloromethane	ug/L	20	22.1	111	82-122	
Ethylbenzene	ug/L	20	19.5	97	79-115	
Methylene Chloride	ug/L	20	21.9	109	80-126	
Styrene	ug/L	20	21.2	106	80-117	
Tetrachloroethene	ug/L	20	20.4	102	83-119	
Toluene	ug/L	20	19.5	97	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	23.2	116	83-117	
Trichloroethene	ug/L	20	18.6	93	80-118	
Vinyl chloride	ug/L	20	22.4	112	76-144	
Xylene (Total)	ug/L	60	59.6	99	82-120	
1,2-Dichloroethane-d4 (S)	%			102	86-117	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760915 2760916

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20000	20000	21500	22700	105	112	74-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20000	20000	20500	20700	102	104	60-128	1	19	
1,1,2-Trichloroethane	ug/L	ND	20000	20000	19500	19900	98	100	66-125	2	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760915 2760916

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20000	20000	20100	20900	99	103	81-124	4	23	
1,1-Dichloroethene	ug/L	ND	20000	20000	27800	24800	137	122	64-141	12	21	
1,2-Dichloroethane	ug/L	ND	20000	20000	19800	20300	98	101	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20000	20000	19600	21700	98	109	73-125	10	19	
2-Butanone (MEK)	ug/L	ND	100000	100000	88100	98200	88	98	58-121	11	22	
2-Hexanone	ug/L	ND	100000	100000	94200	100000	94	100	61-125	6	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100000	100000	97400	107000	97	107	67-125	9	20	
Acetone	ug/L	ND	100000	100000	122000	101000	121	100	49-113	19	32	M1
Benzene	ug/L	ND	20000	20000	19500	21000	97	105	49-140	7	25	
Bromodichloromethane	ug/L	ND	20000	20000	20300	21900	101	109	71-124	8	19	
Bromoform	ug/L	ND	20000	20000	18100	19700	91	99	56-113	9	18	
Bromomethane	ug/L	ND	20000	20000	29200	26500	146	132	12-165	10	43	
Carbon disulfide	ug/L	ND	20000	20000	30200	26800	151	134	66-145	12	18	M1
Carbon tetrachloride	ug/L	ND	20000	20000	22600	24100	113	121	84-130	7	21	
Chlorobenzene	ug/L	ND	20000	20000	19000	20000	95	100	68-126	5	14	
Chloroethane	ug/L	ND	20000	20000	27200	23000	136	115	67-145	17	28	
Chloroform	ug/L	ND	20000	20000	19500	20000	98	100	72-123	2	17	
Chloromethane	ug/L	ND	20000	20000	22300	18700	112	94	31-175	17	34	
cis-1,2-Dichloroethene	ug/L	37500	20000	20000	52600	54700	76	86	69-127	4	18	
cis-1,3-Dichloropropene	ug/L	ND	20000	20000	20100	21700	101	109	60-124	8	20	
Dibromochloromethane	ug/L	ND	20000	20000	19900	21600	99	108	68-123	9	24	
Ethylbenzene	ug/L	ND	20000	20000	19700	19900	99	100	52-140	1	28	
Methylene Chloride	ug/L	ND	20000	20000	26800	23000	134	115	68-125	15	24	M1
Styrene	ug/L	ND	20000	20000	20800	21300	104	106	56-136	3	20	
Tetrachloroethene	ug/L	ND	20000	20000	20100	20700	100	103	59-133	3	28	
Toluene	ug/L	ND	20000	20000	18900	19900	94	99	56-137	5	21	
trans-1,2-Dichloroethene	ug/L	ND	20000	20000	19800	20500	98	102	70-130	4	24	
trans-1,3-Dichloropropene	ug/L	ND	20000	20000	21900	22500	109	113	69-121	3	24	
Trichloroethene	ug/L	ND	20000	20000	17900	18500	90	92	68-128	3	23	
Vinyl chloride	ug/L	1560	20000	20000	30500	26200	145	123	51-148	15	23	
Xylene (Total)	ug/L	ND	60000	60000	59200	61500	99	103	59-139	4	22	
1,2-Dichloroethane-d4 (S)	%						100	107	86-117			
4-Bromofluorobenzene (S)	%						96	100	80-120			
Toluene-d8 (S)	%						97	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682031
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715015, 60350715019, 60350715020, 60350715023

METHOD BLANK: 2757413 Matrix: Water
Associated Lab Samples: 60350715015, 60350715019, 60350715020, 60350715023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/12/20 13:38	

LABORATORY CONTROL SAMPLE: 2757414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.49	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757415 2757449

Parameter	Units	60350922001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.32	0.5	0.5	0.73	0.73	81	81	75-125	0	20	

SAMPLE DUPLICATE: 2757416

Parameter	Units	60350922003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2757417

Parameter	Units	60350715020 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 682240
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715030

METHOD BLANK: 2757971 Matrix: Water
Associated Lab Samples: 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/14/20 14:53	

LABORATORY CONTROL SAMPLE: 2757972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757973 2757975

Parameter	Units	60350922008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	ND	0.5	0.5	0.46	0.47	91	93	75-125	2	20	

SAMPLE DUPLICATE: 2757974

Parameter	Units	60350922008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 683744
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2764357 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/19/20 09:09	
Sulfate	mg/L	ND	1.0	0.28	10/19/20 09:09	

METHOD BLANK: 2765069 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/20/20 09:39	
Sulfate	mg/L	ND	1.0	0.28	10/20/20 09:39	

LABORATORY CONTROL SAMPLE: 2764358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	106	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

LABORATORY CONTROL SAMPLE: 2765070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.4	107	90-110	
Sulfate	mg/L	5	5.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2764359 2764360

Parameter	Units	60350977032 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	5	5	5.8	6.0	104	108	80-120	3	15	
Sulfate	mg/L	ND	5	5	5.9	6.1	118	122	80-120	3	15	M1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

MATRIX SPIKE SAMPLE: 2764361

Parameter	Units	60350715006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	165	100	291	126	80-120	M1
Sulfate	mg/L	11.4	5	17.3	116	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 681743
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2755825 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/09/20 07:43	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/09/20 07:43	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/09/20 07:43	

LABORATORY CONTROL SAMPLE: 2755826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	1.0	103	70-130	
Nitrogen, Nitrite	mg/L	1	1.0	103	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 2755827

Parameter	Units	60350715001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	106	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	110	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 2755829

Parameter	Units	60350715020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1	1.1	107	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	108	90-110	
Nitrogen, NO2 plus NO3	mg/L	ND	2	2.2	108	90-110	

SAMPLE DUPLICATE: 2755828

Parameter	Units	60350625002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	14.6	14.6	0	20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	14.6	14.6	0	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 685068
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001

METHOD BLANK: 2769690 Matrix: Water
Associated Lab Samples: 60350715001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 12:15	

METHOD BLANK: 2770656 Matrix: Water
Associated Lab Samples: 60350715001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 19:19	

LABORATORY CONTROL SAMPLE: 2769691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.4	107	80-120	

LABORATORY CONTROL SAMPLE: 2770657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.2	105	80-120	

MATRIX SPIKE SAMPLE: 2769692

Parameter	Units	60351435004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	48.5	100	152	103	80-120	

SAMPLE DUPLICATE: 2769693

Parameter	Units	60351435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	54.9	54.7	0	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 685217
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

METHOD BLANK: 2770131 Matrix: Water
Associated Lab Samples: 60350715005, 60350715006, 60350715010, 60350715015, 60350715019, 60350715020, 60350715023, 60350715024, 60350715030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 22:26	

LABORATORY CONTROL SAMPLE: 2770132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	107	80-120	

MATRIX SPIKE SAMPLE: 2770133

Parameter	Units	60350715005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	284	500	779	99	80-120	

SAMPLE DUPLICATE: 2770134

Parameter	Units	60350715010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	58.7	62.2	6	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 685224 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

METHOD BLANK: 2770142 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 14:10	

LABORATORY CONTROL SAMPLE: 2770143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	104	80-120	

MATRIX SPIKE SAMPLE: 2770145

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	5	4.5	81	80-120	

SAMPLE DUPLICATE: 2770144

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	0.48J		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695022
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

METHOD BLANK: 2098439 Matrix: Water
Associated Lab Samples: 60350715001, 60350715005, 60350715006, 60350715010, 60350715024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/19/20 23:34	
Butyric Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Formic acid	mg/L	ND	0.50	0.055	10/19/20 23:34	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Lactic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
Propionic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/19/20 23:34	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/19/20 23:34	

LABORATORY CONTROL SAMPLE: 2098440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetic Acid	mg/L	2	2.0	100	70-130	
Butyric Acid	mg/L	2	2.0	102	70-130	
Formic acid	mg/L	2	2.0	101	70-130	
Hexanoic Acid	mg/L	2	2.0	101	70-130	
Lactic Acid	mg/L	2	2.0	98	70-130	
Pentanoic Acid	mg/L	2	2.0	99	70-130	
Propionic Acid	mg/L	2	2.0	103	70-130	
Pyruvic Acid	mg/L	2	1.7	86	70-130	
i-Hexanoic Acid	mg/L	2	2.0	103	70-130	
i-Pentanoic Acid	mg/L	2	2.0	103	70-130	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

QC Batch: 695388
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast

Associated Lab Samples: 60350715001

METHOD BLANK: 2100381 Matrix: Water
Associated Lab Samples: 60350715001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Propionic Acid	mg/L	ND	0.50	0.053	10/21/20 01:56	

LABORATORY CONTROL SAMPLE & LCSD: 2100382 2100383

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Propionic Acid	mg/L	2	2.0	2.0	101	102	70-130	1	20	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681805
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 681810
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 681957
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 682464
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 682488
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e	Dissolved result is greater than the total. Data is within laboratory control limits.
B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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(913)599-5665

QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

ANALYTE QUALIFIERS

L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350715001	MW-99-202010	AM20GAX	695051		
60350715005	TMW-30-202010	AM20GAX	695051		
60350715006	MW-194-202010	AM20GAX	695051		
60350715010	TMW-26-202010	AM20GAX	695051		
60350715015	ITMW-9-202010	AM20GAX	695051		
60350715019	IW-73-202010	AM20GAX	695051		
60350715020	MW-58R-202010	AM20GAX	695051		
60350715023	MW-38-202010	AM20GAX	695115		
60350715024	TMW-34-202010	AM20GAX	695115		
60350715030	IW-147-202010	AM20GAX	695115		
60350715001	MW-99-202010	EPA 3010	683767	EPA 6010	683843
60350715005	TMW-30-202010	EPA 3010	683767	EPA 6010	683843
60350715006	MW-194-202010	EPA 3010	683767	EPA 6010	683843
60350715010	TMW-26-202010	EPA 3010	683767	EPA 6010	683843
60350715015	ITMW-9-202010	EPA 3010	683767	EPA 6010	683843
60350715019	IW-73-202010	EPA 3010	683767	EPA 6010	683843
60350715020	MW-58R-202010	EPA 3010	683767	EPA 6010	683843
60350715023	MW-38-202010	EPA 3010	683767	EPA 6010	683843
60350715024	TMW-34-202010	EPA 3010	683767	EPA 6010	683843
60350715030	IW-147-202010	EPA 3010	683767	EPA 6010	683843
60350715001	MW-99-202010	EPA 5030B/8260	681805		
60350715001	MW-99-202010	EPA 5030B/8260	682464		
60350715002	MW-191-202010	EPA 5030B/8260	681805		
60350715002	MW-191-202010	EPA 5030B/8260	682464		
60350715003	MW-182-202010	EPA 5030B/8260	681805		
60350715004	MW-190-202010	EPA 5030B/8260	681805		
60350715005	TMW-30-202010	EPA 5030B/8260	681805		
60350715006	MW-194-202010	EPA 5030B/8260	681805		
60350715007	TMW-23-202010	EPA 5030B/8260	681805		
60350715007	TMW-23-202010	EPA 5030B/8260	682080		
60350715008	MW-192-202010	EPA 5030B/8260	681805		
60350715009	TMW-27-202010	EPA 5030B/8260	681805		
60350715010	TMW-26-202010	EPA 5030B/8260	681805		
60350715011	MW-57R-202010	EPA 5030B/8260	681805		
60350715011	MW-57R-202010	EPA 5030B/8260	682080		
60350715012	DUP-02-202010	EPA 5030B/8260	681805		
60350715012	DUP-02-202010	EPA 5030B/8260	682080		
60350715013	MW-183R-202010	EPA 5030B/8260	681810		
60350715014	DUP-03-202010	EPA 5030B/8260	681810		
60350715014	DUP-03-202010	EPA 5030B/8260	682464		
60350715015	ITMW-9-202010	EPA 5030B/8260	681810		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350715015	ITMW-9-202010	EPA 5030B/8260	682488		
60350715016	TMW-12-202010	EPA 5030B/8260	681810		
60350715017	TMW-14-202010	EPA 5030B/8260	681810		
60350715018	DUP-04-202010	EPA 5030B/8260	681810		
60350715019	IW-73-202010	EPA 5030B/8260	681810		
60350715019	IW-73-202010	EPA 5030B/8260	682464		
60350715020	MW-58R-202010	EPA 5030B/8260	681810		
60350715021	MW-83-202010	EPA 5030B/8260	681810		
60350715022	DUP-01-202010	EPA 5030B/8260	681810		
60350715023	MW-38-202010	EPA 5030B/8260	681810		
60350715023	MW-38-202010	EPA 5030B/8260	682488		
60350715024	TMW-34-202010	EPA 5030B/8260	681810		
60350715025	MW-185-202010	EPA 5030B/8260	681810		
60350715026	IW-78-202010	EPA 5030B/8260	681810		
60350715027	MW-82-202010	EPA 5030B/8260	681810		
60350715028	MW-201-202010	EPA 5030B/8260	681810		
60350715029	MW-27-202010	EPA 5030B/8260	681810		
60350715030	IW-147-202010	EPA 5030B/8260	681810		
60350715030	IW-147-202010	EPA 5030B/8260	682488		
60350715031	MW-184-202010	EPA 5030B/8260	682998		
60350715032	DUP-05-202010	EPA 5030B/8260	682998		
60350715033	MW-178-202010	EPA 5030B/8260	681957		
60350715034	MW-26-202010	EPA 5030B/8260	681957		
60350715035	EB-01-202010	EPA 5030B/8260	681957		
60350715036	EB-02-202010	EPA 5030B/8260	681957		
60350715037	EB-03-202010	EPA 5030B/8260	681957		
60350715038	MW-98-202010	EPA 5030B/8260	681957		
60350715039	TMW-25-202010	EPA 5030B/8260	682488		
60350715040	TB-05-202010	EPA 5030B/8260	681957		
60350715041	TB-06-202010	EPA 5030B/8260	681957		
60350715042	TB-07-202010	EPA 5030B/8260	681957		
60350715043	DUP-06-202010	EPA 5030B/8260	682488		
60350715015	ITMW-9-202010	SM 4500-S-2 D	682031		
60350715019	IW-73-202010	SM 4500-S-2 D	682031		
60350715020	MW-58R-202010	SM 4500-S-2 D	682031		
60350715023	MW-38-202010	SM 4500-S-2 D	682031		
60350715030	IW-147-202010	SM 4500-S-2 D	682240		
60350715001	MW-99-202010	EPA 300.0	683744		
60350715005	TMW-30-202010	EPA 300.0	683744		
60350715006	MW-194-202010	EPA 300.0	683744		
60350715010	TMW-26-202010	EPA 300.0	683744		
60350715015	ITMW-9-202010	EPA 300.0	683744		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350715

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350715019	**IW-73-202010**	EPA 300.0	683744		
60350715020	**MW-58R-202010**	EPA 300.0	683744		
60350715023	**MW-38-202010**	EPA 300.0	683744		
60350715024	**TMW-34-202010**	EPA 300.0	683744		
60350715030	**IW-147-202010**	EPA 300.0	683744		
60350715001	**MW-99-202010**	EPA 353.2	681743		
60350715005	**TMW-30-202010**	EPA 353.2	681743		
60350715006	**MW-194-202010**	EPA 353.2	681743		
60350715010	**TMW-26-202010**	EPA 353.2	681743		
60350715015	**ITMW-9-202010**	EPA 353.2	681743		
60350715019	**IW-73-202010**	EPA 353.2	681743		
60350715020	**MW-58R-202010**	EPA 353.2	681743		
60350715023	**MW-38-202010**	EPA 353.2	681743		
60350715024	**TMW-34-202010**	EPA 353.2	681743		
60350715030	**IW-147-202010**	EPA 353.2	681743		
60350715001	**MW-99-202010**	SM 5310C	685068		
60350715005	**TMW-30-202010**	SM 5310C	685217		
60350715006	**MW-194-202010**	SM 5310C	685217		
60350715010	**TMW-26-202010**	SM 5310C	685217		
60350715015	**ITMW-9-202010**	SM 5310C	685217		
60350715019	**IW-73-202010**	SM 5310C	685217		
60350715020	**MW-58R-202010**	SM 5310C	685217		
60350715023	**MW-38-202010**	SM 5310C	685217		
60350715024	**TMW-34-202010**	SM 5310C	685217		
60350715030	**IW-147-202010**	SM 5310C	685217		
60350715001	**MW-99-202010**	SM 5310C	685224		
60350715005	**TMW-30-202010**	SM 5310C	685224		
60350715006	**MW-194-202010**	SM 5310C	685224		
60350715010	**TMW-26-202010**	SM 5310C	685224		
60350715024	**TMW-34-202010**	SM 5310C	685224		
60350715001	**MW-99-202010**	AM23G	695022		
60350715001	**MW-99-202010**	AM23G	695388		
60350715005	**TMW-30-202010**	AM23G	695022		
60350715006	**MW-194-202010**	AM23G	695022		
60350715010	**TMW-26-202010**	AM23G	695022		
60350715024	**TMW-34-202010**	AM23G	695022		

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CHAIN-OF-CUSTODY Analytical Request Document

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Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Wo... ...Loader Number or MTJL Log-in

WO# : 60350715

60350715

ALL SH...

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: / Email:	Site/Facility ID #
Collected by (print): Haley Ahlers	Purchase Order #
Collected by (signature): Haley Ahlers	Quote #
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: _____ RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [ ] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	LAB USE ONLY: Lab Sample # / Comments
MW-99-202010	GW	G	10/7/20	0800	n/a	n/a		3	X	X	X	X	X	X	X	X	X	Dup 05-2 VOA vials broken.
MW-191-202010				0850														
MW-182-202010				0851														
MW-190-202010				0908														
TMW-30-202010				1025				12		X	X	X	X	X	X	X	X	
MW-194-202010				0915				12		X	X	X	X	X	X	X	X	
TMW-23-202010				1041				3										
MW-192-202010				1000														
TMW-27-202010				1000														
TMW-26-202010				1110				12		X	X	X	X	X	X	X	X	

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 100222			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: 8 Bags Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt: 0.2 °C 2.2

Cooler Therm Corr. Factor: +0.2 °C +0.2

Cooler Temp Corrected: 0.4 °C 2.4

Comments: _____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Page 1 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/7/20 1830	SE Meadors / Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 108 of 108

F-ALL-C-010-rev.00, 05Jul2018

1.1 0.4 +0.2 1.3

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type **
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____
Copy To: Haley Ahlers	Site Collection Info/Address:	Lab Project Manager: Jamie Church
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	LAB Profile/Line: 7444 Line 1
Phone: Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #	DW PWS ID #:
	Quote #	DW Location Code #:
Collected by (signature):	Turnaround Date Required: _____	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
57R MW-~~58R~~ 11A-202010	GW	G	10/7/20	1135	n/a	n/a			X											
DUP-02-202010				1135																
MW-183R-202010				1115																
DUP-03-202010				1041																
ITMW-9-202010				1215							X	X	X		X	X		X	X	
TMW-12-202010				~~1258~~ 1251																
TMW-14-202010				~~1210~~ 1137																
DUP-04-202010				1000																
IW-73-202010				1345							X	X	X		X	X		X	X	
MW-58R-202010				1237							X	X	X		X	X		X	X	

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet X Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: B. Bags, Zpic

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Receipt Checklist:

Custody Seals Present/Intact		N	NA
Custody Signatures Present		N	NA
Collector Signature Present		N	NA
Bottles intact	(Y)	N	NA
Correct Bottles		N	NA
Sufficient Volume		N	NA
Samples received on ice		N	NA
VOA - Headspace Acceptable		N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 1003228			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 0.2 °C 2.2 1.1

Cooler Therm Corr. Factor +0.2 °C +0.2 +0.2

Cooler Temp Corrected 0.4 °C 2.4 1.3

Comments: _____

Trip Blank Received: (Y) N N/A

HCl MeOH TSP Other

NonConformance(s): YES / (NO)

Page 2 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		S Rhoades / Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type **
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	Lab Project Manager: Jamie Church
Copy To: Haley Ahlers	Site Collection Info/Address:	
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	
Phone: Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #	DW PWS ID #:
	Quote #	DW Location Code #:
Collected by (signature):	Turnaround Date Required:	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide
MW-83-202010	GW	G	10/7/20	1436	n/a	n/a		3	X										
DUP-01-202010				1436				3											
MW-38-202010				1403				10			X	X	X		X	X		X	X
TMW-34-202010				1445				12		X	X	X	X	X	X	X	X		
MW-185-202010				1255				3											
IW-78-202010				1600				3											
MW-82-202010				1355				3											
MW-201-202010				1609				3											
MW-27-202010				1619				3											
IW-147-202010				1600				10			X	X	X		X	X		X	X

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 103222			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:	Type of Ice Used: Wet(X) Blue [ ] Dry [ ] None [ ]	SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A	LAB Sample Temperature Info: Temp Blank received: (Y) N NA
	Packing Material Used: B.Bags Zpic	LAB Tracking #:	Therm ID #: 10/8/20 SET T299
	Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N (X) NA	Samples received via: FEDEX [ ] UPS [ ] Client (X) Courier [ ] Pace Courier [ ]	Cooler Temp Upon Receipt 0.2 °C 2.2 1.1
			Cooler Therm Corr. Factor +0.2 °C +0.2 +0.2
			Cooler Temp Corrected 0.4 °C 2.4 1.3
			Comments:
			Trip Blank Received: (Y) N N/A HCl MeOH TSP Other
			NonConformance(s) YES / (NO)

MTJL LAB USE ONLY

Table #:
ACCT #:
Template:
Prelogin:
PM:
PB:

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		FK Woods/Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type **
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	Lab Project Manager: Jamie Church
Copy To: Haley Ahlers	Site Collection Info/Address:	** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	Analyses
Phone: / Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / Quote #	DW PWS ID #: / DW Location Code #:
Collected by (signature):	Turnaround Date Required: _____	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:_____

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	(N)	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	(N)	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	(N)	NA
pH Strips: 603222			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids		↓ LAB USE ONLY: ↓ Lab Sample # / Comments
MW-184-202010	GW	G	10/7/20	1625	n/a	n/a		3	X										
DUP-05-202010				1625															
MW-178-202010				1649															
MW-26-202010				1710															
EB-01-202010				1728															
EB-02-202010				1725															
EB-03-202010				1722															
MW-98-202010				1728															
TMW-25-202010				1750						X	X	X	X	X	X	X	X	HA	
TB-05-202010				n/a				2											

Customer Remarks/ Special Conditions/ Possible Hazards: no ISCR parameters for MW-25

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: B. Bags Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T299

Cooler Temp Upon Receipt 0.2 °C 2.2 1.1

Cooler Therm Corr. Factor +0.2 °C +0.2 +0.2

Cooler Temp Corrected 0.4 °C 2.4 1.3

Comments:

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		Rhonda/Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 4 of 5

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CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350715

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips: L03222			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓
Lab Sample # / Comments

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids
TB-06-202010								2	X								
TB-07-202010								2	X								
DUP-06-202010	GW	G	10/7/20	1000				3	X								

Haley Ahlers

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: B.Bags, Zplc

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____
ACCT #: _____
Template: _____
Prelogin: _____
PM: _____
PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 0.2 oC 2.2 1.1

Cooler Therm Corr. Factor +0.2 oC +0.2 +0.2

Cooler Temp Corrected 0.4 oC 2.4 1.3

Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 5 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		SRwoodis/Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical
www.pacelabs.com

Sample Receiving Non-Conformance Form (NCF)

Date: 10/8/20	**Evaluated by:** Sheri R
Client: Ramboll	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered	X	Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

Sample Dup 05 2 of 3 VOA Vials were broken
MW-99-202010 - pH out of compliance - Added 1ml HNO3 at bench. Still out of Compliance
TMW-30-202010 - pH out of compliance. Did not adjust at bench

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID: MW-99-202010	Date/Time: 10/8/20 1300	Amount/type pres added: 1ml HNO3
Preserved by: SR	Initial and Final pH: <2.0 / <2.0	Lot # of pres added: 100BD19
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

REVIEWED
By jchurch at 6:56 pm, 10/8/20

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 15, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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Lenexa, KS 66219
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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350720001	**VP-08-202010**	Water	10/07/20 09:12	10/08/20 01:50
60350720002	**VP-07-202010**	Water	10/07/20 09:00	10/08/20 01:50
60350720003	**VP-12-202010**	Water	10/07/20 09:53	10/08/20 01:50
60350720004	**VP-10-202010**	Water	10/07/20 09:36	10/08/20 01:50

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350720001	**VP-08-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350720002	**VP-07-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350720003	**VP-12-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350720004	**VP-10-202010**	EPA 5030B/8260	EAG	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 15, 2020

General Information:
4 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681957

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682464

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-08-202010 **Lab ID: 60350720001** Collected: 10/07/20 09:12 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**142**	ug/L	10.0	4.7	1		10/12/20 18:25	67-64-1	
Benzene	**0.15J**	ug/L	1.0	0.088	1		10/12/20 18:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:25	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:25	74-83-9	
2-Butanone (MEK)	**12.6**	ug/L	10.0	2.4	1		10/12/20 18:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:25	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 18:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:25	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:25	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:25	100-41-4	
2-Hexanone	**2.1J**	ug/L	10.0	1.5	1		10/12/20 18:25	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:25	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:25	127-18-4	
Toluene	**0.26J**	ug/L	1.0	0.18	1		10/12/20 18:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 18:25	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 18:25	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 18:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:25		

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-07-202010 **Lab ID: 60350720002** Collected: 10/07/20 09:00 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**63.2**	ug/L	10.0	4.7	1		10/12/20 18:39	67-64-1	
Benzene	**0.87J**	ug/L	1.0	0.088	1		10/12/20 18:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:39	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:39	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:39	74-83-9	
2-Butanone (MEK)	**7.7J**	ug/L	10.0	2.4	1		10/12/20 18:39	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 18:39	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:39	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:39	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:39	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 18:39	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:39	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:39	127-18-4	
Toluene	**0.23J**	ug/L	1.0	0.18	1		10/12/20 18:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/12/20 18:39	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 18:39	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 18:39	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:39		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-12-202010 **Lab ID: 60350720003** Collected: 10/07/20 09:53 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.5J**	ug/L	10.0	4.7	1		10/12/20 18:53	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.088	1		10/12/20 18:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 18:53	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 18:53	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 18:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 18:53	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 18:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 18:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 18:53	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 18:53	75-00-3	
Chloroform	**0.44J**	ug/L	1.0	0.17	1		10/12/20 18:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 18:53	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 18:53	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 18:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 18:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 18:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 18:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 18:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 18:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 18:53	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 18:53	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 18:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 18:53	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 18:53	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 18:53	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 18:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 18:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 18:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 18:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 18:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 18:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 18:53	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	86-117		1		10/12/20 18:53	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 18:53	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 18:53		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Sample: VP-10-202010 **Lab ID: 60350720004** Collected: 10/07/20 09:36 Received: 10/08/20 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/14/20 13:50	67-64-1	
Benzene	**0.31J**	ug/L	1.0	0.088	1		10/14/20 13:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/14/20 13:50	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/14/20 13:50	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/14/20 13:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/14/20 13:50	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/14/20 13:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/14/20 13:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/14/20 13:50	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/14/20 13:50	75-00-3	
Chloroform	**0.64J**	ug/L	1.0	0.17	1		10/14/20 13:50	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/14/20 13:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/14/20 13:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/14/20 13:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/14/20 13:50	107-06-2	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.21	1		10/14/20 13:50	75-35-4	
cis-1,2-Dichloroethene	**12.5**	ug/L	1.0	0.15	1		10/14/20 13:50	156-59-2	
trans-1,2-Dichloroethene	**0.48J**	ug/L	1.0	0.15	1		10/14/20 13:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/14/20 13:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/14/20 13:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/14/20 13:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/14/20 13:50	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/14/20 13:50	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/14/20 13:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/14/20 13:50	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/14/20 13:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/14/20 13:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/14/20 13:50	127-18-4	
Toluene	**0.40J**	ug/L	1.0	0.18	1		10/14/20 13:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/14/20 13:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/14/20 13:50	79-00-5	
Trichloroethene	**110**	ug/L	5.0	1.2	5		10/13/20 21:37	79-01-6	
Vinyl chloride	**0.48J**	ug/L	1.0	0.25	1		10/14/20 13:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/14/20 13:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/14/20 13:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/14/20 13:50	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/14/20 13:50	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/14/20 13:50		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

QC Batch: 681957
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350720001, 60350720002, 60350720003

METHOD BLANK: 2756627 Matrix: Water
Associated Lab Samples: 60350720001, 60350720002, 60350720003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 16:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 16:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 16:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 16:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 16:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 16:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 16:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 16:01	
Acetone	ug/L	ND	10.0	4.7	10/12/20 16:01	
Benzene	ug/L	ND	1.0	0.088	10/12/20 16:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 16:01	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 16:01	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 16:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 16:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 16:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 16:01	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 16:01	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 16:01	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 16:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 16:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 16:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 16:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 16:01	
Styrene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
Toluene	ug/L	ND	1.0	0.18	10/12/20 16:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 16:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 16:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 16:01	
1,2-Dichloroethane-d4 (S)	%	98	86-117		10/12/20 16:01	
4-Bromofluorobenzene (S)	%	100	80-120		10/12/20 16:01	
Toluene-d8 (S)	%	100	80-120		10/12/20 16:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

LABORATORY CONTROL SAMPLE: 2756628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	78-118	
1,1,2-Trichloroethane	ug/L	20	20.4	102	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	20.6	103	81-124	
1,2-Dichloroethane	ug/L	20	17.6	88	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	89.7	90	70-125	
2-Hexanone	ug/L	100	92.3	92	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	73-131	
Acetone	ug/L	100	99.8	100	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	15.5	77	66-133	
Bromomethane	ug/L	20	23.7	118	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	20.1	100	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	101	85-117	
Dibromochloromethane	ug/L	20	17.8	89	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.5	103	83-119	
Toluene	ug/L	20	20.2	101	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	83-117	
Trichloroethene	ug/L	20	21.2	106	80-118	
Vinyl chloride	ug/L	20	22.9	114	76-144	
Xylene (Total)	ug/L	60	62.2	104	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

QC Batch: 682464
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350720004

METHOD BLANK: 2758667 Matrix: Water
Associated Lab Samples: 60350720004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 18:41	
1,2-Dichloroethane-d4 (S)	%	104	86-117		10/13/20 18:41	
4-Bromofluorobenzene (S)	%	104	80-120		10/13/20 18:41	
Toluene-d8 (S)	%	98	80-120		10/13/20 18:41	

LABORATORY CONTROL SAMPLE: 2758668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	18.8	94	80-118	
1,2-Dichloroethane-d4 (S)	%			105	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

QC Batch: 682761
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350720004

METHOD BLANK: 2759784 Matrix: Water
Associated Lab Samples: 60350720004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/14/20 13:18	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/14/20 13:18	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/14/20 13:18	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/14/20 13:18	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/14/20 13:18	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/14/20 13:18	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/14/20 13:18	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/14/20 13:18	
2-Hexanone	ug/L	ND	10.0	1.5	10/14/20 13:18	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/14/20 13:18	
Acetone	ug/L	ND	10.0	4.7	10/14/20 13:18	
Benzene	ug/L	ND	1.0	0.088	10/14/20 13:18	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/14/20 13:18	
Bromoform	ug/L	ND	1.0	0.38	10/14/20 13:18	
Bromomethane	ug/L	ND	5.0	0.99	10/14/20 13:18	
Carbon disulfide	ug/L	ND	5.0	0.24	10/14/20 13:18	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/14/20 13:18	
Chlorobenzene	ug/L	ND	1.0	0.23	10/14/20 13:18	
Chloroethane	ug/L	ND	1.0	0.38	10/14/20 13:18	
Chloroform	ug/L	ND	1.0	0.17	10/14/20 13:18	
Chloromethane	ug/L	ND	1.0	0.44	10/14/20 13:18	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/14/20 13:18	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/14/20 13:18	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/14/20 13:18	
Ethylbenzene	ug/L	ND	1.0	0.18	10/14/20 13:18	
Methylene Chloride	ug/L	ND	1.0	0.81	10/14/20 13:18	
Styrene	ug/L	ND	1.0	0.17	10/14/20 13:18	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/14/20 13:18	
Toluene	ug/L	ND	1.0	0.18	10/14/20 13:18	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/14/20 13:18	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/14/20 13:18	
Vinyl chloride	ug/L	ND	1.0	0.25	10/14/20 13:18	
Xylene (Total)	ug/L	ND	3.0	0.54	10/14/20 13:18	
1,2-Dichloroethane-d4 (S)	%	107	86-117		10/14/20 13:18	
4-Bromofluorobenzene (S)	%	100	80-120		10/14/20 13:18	
Toluene-d8 (S)	%	97	80-120		10/14/20 13:18	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

LABORATORY CONTROL SAMPLE: 2759785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	78-118	
1,1,2-Trichloroethane	ug/L	20	20.7	104	82-117	
1,1-Dichloroethane	ug/L	20	20.4	102	85-120	
1,1-Dichloroethene	ug/L	20	21.4	107	81-124	
1,2-Dichloroethane	ug/L	20	19.5	97	79-118	
1,2-Dichloropropane	ug/L	20	20.1	100	85-117	
2-Butanone (MEK)	ug/L	100	102	102	70-125	
2-Hexanone	ug/L	100	104	104	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	73-131	
Acetone	ug/L	100	103	103	59-135	
Benzene	ug/L	20	20.3	101	82-115	
Bromodichloromethane	ug/L	20	20.4	102	82-123	
Bromoform	ug/L	20	20.3	101	66-133	
Bromomethane	ug/L	20	26.7	134	27-179	
Carbon disulfide	ug/L	20	24.1	120	72-134	
Carbon tetrachloride	ug/L	20	22.2	111	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	21.8	109	78-145	
Chloroform	ug/L	20	19.8	99	84-116	
Chloromethane	ug/L	20	17.4	87	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.1	106	85-117	
Dibromochloromethane	ug/L	20	22.0	110	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	21.2	106	80-126	
Styrene	ug/L	20	21.7	108	80-117	
Tetrachloroethene	ug/L	20	20.2	101	83-119	
Toluene	ug/L	20	19.5	97	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.8	114	83-117	
Vinyl chloride	ug/L	20	21.4	107	76-144	
Xylene (Total)	ug/L	60	60.0	100	82-120	
1,2-Dichloroethane-d4 (S)	%			98	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2759786 2759787

Parameter	Units	60350977075 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	20.9	21.1	104	105	74-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	21.8	21.2	109	106	60-128	3	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	19.3	18.6	97	93	66-125	4	28	
1,1-Dichloroethane	ug/L	ND	20	20	19.4	19.6	97	98	81-124	1	23	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2759786 2759787

Parameter	Units	60350977075 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	20	20	21.2	20.8	106	104	64-141	2	21	
1,2-Dichloroethane	ug/L	ND	20	20	17.8	18.2	89	91	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	18.5	19.5	93	97	73-125	5	19	
2-Butanone (MEK)	ug/L	ND	100	100	89.0	85.6	89	86	58-121	4	22	
2-Hexanone	ug/L	ND	100	100	91.9	95.0	92	95	61-125	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	102	103	102	103	67-125	1	20	
Acetone	ug/L	ND	100	100	84.7	87.6	85	88	49-113	3	32	
Benzene	ug/L	ND	20	20	19.7	19.5	98	97	49-140	1	25	
Bromodichloromethane	ug/L	ND	20	20	19.9	20.4	100	102	71-124	2	19	
Bromoform	ug/L	ND	20	20	17.3	17.9	86	89	56-113	3	18	
Bromomethane	ug/L	ND	20	20	20.1	21.2	100	106	12-165	5	43	
Carbon disulfide	ug/L	ND	20	20	23.4	22.8	117	114	66-145	3	18	
Carbon tetrachloride	ug/L	ND	20	20	22.2	22.1	111	111	84-130	0	21	
Chlorobenzene	ug/L	ND	20	20	18.9	19.1	94	96	68-126	1	14	
Chloroethane	ug/L	ND	20	20	19.5	20.3	98	102	67-145	4	28	
Chloroform	ug/L	ND	20	20	18.8	18.7	93	92	72-123	1	17	
Chloromethane	ug/L	ND	20	20	13.5	13.7	68	68	31-175	1	34	
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.8	18.9	94	94	69-127	0	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	20.3	20.1	102	100	60-124	1	20	
Dibromochloromethane	ug/L	ND	20	20	19.9	20.3	100	101	68-123	2	24	
Ethylbenzene	ug/L	ND	20	20	18.9	19.0	95	95	52-140	0	28	
Methylene Chloride	ug/L	ND	20	20	20.2	20.6	101	103	68-125	2	24	
Styrene	ug/L	ND	20	20	19.0	19.6	95	98	56-136	3	20	
Tetrachloroethene	ug/L	ND	20	20	19.3	20.0	97	100	59-133	4	28	
Toluene	ug/L	ND	20	20	18.7	19.4	93	96	56-137	4	21	
trans-1,2-Dichloroethene	ug/L	ND	20	20	18.4	18.1	92	91	70-130	1	24	
trans-1,3-Dichloropropene	ug/L	ND	20	20	20.6	20.8	103	104	69-121	1	24	
Vinyl chloride	ug/L	ND	20	20	19.3	19.1	97	96	51-148	1	23	
Xylene (Total)	ug/L	ND	60	60	56.4	57.6	94	96	59-139	2	22	
1,2-Dichloroethane-d4 (S)	%						99	100	86-117			
4-Bromofluorobenzene (S)	%						106	105	80-120			
Toluene-d8 (S)	%						97	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681957

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 682464

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350720

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350720001	**VP-08-202010**	EPA 5030B/8260	681957		
60350720002	**VP-07-202010**	EPA 5030B/8260	681957		
60350720003	**VP-12-202010**	EPA 5030B/8260	681957		
60350720004	**VP-10-202010**	EPA 5030B/8260	682464		
60350720004	**VP-10-202010**	EPA 5030B/8260	682761		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Work... Log-in

ALL SHA...

WO# : 60350720

60350720

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print): Haley Ahlers	Purchase Order # / DW PWS ID #:
Collected by (signature): Haley Ahlers	Quote # / DW Location Code #:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis: ____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Lab Sample # / Comments
VP-08-202010	GW	G		0912				3	X									
VP-07-202010				0900														
VP-12-202010				0953														
~~VP-05-202010~~				0829														
VP-10-202010				0936														
~~VP-06-202010~~				0840														

Haley Ahlers

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: ____			
Sample pH Acceptable	Y	N	NA
pH Strips: ____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: ____			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet (X) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): (Y) N N/A

Packing Material Used: B Bags Zpic

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T 299

Cooler Temp Upon Receipt	0.2	2.2	1.1
Cooler Therm Corr. Factor	+0.2	+0.2	+0.2
Cooler Temp Corrected	0.4	2.4	1.3

Comments:

Trip Blank Received: (Y) N N/A

(HCl) MeOH TSP Other

NonConformance(s): YES / (NO)

Page 1 of 1

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/7/20 1830	[illegible] / Pace	10/8/20 0150
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 8 of 8

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October 28, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350822001	TMW-10-202010	Water	10/08/20 08:30	10/09/20 01:20
60350822002	TMW-11-202010	Water	10/08/20 08:20	10/09/20 01:20
60350822003	TMW-32-202010	Water	10/08/20 12:50	10/09/20 01:20
60350822004	TMW-16-202010	Water	10/08/20 15:20	10/09/20 01:20
60350822005	ITMW-1R-202010	Water	10/08/20 08:25	10/09/20 01:20
60350822006	TMW-25-202010	Water	10/08/20 08:10	10/09/20 01:20
60350822007	MW-25R-202010	Water	10/08/20 08:00	10/09/20 01:20
60350822008	MW-22-202010	Water	10/08/20 09:05	10/09/20 01:20
60350822009	DUP-07-202010	Water	10/08/20 09:05	10/09/20 01:20
60350822010	MW-24-202010	Water	10/08/20 08:53	10/09/20 01:20
60350822011	DUP.08-202010	Water	10/08/20 08:53	10/09/20 01:20
60350822012	ITMW-16-202010	Water	10/08/20 10:09	10/09/20 01:20
60350822013	MW-204-202010	Water	10/08/20 10:16	10/09/20 01:20
60350822014	MW-202-202010	Water	10/08/20 09:46	10/09/20 01:20
60350822015	MW-28-202010	Water	10/08/20 10:15	10/09/20 01:20
60350822016	MW-186-202010	Water	10/08/20 09:55	10/09/20 01:20
60350822017	ITMW-2R-202010	Water	10/08/20 10:30	10/09/20 01:20
60350822018	DUP-09-202010	Water	10/08/20 10:30	10/09/20 01:20
60350822019	ITMW-21-202010	Water	10/08/20 11:25	10/09/20 01:20
60350822020	MW-200-202010	Water	10/08/20 11:08	10/09/20 01:20
60350822021	ITMW-10-202010	Water	10/08/20 11:34	10/09/20 01:20
60350822022	MW-85R-202010	Water	10/08/20 12:10	10/09/20 01:20
60350822023	ITMW-11-202010	Water	10/08/20 12:05	10/09/20 01:20
60350822024	ITMW-6-202010	Water	10/08/20 11:44	10/09/20 01:20
60350822025	ITMW-5-202010	Water	10/08/20 12:23	10/09/20 01:20
60350822026	MW-87-202010	Water	10/08/20 12:05	10/09/20 01:20
60350822027	MW-46R-202010	Water	10/08/20 12:42	10/09/20 01:20
60350822028	ITMW-19-202010	Water	10/08/20 13:35	10/09/20 01:20
60350822029	MW-95-202010	Water	10/08/20 13:58	10/09/20 01:20
60350822030	ITMW-12R-202010	Water	10/08/20 13:50	10/09/20 01:20
60350822031	MW-89-202010	Water	10/08/20 14:40	10/09/20 01:20
60350822032	MW-198-202010	Water	10/08/20 15:05	10/09/20 01:20
60350822033	MW-37-202010	Water	10/08/20 15:05	10/09/20 01:20
60350822034	IW-77-202010	Water	10/08/20 14:12	10/09/20 01:20
60350822035	ITMW-18-202010	Water	10/08/20 16:10	10/09/20 01:20
60350822036	IW-132-202010	Water	10/08/20 14:55	10/09/20 01:20
60350822037	MW-93-202010	Water	10/08/20 16:09	10/09/20 01:20

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350822038	**ITMW-7-202010**	Water	10/08/20 16:38	10/09/20 01:20
60350822039	**EB-04-202010**	Water	10/08/20 17:10	10/09/20 01:20
60350822040	**MW-96-202010**	Water	10/08/20 17:05	10/09/20 01:20
60350822041	**MW-97-202010**	Water	10/08/20 17:28	10/09/20 01:20
60350822042	**DUP-10-202010**	Water	10/08/20 17:28	10/09/20 01:20
60350822043	**MW-179-202010**	Water	10/08/20 17:11	10/09/20 01:20
60350822044	**EB-05-202010**	Water	10/08/20 17:55	10/09/20 01:20
60350822045	**IW-134-202010**	Water	10/08/20 16:46	10/09/20 01:20
60350822046	**TB-08-202010**	Water	10/08/20 08:00	10/09/20 01:20
60350822047	**TB-09-202010**	Water	10/08/20 08:00	10/09/20 01:20
60350822048	**TB-10-202010**	Water	10/08/20 08:00	10/09/20 01:20

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350822001	**TMW-10-202010**	SM 4500-S-2 D	CRN2	1	PASI-K
60350822002	**TMW-11-202010**	SM 4500-S-2 D	CRN2	1	PASI-K
60350822003	**TMW-32-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822004	**TMW-16-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822005	**ITMW-1R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822006	**TMW-25-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822007	**MW-25R-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350822008	**MW-22-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822009	**DUP-07-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822010	**MW-24-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822011	**DUP.08-202010**	EPA 5030B/8260	PGH	38	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350822012	**ITMW-16-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822013	**MW-204-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822014	**MW-202-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822015	**MW-28-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822016	**MW-186-202010**	AM20GAX	JCK2	3	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		EPA 300.0	MJK	2	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
		SM 5310C	LDB	1	PASI-K
		AM23G	MOS	10	GCLA
60350822017	**ITMW-2R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822018	**DUP-09-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822019	**ITMW-21-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822020	**MW-200-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822021	**ITMW-10-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822022	**MW-85R-202010**	EPA 5030B/8260	CJC, EAG	38	PASI-K
60350822023	**ITMW-11-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350822024	**ITMW-6-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822025	**ITMW-5-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822026	**MW-87-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350822027	**MW-46R-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822028	**ITMW-19-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822029	**MW-95-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	CJC, PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350822030	**ITMW-12R-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350822031	**MW-89-202010**	AM20GAX	JCK2	4	GCLA
		EPA 6010	JLH	1	PASI-K
		EPA 5030B/8260	PGH	38	PASI-K
		SM 4500-S-2 D	CRN2	1	PASI-K
		EPA 300.0	MJK	1	PASI-K
		EPA 353.2	BLA	3	PASI-K
		SM 5310C	LDB	1	PASI-K
60350822032	**MW-198-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350822033	**MW-37-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350822034	**IW-77-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822035	**ITMW-18-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822036	**IW-132-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822037	**MW-93-202010**	EPA 5030B/8260	CJC, PGH	38	PASI-K
60350822038	**ITMW-7-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822039	**EB-04-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822040	**MW-96-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822041	**MW-97-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822042	**DUP-10-202010**	EPA 5030B/8260	EAG, PGH	38	PASI-K
60350822043	**MW-179-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822044	**EB-05-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822045	**IW-134-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822046	**TB-08-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822047	**TB-09-202010**	EPA 5030B/8260	PGH	38	PASI-K
60350822048	**TB-10-202010**	EPA 5030B/8260	PGH	38	PASI-K

GCLA = Pace Analytical Gulf Coast
PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **AM20GAX**
Description: Indicator Gases Water LHC
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 695115

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2098802)
  - Methane

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 6010**
Description: 6010 MET ICP
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for EPA 6010 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 28, 2020

General Information:
45 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: 682488

S0: Surrogate recovery outside laboratory control limits.

- MW-37-202010 (Lab ID: 60350822033)
  - 1,2-Dichloroethane-d4 (S)
- TMW-16-202010 (Lab ID: 60350822004)
  - 1,2-Dichloroethane-d4 (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 682488

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2758836)
  - 2-Butanone (MEK)

QC Batch: 683570

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 2763907)
  - 1,1-Dichloroethane

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 28, 2020

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681957
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682135
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682136
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682488
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 682953
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 683570
A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **SM 4500-S-2 D**
Description: 4500S2D Sulfide, Total
Client: Ramboll_AR
Date: October 28, 2020

General Information:
6 samples were analyzed for SM 4500-S-2 D by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for EPA 300.0 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 684252

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2767048)
  - Sulfate

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 683971

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350824001,60351499001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2765114)
  - Chloride
- MS (Lab ID: 2765116)
  - Chloride
- MSD (Lab ID: 2765115)
  - Chloride

QC Batch: 684252

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350919001,60350923006

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2766010)
  - Chloride
  - Sulfate
- MSD (Lab ID: 2766011)
  - Chloride
  - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: Ramboll_AR
Date: October 28, 2020

Analyte Comments:

QC Batch: 683971

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2765116)
  - Chloride

QC Batch: 684252

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2766010)
  - Sulfate
- MSD (Lab ID: 2766011)
  - Sulfate

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **EPA 353.2**
Description: 353.2 Nitrogen, NO2/NO3 unpres
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for EPA 353.2 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 681857

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350822007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2756333)
  - Nitrogen, Nitrite

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **SM 5310C**
Description: 5310C TOC
Client: Ramboll_AR
Date: October 28, 2020

General Information:
8 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **SM 5310C**
Description: 5310C Dissolved Organic Carbon
Client: Ramboll_AR
Date: October 28, 2020

General Information:
4 samples were analyzed for SM 5310C by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Method: **AM23G**
Description: Low Level Volatile Fatty Acids
Client: Ramboll_AR
Date: October 28, 2020

General Information:
4 samples were analyzed for AM23G by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-10-202010 **Lab ID: 60350822001** Collected: 10/08/20 08:30 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:29	18496-25-8	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-11-202010 **Lab ID: 60350822002** Collected: 10/08/20 08:20 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:29	18496-25-8	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-32-202010 **Lab ID: 60350822003** Collected: 10/08/20 12:50 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 23:01	74-84-0	
Ethene	**0.48J**	ug/L	1.0	0.12	1		10/20/20 23:01	74-85-1	
Methane	**6400**	ug/L	5.0	2.5	1		10/20/20 23:01	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**6150**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 14:45	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 20:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 20:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 20:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 20:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 20:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 20:59	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 20:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 20:59	56-23-5	
Chlorobenzene	**1.9**	ug/L	1.0	0.23	1		10/13/20 20:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 20:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 20:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 20:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 20:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 20:59	75-34-3	
1,2-Dichloroethane	**0.27J**	ug/L	1.0	0.23	1		10/13/20 20:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 20:59	75-35-4	
cis-1,2-Dichloroethene	**7.3**	ug/L	1.0	0.15	1		10/13/20 20:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 20:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 20:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 20:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 20:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 20:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 20:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 20:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 20:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 20:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 20:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 20:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 20:59	79-00-5	
Trichloroethene	**27.6**	ug/L	1.0	0.25	1		10/13/20 20:59	79-01-6	
Vinyl chloride	**0.90J**	ug/L	1.0	0.25	1		10/13/20 20:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 20:59	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-32-202010 **Lab ID: 60350822003** Collected: 10/08/20 12:50 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 20:59	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	86-117		1		10/13/20 20:59	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 20:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 20:59		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**118**	mg/L	20.0	7.8	20		10/21/20 07:33	16887-00-6	
Sulfate	**38.7**	mg/L	5.0	1.4	5		10/21/20 15:58	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:30		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:30	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.94J**	mg/L	1.0	0.36	1		10/27/20 04:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**0.85J**	mg/L	1.0	0.36	1		10/27/20 18:24		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**0.44J**	mg/L	0.50	0.12	1		10/20/20 05:48	64-19-7	
Butyric Acid	ND	mg/L	0.50	0.058	1		10/20/20 05:48	107-92-6	
Formic acid	**4.9**	mg/L	0.50	0.055	1		10/20/20 05:48	64-18-6	
Hexanoic Acid	ND	mg/L	0.50	0.058	1		10/20/20 05:48	142-62-1	
Lactic Acid	ND	mg/L	0.50	0.053	1		10/20/20 05:48	50-21-5	
Pentanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 05:48	109-52-4	
Propionic Acid	**0.067J**	mg/L	0.50	0.053	1		10/20/20 05:48	79-09-4	
Pyruvic Acid	ND	mg/L	0.50	0.060	1		10/20/20 05:48	127-17-3	
i-Hexanoic Acid	ND	mg/L	0.50	0.056	1		10/20/20 05:48	646-07-1	
i-Pentanoic Acid	ND	mg/L	0.50	0.061	1		10/20/20 05:48	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-16-202010 **Lab ID: 60350822004** Collected: 10/08/20 15:20 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**2.7**	ug/L	1.0	0.075	1		10/20/20 23:13	74-84-0	
Ethene	**2.2**	ug/L	1.0	0.12	1		10/20/20 23:13	74-85-1	
Methane	**15000**	ug/L	5.0	2.5	1		10/20/20 23:13	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**19000**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 14:57	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 21:14	67-64-1	
Benzene	**0.14J**	ug/L	1.0	0.088	1		10/13/20 21:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 21:14	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 21:14	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 21:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 21:14	78-93-3	L2
Carbon disulfide	**1.1J**	ug/L	5.0	0.24	1		10/13/20 21:14	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 21:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 21:14	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 21:14	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 21:14	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 21:14	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 21:14	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 21:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 21:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 21:14	75-35-4	
cis-1,2-Dichloroethene	**1.2**	ug/L	1.0	0.15	1		10/13/20 21:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 21:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 21:14	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 21:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 21:14	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 21:14	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 21:14	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 21:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 21:14	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 21:14	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 21:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 21:14	127-18-4	
Toluene	**0.34J**	ug/L	1.0	0.18	1		10/13/20 21:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 21:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 21:14	79-00-5	
Trichloroethene	**0.59J**	ug/L	1.0	0.25	1		10/13/20 21:14	79-01-6	
Vinyl chloride	**0.38J**	ug/L	1.0	0.25	1		10/13/20 21:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 21:14	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-16-202010 **Lab ID: 60350822004** Collected: 10/08/20 15:20 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/13/20 21:14	460-00-4	
1,2-Dichloroethane-d4 (S)	127	%	86-117		1		10/13/20 21:14	17060-07-0	S0
Toluene-d8 (S)	95	%	80-120		1		10/13/20 21:14	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 21:14		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**382**	mg/L	50.0	19.4	50		10/21/20 16:56	16887-00-6	
Sulfate	**0.77J**	mg/L	1.0	0.28	1		10/21/20 16:13	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:37		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:37	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:37	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**38.9**	mg/L	10.0	3.6	10		10/27/20 11:33	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**33.0**	mg/L	10.0	3.6	10		10/27/20 18:38		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**5.7**	mg/L	5.0	1.2	10		10/20/20 06:42	64-19-7	
Butyric Acid	ND	mg/L	5.0	0.58	10		10/20/20 06:42	107-92-6	
Formic acid	**48**	mg/L	5.0	0.55	10		10/20/20 06:42	64-18-6	
Hexanoic Acid	ND	mg/L	5.0	0.58	10		10/20/20 06:42	142-62-1	
Lactic Acid	ND	mg/L	5.0	0.53	10		10/20/20 06:42	50-21-5	
Pentanoic Acid	ND	mg/L	5.0	0.56	10		10/20/20 06:42	109-52-4	
Propionic Acid	**2.4J**	mg/L	5.0	0.53	10		10/20/20 06:42	79-09-4	
Pyruvic Acid	ND	mg/L	5.0	0.60	10		10/20/20 06:42	127-17-3	
i-Hexanoic Acid	ND	mg/L	5.0	0.56	10		10/20/20 06:42	646-07-1	
i-Pentanoic Acid	ND	mg/L	5.0	0.61	10		10/20/20 06:42	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-1R-202010 **Lab ID: 60350822005** Collected: 10/08/20 08:25 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 19:08	67-64-1	
Benzene	**0.25J**	ug/L	1.0	0.088	1		10/12/20 19:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 19:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 19:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 19:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 19:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 19:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 19:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 19:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 19:08	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 19:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 19:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 19:08	124-48-1	
1,1-Dichloroethane	**9.1**	ug/L	1.0	0.098	1		10/12/20 19:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 19:08	107-06-2	
1,1-Dichloroethene	**0.53J**	ug/L	1.0	0.21	1		10/12/20 19:08	75-35-4	
cis-1,2-Dichloroethene	**45.9**	ug/L	1.0	0.15	1		10/12/20 19:08	156-59-2	
trans-1,2-Dichloroethene	**0.32J**	ug/L	1.0	0.15	1		10/12/20 19:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 19:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 19:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 19:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 19:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 19:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 19:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 19:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 19:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:08	79-34-5	
Tetrachloroethene	**0.38J**	ug/L	1.0	0.15	1		10/12/20 19:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 19:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 19:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:08	79-00-5	
Trichloroethene	**28.4**	ug/L	1.0	0.25	1		10/12/20 19:08	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 19:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 19:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 19:08	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 19:08	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 19:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 19:08		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TMW-25-202010 **Lab ID: 60350822006** Collected: 10/08/20 08:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	**1.1**	ug/L	1.0	0.075	1		10/20/20 23:24	74-84-0	
Ethene	**2.1**	ug/L	1.0	0.12	1		10/20/20 23:24	74-85-1	
Methane	**14000**	ug/L	5.0	2.5	1		10/20/20 23:24	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**25300**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:00	7439-89-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**123**	mg/L	10.0	3.9	10		10/21/20 12:28	16887-00-6	
Sulfate	**11.0**	mg/L	1.0	0.28	1		10/22/20 10:42	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:26		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:26	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**12.2**	mg/L	5.0	1.8	5		10/27/20 10:26	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**8.4**	mg/L	5.0	1.8	5		10/27/20 18:51		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**3.9**	mg/L	2.5	0.62	5		10/20/20 07:35	64-19-7	
Butyric Acid	ND	mg/L	2.5	0.29	5		10/20/20 07:35	107-92-6	
Formic acid	**24**	mg/L	2.5	0.27	5		10/20/20 07:35	64-18-6	
Hexanoic Acid	ND	mg/L	2.5	0.29	5		10/20/20 07:35	142-62-1	
Lactic Acid	ND	mg/L	2.5	0.26	5		10/20/20 07:35	50-21-5	
Pentanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 07:35	109-52-4	
Propionic Acid	**0.32J**	mg/L	2.5	0.26	5		10/20/20 07:35	79-09-4	
Pyruvic Acid	ND	mg/L	2.5	0.30	5		10/20/20 07:35	127-17-3	
i-Hexanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 07:35	646-07-1	
i-Pentanoic Acid	ND	mg/L	2.5	0.30	5		10/20/20 07:35	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-25R-202010 **Lab ID: 60350822007** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/20/20 23:36	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 23:36	74-84-0	
Ethene	**0.40J**	ug/L	1.0	0.12	1		10/20/20 23:36	74-85-1	
Methane	**26**	ug/L	5.0	2.5	1		10/20/20 23:36	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**2590**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:02	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**9.6J**	ug/L	10.0	4.7	1		10/13/20 21:45	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.088	1		10/13/20 21:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 21:45	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 21:45	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 21:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 21:45	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 21:45	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 21:45	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 21:45	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 21:45	75-00-3	
Chloroform	**2.3**	ug/L	1.0	0.17	1		10/13/20 21:45	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 21:45	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 21:45	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 21:45	75-34-3	
1,2-Dichloroethane	**0.84J**	ug/L	1.0	0.23	1		10/13/20 21:45	107-06-2	
1,1-Dichloroethene	**4.7**	ug/L	1.0	0.21	1		10/13/20 21:45	75-35-4	
cis-1,2-Dichloroethene	**1050**	ug/L	50.0	7.5	50		10/13/20 22:00	156-59-2	
trans-1,2-Dichloroethene	**46.0**	ug/L	1.0	0.15	1		10/13/20 21:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 21:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 21:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 21:45	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 21:45	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 21:45	591-78-6	
Methylene Chloride	**1.1**	ug/L	1.0	0.81	1		10/13/20 21:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 21:45	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 21:45	100-42-5	
1,1,2,2-Tetrachloroethane	**1.0**	ug/L	1.0	0.28	1		10/13/20 21:45	79-34-5	
Tetrachloroethene	**0.85J**	ug/L	1.0	0.15	1		10/13/20 21:45	127-18-4	
Toluene	**0.29J**	ug/L	1.0	0.18	1		10/13/20 21:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 21:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 21:45	79-00-5	
Trichloroethene	**3130**	ug/L	50.0	12.5	50		10/13/20 22:00	79-01-6	
Vinyl chloride	**21.4**	ug/L	1.0	0.25	1		10/13/20 21:45	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 21:45	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-25R-202010 **Lab ID: 60350822007** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 21:45	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	86-117		1		10/13/20 21:45	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/13/20 21:45	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 21:45		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:30	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**316**	mg/L	20.0	5.6	20		10/21/20 12:57	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.48**	mg/L	0.10	0.058	1		10/09/20 12:25		
Nitrogen, Nitrate	**0.48**	mg/L	0.10	0.063	1		10/09/20 12:25	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:25	14797-65-0	M1
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**1.0**	mg/L	1.0	0.36	1		10/27/20 11:19	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-22-202010 **Lab ID: 60350822008** Collected: 10/08/20 09:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 19:22	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 19:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 19:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 19:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 19:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 19:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 19:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 19:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 19:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 19:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 19:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 19:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 19:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 19:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 19:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 19:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 19:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 19:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 19:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 19:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 19:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 19:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 19:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 19:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 19:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 19:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 19:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 19:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 19:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 19:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 19:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 19:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 19:22	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/12/20 19:22	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 19:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 19:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP-07-202010 **Lab ID: 60350822009** Collected: 10/08/20 09:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 10:17	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 10:17	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 10:17	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 10:17	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:17	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:17	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:17	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 10:17	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:17	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 10:17	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 10:17	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 10:17	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:17	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:17	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:17	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:17	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:17	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:17	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:17	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:17	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:17	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:17	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:17	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:17	79-00-5	
Trichloroethene	**0.59J**	ug/L	1.0	0.25	1		10/13/20 10:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 10:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:17	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 10:17	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 10:17	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 10:17	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:17		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-24-202010 **Lab ID: 60350822010** Collected: 10/08/20 08:53 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**16.2**	ug/L	10.0	4.7	1		10/13/20 09:48	67-64-1	
Benzene	**0.13J**	ug/L	1.0	0.088	1		10/13/20 09:48	71-43-2	
Bromodichloromethane	**0.31J**	ug/L	1.0	0.12	1		10/13/20 09:48	75-27-4	
Bromoform	**5.2**	ug/L	1.0	0.38	1		10/13/20 09:48	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:48	78-93-3	
Carbon disulfide	**0.28J**	ug/L	5.0	0.24	1		10/13/20 09:48	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:48	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:48	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:48	75-00-3	
Chloroform	**0.56J**	ug/L	1.0	0.17	1		10/13/20 09:48	67-66-3	
Chloromethane	**3.9**	ug/L	1.0	0.44	1		10/13/20 09:48	74-87-3	
Dibromochloromethane	**0.77J**	ug/L	1.0	0.17	1		10/13/20 09:48	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 09:48	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:48	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 09:48	75-35-4	
cis-1,2-Dichloroethene	**2.2**	ug/L	1.0	0.15	1		10/13/20 09:48	156-59-2	
trans-1,2-Dichloroethene	**0.27J**	ug/L	1.0	0.15	1		10/13/20 09:48	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:48	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:48	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:48	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:48	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:48	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:48	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:48	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:48	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:48	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 09:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:48	79-00-5	
Trichloroethene	**144**	ug/L	1.0	0.25	1		10/13/20 09:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 09:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 09:48	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 09:48	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 09:48	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:48		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP.08-202010 **Lab ID: 60350822011** Collected: 10/08/20 08:53 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**10.9**	ug/L	10.0	4.7	1		10/13/20 10:31	67-64-1	
Benzene	**0.14J**	ug/L	1.0	0.088	1		10/13/20 10:31	71-43-2	
Bromodichloromethane	**0.29J**	ug/L	1.0	0.12	1		10/13/20 10:31	75-27-4	
Bromoform	**4.3**	ug/L	1.0	0.38	1		10/13/20 10:31	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:31	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 10:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:31	75-00-3	
Chloroform	**0.49J**	ug/L	1.0	0.17	1		10/13/20 10:31	67-66-3	
Chloromethane	**3.3**	ug/L	1.0	0.44	1		10/13/20 10:31	74-87-3	
Dibromochloromethane	**0.77J**	ug/L	1.0	0.17	1		10/13/20 10:31	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:31	75-35-4	
cis-1,2-Dichloroethene	**2.3**	ug/L	1.0	0.15	1		10/13/20 10:31	156-59-2	
trans-1,2-Dichloroethene	**0.36J**	ug/L	1.0	0.15	1		10/13/20 10:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:31	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:31	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:31	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:31	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:31	79-00-5	
Trichloroethene	**148**	ug/L	1.0	0.25	1		10/13/20 10:31	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 10:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 10:31	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 10:31	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 10:31	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:31		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-16-202010 **Lab ID: 60350822012** Collected: 10/08/20 10:09 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 08:22	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 08:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 08:22	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 08:22	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 08:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 08:22	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 08:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 08:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 08:22	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 08:22	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 08:22	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 08:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 08:22	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 08:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 08:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 08:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 08:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 08:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 08:22	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 08:22	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 08:22	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 08:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 08:22	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 08:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:22	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 08:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 08:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 08:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 08:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 08:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/13/20 08:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 08:22	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/13/20 08:22	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 08:22		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-204-202010 **Lab ID: 60350822013** Collected: 10/08/20 10:16 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 10:46	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 10:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 10:46	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 10:46	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:46	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:46	56-23-5	
Chlorobenzene	**0.69J**	ug/L	1.0	0.23	1		10/13/20 10:46	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:46	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 10:46	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 10:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 10:46	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:46	75-35-4	
cis-1,2-Dichloroethene	**4.1**	ug/L	1.0	0.15	1		10/13/20 10:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:46	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:46	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:46	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:46	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:46	79-00-5	
Trichloroethene	**55.6**	ug/L	1.0	0.25	1		10/13/20 10:46	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 10:46	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 10:46	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 10:46	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 10:46	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:46		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-202-202010 **Lab ID: 60350822014** Collected: 10/08/20 09:46 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 11:00	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:00	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:00	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:00	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:00	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:00	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:00	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:00	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:00	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:00	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/13/20 11:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:00	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:00	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:00	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:00	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:00	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:00	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:00	79-00-5	
Trichloroethene	**9.3**	ug/L	1.0	0.25	1		10/13/20 11:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:00	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 11:00	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:00	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 11:00	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:00		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-28-202010 **Lab ID: 60350822015** Collected: 10/08/20 10:15 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 08:36	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 08:36	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 08:36	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 08:36	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 08:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 08:36	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 08:36	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 08:36	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 08:36	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 08:36	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 08:36	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 08:36	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 08:36	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 08:36	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 08:36	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 08:36	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:36	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 08:36	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 08:36	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 08:36	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 08:36	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 08:36	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 08:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 08:36	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 08:36	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:36	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:36	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 08:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 08:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 08:36	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 08:36	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 08:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 08:36	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 08:36	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 08:36	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 08:36		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-186-202010 **Lab ID: 60350822016** Collected: 10/08/20 09:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Ethane	ND	ug/L	1.0	0.075	1		10/20/20 23:48	74-84-0	
Ethene	**0.71J**	ug/L	1.0	0.12	1		10/20/20 23:48	74-85-1	
Methane	**15000**	ug/L	5.0	2.5	1		10/20/20 23:48	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**13700**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:05	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.0J**	ug/L	10.0	4.7	1		10/13/20 10:03	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 10:03	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 10:03	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 10:03	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 10:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 10:03	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 10:03	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 10:03	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 10:03	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 10:03	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 10:03	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 10:03	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 10:03	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 10:03	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 10:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 10:03	75-35-4	
cis-1,2-Dichloroethene	**0.40J**	ug/L	1.0	0.15	1		10/13/20 10:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:03	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 10:03	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 10:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 10:03	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 10:03	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 10:03	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 10:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 10:03	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 10:03	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:03	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 10:03	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 10:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 10:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 10:03	79-00-5	
Trichloroethene	**0.43J**	ug/L	1.0	0.25	1		10/16/20 05:14	79-01-6	
Vinyl chloride	**0.33J**	ug/L	1.0	0.25	1		10/13/20 10:03	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 10:03	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-186-202010 **Lab ID: 60350822016** Collected: 10/08/20 09:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 10:03	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 10:03	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 10:03	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 10:03		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**138**	mg/L	10.0	3.9	10		10/21/20 13:12	16887-00-6	
Sulfate	ND	mg/L	1.0	0.28	1		10/22/20 10:58	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.058	1		10/09/20 12:27		
Nitrogen, Nitrate	ND	mg/L	0.10	0.063	1		10/09/20 12:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:27	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**19.5**	mg/L	5.0	1.8	5		10/27/20 06:12	7440-44-0	
5310C Dissolved Organic Carbon	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Dissolved Organic Carbon	**20.3**	mg/L	5.0	1.8	5		10/27/20 19:04		
Low Level Volatile Fatty Acids	Analytical Method: AM23G Pace Analytical Gulf Coast								
Acetic Acid	**1.9J**	mg/L	2.5	0.62	5		10/20/20 08:28	64-19-7	
Butyric Acid	ND	mg/L	2.5	0.29	5		10/20/20 08:28	107-92-6	
Formic acid	**23**	mg/L	2.5	0.27	5		10/20/20 08:28	64-18-6	
Hexanoic Acid	ND	mg/L	2.5	0.29	5		10/20/20 08:28	142-62-1	
Lactic Acid	ND	mg/L	2.5	0.26	5		10/20/20 08:28	50-21-5	
Pentanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 08:28	109-52-4	
Propionic Acid	**0.29J**	mg/L	2.5	0.26	5		10/20/20 08:28	79-09-4	
Pyruvic Acid	ND	mg/L	2.5	0.30	5		10/20/20 08:28	127-17-3	
i-Hexanoic Acid	ND	mg/L	2.5	0.28	5		10/20/20 08:28	646-07-1	
i-Pentanoic Acid	ND	mg/L	2.5	0.30	5		10/20/20 08:28	503-74-2	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-2R-202010 **Lab ID: 60350822017** Collected: 10/08/20 10:30 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.4J**	ug/L	10.0	4.7	1		10/13/20 08:50	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 08:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 08:50	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 08:50	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 08:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 08:50	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 08:50	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 08:50	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 08:50	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 08:50	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 08:50	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 08:50	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 08:50	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 08:50	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 08:50	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 08:50	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:50	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 08:50	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 08:50	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 08:50	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 08:50	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 08:50	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 08:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 08:50	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 08:50	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 08:50	127-18-4	
Toluene	**0.20J**	ug/L	1.0	0.18	1		10/13/20 08:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 08:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 08:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/13/20 08:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 08:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 08:50	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 08:50	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	86-117		1		10/13/20 08:50	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 08:50	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 08:50		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP-09-202010 **Lab ID: 60350822018** Collected: 10/08/20 10:30 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**6.0J**	ug/L	10.0	4.7	1		10/13/20 11:15	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:15	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:15	127-18-4	
Toluene	**0.18J**	ug/L	1.0	0.18	1		10/13/20 11:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:15	79-00-5	
Trichloroethene	**0.32J**	ug/L	1.0	0.25	1		10/13/20 11:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 11:15	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:15	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/13/20 11:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-21-202010 **Lab ID: 60350822019** Collected: 10/08/20 11:25 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 09:05	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 09:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 09:05	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 09:05	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:05	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 09:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:05	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:05	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 09:05	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 09:05	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 09:05	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 09:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 09:05	75-35-4	
cis-1,2-Dichloroethene	**0.32J**	ug/L	1.0	0.15	1		10/13/20 09:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:05	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:05	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:05	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:05	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:05	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 09:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:05	79-00-5	
Trichloroethene	**5.4**	ug/L	1.0	0.25	1		10/13/20 09:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 09:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 09:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 09:05	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/13/20 09:05	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:05		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-200-202010 **Lab ID: 60350822020** Collected: 10/08/20 11:08 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 11:29	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:29	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:29	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 11:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:29	79-00-5	
Trichloroethene	**0.25J**	ug/L	1.0	0.25	1		10/13/20 11:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 11:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:29	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 11:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:29		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-10-202010 **Lab ID: 60350822021** Collected: 10/08/20 11:34 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 09:19	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 09:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 09:19	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 09:19	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:19	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 09:19	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:19	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:19	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:19	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 09:19	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 09:19	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 09:19	124-48-1	
1,1-Dichloroethane	**0.38J**	ug/L	1.0	0.098	1		10/13/20 09:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:19	107-06-2	
1,1-Dichloroethene	**0.97J**	ug/L	1.0	0.21	1		10/13/20 09:19	75-35-4	
cis-1,2-Dichloroethene	**6.5**	ug/L	1.0	0.15	1		10/13/20 09:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 09:19	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:19	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:19	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:19	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:19	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:19	79-34-5	
Tetrachloroethene	**0.38J**	ug/L	1.0	0.15	1		10/13/20 09:19	127-18-4	
Toluene	**0.32J**	ug/L	1.0	0.18	1		10/13/20 09:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:19	79-00-5	
Trichloroethene	**286**	ug/L	10.0	2.5	10		10/16/20 05:28	79-01-6	
Vinyl chloride	**0.36J**	ug/L	1.0	0.25	1		10/13/20 09:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:19	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/13/20 09:19	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 09:19	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/13/20 09:19	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:19		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-85R-202010 **Lab ID: 60350822022** Collected: 10/08/20 12:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/19/20 11:53	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/19/20 11:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/19/20 11:53	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/19/20 11:53	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/19/20 11:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/19/20 11:53	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/19/20 11:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/19/20 11:53	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/19/20 11:53	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/19/20 11:53	75-00-3	
Chloroform	**1.2**	ug/L	1.0	0.17	1		10/19/20 11:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/19/20 11:53	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/19/20 11:53	124-48-1	
1,1-Dichloroethane	**1.7**	ug/L	1.0	0.098	1		10/19/20 11:53	75-34-3	L2
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/19/20 11:53	107-06-2	
1,1-Dichloroethene	**7.1**	ug/L	1.0	0.21	1		10/19/20 11:53	75-35-4	
cis-1,2-Dichloroethene	**76.0**	ug/L	1.0	0.15	1		10/19/20 11:53	156-59-2	
trans-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		10/19/20 11:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/19/20 11:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/19/20 11:53	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/19/20 11:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/19/20 11:53	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/19/20 11:53	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/19/20 11:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/19/20 11:53	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/19/20 11:53	100-42-5	
1,1,2,2-Tetrachloroethane	**0.41J**	ug/L	1.0	0.28	1		10/19/20 11:53	79-34-5	
Tetrachloroethene	**1.6**	ug/L	1.0	0.15	1		10/19/20 11:53	127-18-4	
Toluene	**0.43J**	ug/L	1.0	0.18	1		10/19/20 11:53	108-88-3	
1,1,1-Trichloroethane	**11.9**	ug/L	1.0	0.13	1		10/19/20 11:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/19/20 11:53	79-00-5	
Trichloroethene	**4860**	ug/L	100	25.0	100		10/15/20 19:12	79-01-6	
Vinyl chloride	**1.7**	ug/L	1.0	0.25	1		10/19/20 11:53	75-01-4	
Xylene (Total)	ND	ug/L	300	54.0	100		10/15/20 19:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		10/19/20 11:53	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	86-117		1		10/19/20 11:53	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		10/19/20 11:53	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/19/20 11:53		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-11-202010 **Lab ID: 60350822023** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/19/20 12:09	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/19/20 12:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/19/20 12:09	75-27-4	
Bromoform	**3.3**	ug/L	1.0	0.38	1		10/19/20 12:09	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/19/20 12:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/19/20 12:09	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/19/20 12:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/19/20 12:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/19/20 12:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/19/20 12:09	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/19/20 12:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/19/20 12:09	74-87-3	
Dibromochloromethane	**0.26J**	ug/L	1.0	0.17	1		10/19/20 12:09	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/19/20 12:09	75-34-3	L2
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/19/20 12:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/19/20 12:09	75-35-4	
cis-1,2-Dichloroethene	**18.7**	ug/L	1.0	0.15	1		10/19/20 12:09	156-59-2	
trans-1,2-Dichloroethene	**3.1**	ug/L	1.0	0.15	1		10/19/20 12:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/19/20 12:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/19/20 12:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/19/20 12:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/19/20 12:09	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/19/20 12:09	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/19/20 12:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/19/20 12:09	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/19/20 12:09	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/19/20 12:09	79-34-5	
Tetrachloroethene	**0.69J**	ug/L	1.0	0.15	1		10/19/20 12:09	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/19/20 12:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/19/20 12:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/19/20 12:09	79-00-5	
Trichloroethene	**894**	ug/L	50.0	12.5	50		10/13/20 13:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/19/20 12:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/19/20 12:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	80-120		1		10/19/20 12:09	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/19/20 12:09	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/19/20 12:09	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/19/20 12:09		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-6-202010 **Lab ID: 60350822024** Collected: 10/08/20 11:44 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 09:34	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 09:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 09:34	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 09:34	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 09:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 09:34	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 09:34	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 09:34	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 09:34	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 09:34	75-00-3	
Chloroform	**0.57J**	ug/L	1.0	0.17	1		10/13/20 09:34	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 09:34	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 09:34	124-48-1	
1,1-Dichloroethane	**0.36J**	ug/L	1.0	0.098	1		10/13/20 09:34	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 09:34	107-06-2	
1,1-Dichloroethene	**3.9**	ug/L	1.0	0.21	1		10/13/20 09:34	75-35-4	
cis-1,2-Dichloroethene	**20.6**	ug/L	1.0	0.15	1		10/13/20 09:34	156-59-2	
trans-1,2-Dichloroethene	**0.25J**	ug/L	1.0	0.15	1		10/13/20 09:34	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 09:34	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 09:34	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 09:34	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 09:34	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 09:34	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 09:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 09:34	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 09:34	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:34	79-34-5	
Tetrachloroethene	**1.0**	ug/L	1.0	0.15	1		10/13/20 09:34	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 09:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 09:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 09:34	79-00-5	
Trichloroethene	**2110**	ug/L	20.0	5.0	20		10/16/20 05:42	79-01-6	
Vinyl chloride	**1.4**	ug/L	1.0	0.25	1		10/13/20 09:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 09:34	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/13/20 09:34	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 09:34	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/13/20 09:34	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 09:34		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-5-202010 **Lab ID: 60350822025** Collected: 10/08/20 12:23 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 12:56	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 12:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 12:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 12:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 12:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 12:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 12:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 12:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 12:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 12:56	75-00-3	
Chloroform	**0.70J**	ug/L	1.0	0.17	1		10/13/20 12:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 12:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 12:56	124-48-1	
1,1-Dichloroethane	**0.87J**	ug/L	1.0	0.098	1		10/13/20 12:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 12:56	107-06-2	
1,1-Dichloroethene	**5.4**	ug/L	1.0	0.21	1		10/13/20 12:56	75-35-4	
cis-1,2-Dichloroethene	**29.5**	ug/L	1.0	0.15	1		10/13/20 12:56	156-59-2	
trans-1,2-Dichloroethene	**0.30J**	ug/L	1.0	0.15	1		10/13/20 12:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 12:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 12:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 12:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 12:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 12:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 12:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 12:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 12:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:56	79-34-5	
Tetrachloroethene	**1.5**	ug/L	1.0	0.15	1		10/13/20 12:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 12:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 12:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:56	79-00-5	
Trichloroethene	**2560**	ug/L	20.0	5.0	20		10/13/20 13:10	79-01-6	
Vinyl chloride	**1.4**	ug/L	1.0	0.25	1		10/13/20 12:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 12:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 12:56	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/13/20 12:56	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 12:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 12:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-87-202010 **Lab ID: 60350822026** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/21/20 00:00	74-86-2	
Ethane	**0.64J**	ug/L	1.0	0.075	1		10/21/20 00:00	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/21/20 00:00	74-85-1	
Methane	**43**	ug/L	5.0	2.5	1		10/21/20 00:00	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**1140**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:07	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 11:58	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 11:58	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 11:58	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:58	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:58	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:58	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:58	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:58	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 11:58	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 11:58	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 11:58	124-48-1	
1,1-Dichloroethane	**1.1**	ug/L	1.0	0.098	1		10/13/20 11:58	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:58	107-06-2	
1,1-Dichloroethene	**3.2**	ug/L	1.0	0.21	1		10/13/20 11:58	75-35-4	
cis-1,2-Dichloroethene	**22.3**	ug/L	1.0	0.15	1		10/13/20 11:58	156-59-2	
trans-1,2-Dichloroethene	**0.45J**	ug/L	1.0	0.15	1		10/13/20 11:58	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:58	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:58	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:58	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:58	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:58	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:58	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:58	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:58	79-34-5	
Tetrachloroethene	**3.4**	ug/L	1.0	0.15	1		10/13/20 11:58	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:58	79-00-5	
Trichloroethene	**320**	ug/L	10.0	2.5	10		10/13/20 12:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:58	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-87-202010 **Lab ID: 60350822026** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		10/13/20 11:58	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 11:58	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/13/20 11:58	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:58		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:30	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**11.8**	mg/L	1.0	0.28	1		10/22/20 11:14	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**1.9**	mg/L	0.10	0.058	1		10/09/20 12:29		
Nitrogen, Nitrate	**1.9**	mg/L	0.10	0.063	1		10/09/20 12:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:29	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.38J**	mg/L	1.0	0.36	1		10/27/20 06:38	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-46R-202010 **Lab ID: 60350822027** Collected: 10/08/20 12:42 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 12:27	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 12:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 12:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 12:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 12:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 12:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 12:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 12:27	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 12:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 12:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 12:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 12:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 12:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 12:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 12:27	107-06-2	
1,1-Dichloroethene	**1.6**	ug/L	1.0	0.21	1		10/13/20 12:27	75-35-4	
cis-1,2-Dichloroethene	**14.6**	ug/L	1.0	0.15	1		10/13/20 12:27	156-59-2	
trans-1,2-Dichloroethene	**0.35J**	ug/L	1.0	0.15	1		10/13/20 12:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 12:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 12:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 12:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 12:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 12:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 12:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 12:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 12:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 12:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 12:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 12:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 12:27	79-00-5	
Trichloroethene	**460**	ug/L	10.0	2.5	10		10/13/20 12:41	79-01-6	
Vinyl chloride	**2.1**	ug/L	1.0	0.25	1		10/13/20 12:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 12:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/13/20 12:27	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	86-117		1		10/13/20 12:27	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/13/20 12:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 12:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-19-202010 **Lab ID: 60350822028** Collected: 10/08/20 13:35 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**6.4J**	ug/L	10.0	4.7	1		10/13/20 11:43	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 11:43	71-43-2	
Bromodichloromethane	**0.71J**	ug/L	1.0	0.12	1		10/13/20 11:43	75-27-4	
Bromoform	**7.7**	ug/L	1.0	0.38	1		10/13/20 11:43	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 11:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 11:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 11:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 11:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 11:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 11:43	75-00-3	
Chloroform	**1.9**	ug/L	1.0	0.17	1		10/13/20 11:43	67-66-3	
Chloromethane	**0.76J**	ug/L	1.0	0.44	1		10/13/20 11:43	74-87-3	
Dibromochloromethane	**1.1**	ug/L	1.0	0.17	1		10/13/20 11:43	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 11:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 11:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/13/20 11:43	75-35-4	
cis-1,2-Dichloroethene	**4.8**	ug/L	1.0	0.15	1		10/13/20 11:43	156-59-2	
trans-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.15	1		10/13/20 11:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 11:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 11:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 11:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 11:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 11:43	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 11:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 11:43	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 11:43	100-42-5	
1,1,2,2-Tetrachloroethane	**0.74J**	ug/L	1.0	0.28	1		10/13/20 11:43	79-34-5	
Tetrachloroethene	**0.60J**	ug/L	1.0	0.15	1		10/13/20 11:43	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 11:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 11:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 11:43	79-00-5	
Trichloroethene	**435**	ug/L	10.0	2.5	10		10/16/20 05:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 11:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 11:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/13/20 11:43	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/13/20 11:43	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		10/13/20 11:43	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 11:43		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-95-202010 **Lab ID: 60350822029** Collected: 10/08/20 13:58 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/21/20 00:12	74-86-2	
Ethane	**0.50J**	ug/L	1.0	0.075	1		10/21/20 00:12	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/21/20 00:12	74-85-1	
Methane	**11**	ug/L	5.0	2.5	1		10/21/20 00:12	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	ND	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:10	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:16	67-64-1	
Benzene	**0.13J**	ug/L	1.0	0.088	1		10/13/20 23:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 23:16	75-27-4	
Bromoform	**0.80J**	ug/L	1.0	0.38	1		10/13/20 23:16	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:16	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:16	75-15-0	
Carbon tetrachloride	**0.38J**	ug/L	1.0	0.19	1		10/13/20 23:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:16	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:16	75-00-3	
Chloroform	**5.3**	ug/L	1.0	0.17	1		10/13/20 23:16	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 23:16	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:16	124-48-1	
1,1-Dichloroethane	**0.50J**	ug/L	1.0	0.098	1		10/13/20 23:16	75-34-3	
1,2-Dichloroethane	**0.38J**	ug/L	1.0	0.23	1		10/13/20 23:16	107-06-2	
1,1-Dichloroethene	**16.8**	ug/L	1.0	0.21	1		10/13/20 23:16	75-35-4	
cis-1,2-Dichloroethene	**315**	ug/L	200	30.0	200		10/13/20 02:03	156-59-2	
trans-1,2-Dichloroethene	**36.8**	ug/L	1.0	0.15	1		10/13/20 23:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 23:16	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:16	591-78-6	
Methylene Chloride	**2.4**	ug/L	1.0	0.81	1		10/13/20 23:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:16	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:16	100-42-5	
1,1,2,2-Tetrachloroethane	**0.60J**	ug/L	1.0	0.28	1		10/13/20 23:16	79-34-5	
Tetrachloroethene	**6.2**	ug/L	1.0	0.15	1		10/13/20 23:16	127-18-4	
Toluene	**0.24J**	ug/L	1.0	0.18	1		10/13/20 23:16	108-88-3	
1,1,1-Trichloroethane	**2.3**	ug/L	1.0	0.13	1		10/13/20 23:16	71-55-6	
1,1,2-Trichloroethane	**1.5**	ug/L	1.0	0.28	1		10/13/20 23:16	79-00-5	
Trichloroethene	**21100**	ug/L	200	50.0	200		10/13/20 02:03	79-01-6	
Vinyl chloride	**10.4**	ug/L	1.0	0.25	1		10/13/20 23:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:16	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-95-202010 **Lab ID: 60350822029** Collected: 10/08/20 13:58 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:16	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	86-117		1		10/13/20 23:16	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 23:16	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:16		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/15/20 14:31	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**93.1**	mg/L	20.0	5.6	20		10/21/20 13:57	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**0.95**	mg/L	0.10	0.058	1		10/09/20 12:31		
Nitrogen, Nitrate	**0.95**	mg/L	0.10	0.063	1		10/09/20 12:31	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.10	0.063	1		10/09/20 12:31	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	ND	mg/L	1.0	0.36	1		10/27/20 06:52	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-12R-202010 **Lab ID: 60350822030** Collected: 10/08/20 13:50 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:01	67-64-1	
Benzene	**0.26J**	ug/L	1.0	0.088	1		10/13/20 23:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 23:01	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 23:01	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:01	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 23:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:01	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:01	75-00-3	
Chloroform	**1.7**	ug/L	1.0	0.17	1		10/13/20 23:01	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 23:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:01	124-48-1	
1,1-Dichloroethane	**0.93J**	ug/L	1.0	0.098	1		10/13/20 23:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 23:01	107-06-2	
1,1-Dichloroethene	**11.7**	ug/L	1.0	0.21	1		10/13/20 23:01	75-35-4	
cis-1,2-Dichloroethene	**284**	ug/L	100	15.0	100		10/13/20 01:35	156-59-2	
trans-1,2-Dichloroethene	**3.1**	ug/L	1.0	0.15	1		10/13/20 23:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:01	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 23:01	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:01	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 23:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:01	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:01	100-42-5	
1,1,2,2-Tetrachloroethane	**0.40J**	ug/L	1.0	0.28	1		10/13/20 23:01	79-34-5	
Tetrachloroethene	**4.7**	ug/L	1.0	0.15	1		10/13/20 23:01	127-18-4	
Toluene	**0.19J**	ug/L	1.0	0.18	1		10/13/20 23:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 23:01	71-55-6	
1,1,2-Trichloroethane	**0.88J**	ug/L	1.0	0.28	1		10/13/20 23:01	79-00-5	
Trichloroethene	**11400**	ug/L	100	25.0	100		10/13/20 01:35	79-01-6	
Vinyl chloride	**7.0**	ug/L	1.0	0.25	1		10/13/20 23:01	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:01	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	86-117		1		10/13/20 23:01	17060-07-0	
Toluene-d8 (S)	96	%	80-120		1		10/13/20 23:01	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:01		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-89-202010 **Lab ID: 60350822031** Collected: 10/08/20 14:40 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Water LHC	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Acetylene	ND	ug/L	0.74	0.11	1		10/21/20 00:24	74-86-2	
Ethane	ND	ug/L	1.0	0.075	1		10/21/20 00:24	74-84-0	
Ethene	ND	ug/L	1.0	0.12	1		10/21/20 00:24	74-85-1	
Methane	**91**	ug/L	5.0	2.5	1		10/21/20 00:24	74-82-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Kansas City								
Iron	**50.4**	ug/L	50.0	26.8	1	10/21/20 07:25	10/22/20 15:12	7439-89-6	
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:13	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 22:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:13	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 22:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:13	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:13	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:13	75-35-4	
cis-1,2-Dichloroethene	**0.48J**	ug/L	1.0	0.15	1		10/12/20 22:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:13	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:13	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:13	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:13	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:13	79-00-5	
Trichloroethene	**6.4**	ug/L	1.0	0.25	1		10/12/20 22:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:13	1330-20-7	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-89-202010 **Lab ID: 60350822031** Collected: 10/08/20 14:40 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		10/12/20 22:13	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	86-117		1		10/12/20 22:13	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 22:13	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:13		
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	ND	mg/L	0.050	0.039	1		10/14/20 15:03	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Sulfate	**2.7**	mg/L	1.0	0.28	1		10/22/20 11:30	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Pace Analytical Services - Kansas City								
Nitrogen, NO2 plus NO3	**96.2**	mg/L	2.0	1.2	20		10/09/20 12:38		
Nitrogen, Nitrate	**96.2**	mg/L	2.0	1.3	20		10/09/20 12:38	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	2.0	1.3	20		10/09/20 12:38	14797-65-0	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Kansas City								
Total Organic Carbon	**0.70J**	mg/L	1.0	0.36	1		10/27/20 07:05	7440-44-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-198-202010 **Lab ID: 60350822032** Collected: 10/08/20 15:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 23:25	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.088	1		10/12/20 23:25	71-43-2	
Bromodichloromethane	**0.55J**	ug/L	1.0	0.12	1		10/12/20 23:25	75-27-4	
Bromoform	**1.5**	ug/L	1.0	0.38	1		10/12/20 23:25	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:25	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:25	75-15-0	
Carbon tetrachloride	**0.46J**	ug/L	1.0	0.19	1		10/12/20 23:25	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:25	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:25	75-00-3	
Chloroform	**8.0**	ug/L	1.0	0.17	1		10/12/20 23:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:25	74-87-3	
Dibromochloromethane	**0.49J**	ug/L	1.0	0.17	1		10/12/20 23:25	124-48-1	
1,1-Dichloroethane	**1.4**	ug/L	1.0	0.098	1		10/12/20 23:25	75-34-3	
1,2-Dichloroethane	**0.24J**	ug/L	1.0	0.23	1		10/12/20 23:25	107-06-2	
1,1-Dichloroethene	**28.9**	ug/L	1.0	0.21	1		10/12/20 23:25	75-35-4	
cis-1,2-Dichloroethene	**1550**	ug/L	100	15.0	100		10/16/20 06:11	156-59-2	
trans-1,2-Dichloroethene	**71.9**	ug/L	1.0	0.15	1		10/12/20 23:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:25	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:25	591-78-6	
Methylene Chloride	**2.3**	ug/L	1.0	0.81	1		10/12/20 23:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:25	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:25	100-42-5	
1,1,2,2-Tetrachloroethane	**14.9**	ug/L	1.0	0.28	1		10/12/20 23:25	79-34-5	
Tetrachloroethene	**9.1**	ug/L	1.0	0.15	1		10/12/20 23:25	127-18-4	
Toluene	**1.2**	ug/L	1.0	0.18	1		10/12/20 23:25	108-88-3	
1,1,1-Trichloroethane	**25.1**	ug/L	1.0	0.13	1		10/12/20 23:25	71-55-6	
1,1,2-Trichloroethane	**1.1**	ug/L	1.0	0.28	1		10/12/20 23:25	79-00-5	
Trichloroethene	**20600**	ug/L	500	125	500		10/19/20 14:01	79-01-6	
Vinyl chloride	**84.4**	ug/L	1.0	0.25	1		10/12/20 23:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		10/12/20 23:25	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/12/20 23:25	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		10/12/20 23:25	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:25		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-37-202010 **Lab ID: 60350822033** Collected: 10/08/20 15:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:31	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 23:31	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 23:31	75-27-4	
Bromoform	**0.88J**	ug/L	1.0	0.38	1		10/13/20 23:31	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:31	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 23:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:31	75-00-3	
Chloroform	**0.76J**	ug/L	1.0	0.17	1		10/13/20 23:31	67-66-3	
Chloromethane	**0.50J**	ug/L	1.0	0.44	1		10/13/20 23:31	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:31	124-48-1	
1,1-Dichloroethane	**0.57J**	ug/L	1.0	0.098	1		10/13/20 23:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 23:31	107-06-2	
1,1-Dichloroethene	**1.9**	ug/L	1.0	0.21	1		10/13/20 23:31	75-35-4	
cis-1,2-Dichloroethene	**648**	ug/L	100	15.0	100		10/13/20 01:49	156-59-2	
trans-1,2-Dichloroethene	**33.8**	ug/L	1.0	0.15	1		10/13/20 23:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:31	10061-02-6	
Ethylbenzene	**0.54J**	ug/L	1.0	0.18	1		10/13/20 23:31	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:31	591-78-6	
Methylene Chloride	**1.4**	ug/L	1.0	0.81	1		10/13/20 23:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:31	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:31	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 23:31	79-34-5	
Tetrachloroethene	**2.7**	ug/L	1.0	0.15	1		10/13/20 23:31	127-18-4	
Toluene	**4.1**	ug/L	1.0	0.18	1		10/13/20 23:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 23:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 23:31	79-00-5	
Trichloroethene	**3990**	ug/L	100	25.0	100		10/13/20 01:49	79-01-6	
Vinyl chloride	**186**	ug/L	1.0	0.25	1		10/13/20 23:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:31	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	86-117		1		10/13/20 23:31	17060-07-0	S0
Toluene-d8 (S)	96	%	80-120		1		10/13/20 23:31	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:31		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: IW-77-202010 **Lab ID: 60350822034** Collected: 10/08/20 14:12 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 23:54	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 23:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 23:54	75-27-4	
Bromoform	**0.70J**	ug/L	1.0	0.38	1		10/12/20 23:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 23:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 23:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 23:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 23:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 23:54	107-06-2	
1,1-Dichloroethene	**0.78J**	ug/L	1.0	0.21	1		10/12/20 23:54	75-35-4	
cis-1,2-Dichloroethene	**5.7**	ug/L	1.0	0.15	1		10/12/20 23:54	156-59-2	
trans-1,2-Dichloroethene	**0.23J**	ug/L	1.0	0.15	1		10/12/20 23:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 23:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:54	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:54	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 23:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 23:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:54	79-00-5	
Trichloroethene	**171**	ug/L	5.0	1.2	5		10/16/20 06:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 23:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 23:54	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		10/12/20 23:54	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/12/20 23:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:54		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-18-202010 **Lab ID: 60350822035** Collected: 10/08/20 16:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 00:08	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 00:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 00:08	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 00:08	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 00:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 00:08	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 00:08	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 00:08	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 00:08	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 00:08	75-00-3	
Chloroform	**0.59J**	ug/L	1.0	0.17	1		10/13/20 00:08	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 00:08	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 00:08	124-48-1	
1,1-Dichloroethane	**0.45J**	ug/L	1.0	0.098	1		10/13/20 00:08	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 00:08	107-06-2	
1,1-Dichloroethene	**2.2**	ug/L	1.0	0.21	1		10/13/20 00:08	75-35-4	
cis-1,2-Dichloroethene	**94.5**	ug/L	1.0	0.15	1		10/13/20 00:08	156-59-2	
trans-1,2-Dichloroethene	**9.1**	ug/L	1.0	0.15	1		10/13/20 00:08	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 00:08	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 00:08	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 00:08	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 00:08	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 00:08	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 00:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 00:08	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 00:08	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:08	79-34-5	
Tetrachloroethene	**0.47J**	ug/L	1.0	0.15	1		10/13/20 00:08	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 00:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 00:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:08	79-00-5	
Trichloroethene	**1210**	ug/L	10.0	2.5	10		10/13/20 00:23	79-01-6	
Vinyl chloride	**0.43J**	ug/L	1.0	0.25	1		10/13/20 00:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 00:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/13/20 00:08	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 00:08	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 00:08	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 00:08		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: IW-132-202010 **Lab ID: 60350822036** Collected: 10/08/20 14:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 00:37	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 00:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 00:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 00:37	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 00:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 00:37	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 00:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 00:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 00:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 00:37	75-00-3	
Chloroform	**0.18J**	ug/L	1.0	0.17	1		10/13/20 00:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 00:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 00:37	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 00:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 00:37	107-06-2	
1,1-Dichloroethene	**0.45J**	ug/L	1.0	0.21	1		10/13/20 00:37	75-35-4	
cis-1,2-Dichloroethene	**0.63J**	ug/L	1.0	0.15	1		10/13/20 00:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/13/20 00:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 00:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 00:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 00:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 00:37	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 00:37	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 00:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 00:37	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 00:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 00:37	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 00:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 00:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 00:37	79-00-5	
Trichloroethene	**210**	ug/L	10.0	2.5	10		10/13/20 00:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 00:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 00:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 00:37	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		10/13/20 00:37	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/13/20 00:37	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 00:37		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-93-202010 **Lab ID: 60350822037** Collected: 10/08/20 16:09 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 23:46	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 23:46	71-43-2	
Bromodichloromethane	**0.23J**	ug/L	1.0	0.12	1		10/13/20 23:46	75-27-4	
Bromoform	**0.78J**	ug/L	1.0	0.38	1		10/13/20 23:46	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 23:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 23:46	78-93-3	L2
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 23:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 23:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 23:46	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 23:46	75-00-3	
Chloroform	**2.2**	ug/L	1.0	0.17	1		10/13/20 23:46	67-66-3	
Chloromethane	**0.44J**	ug/L	1.0	0.44	1		10/13/20 23:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 23:46	124-48-1	
1,1-Dichloroethane	**0.19J**	ug/L	1.0	0.098	1		10/13/20 23:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 23:46	107-06-2	
1,1-Dichloroethene	**8.6**	ug/L	1.0	0.21	1		10/13/20 23:46	75-35-4	
cis-1,2-Dichloroethene	**64.5**	ug/L	1.0	0.15	1		10/13/20 23:46	156-59-2	
trans-1,2-Dichloroethene	**7.3**	ug/L	1.0	0.15	1		10/13/20 23:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 23:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 23:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 23:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 23:46	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 23:46	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 23:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 23:46	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 23:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 23:46	79-34-5	
Tetrachloroethene	**2.9**	ug/L	1.0	0.15	1		10/13/20 23:46	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 23:46	108-88-3	
1,1,1-Trichloroethane	**0.24J**	ug/L	1.0	0.13	1		10/13/20 23:46	71-55-6	
1,1,2-Trichloroethane	**0.48J**	ug/L	1.0	0.28	1		10/13/20 23:46	79-00-5	
Trichloroethene	**9130**	ug/L	200	50.0	200		10/13/20 02:18	79-01-6	
Vinyl chloride	**1.0**	ug/L	1.0	0.25	1		10/13/20 23:46	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 23:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	80-120		1		10/13/20 23:46	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	86-117		1		10/13/20 23:46	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 23:46	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 23:46		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: ITMW-7-202010 **Lab ID: 60350822038** Collected: 10/08/20 16:38 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:27	67-64-1	
Benzene	**0.17J**	ug/L	1.0	0.088	1		10/12/20 22:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:27	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:27	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:27	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:27	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:27	56-23-5	
Chlorobenzene	**6.6**	ug/L	1.0	0.23	1		10/12/20 22:27	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:27	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:27	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:27	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:27	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:27	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:27	75-35-4	
cis-1,2-Dichloroethene	**6.4**	ug/L	1.0	0.15	1		10/12/20 22:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:27	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:27	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:27	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:27	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:27	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:27	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:27	79-00-5	
Trichloroethene	**16.4**	ug/L	1.0	0.25	1		10/12/20 22:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 22:27	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 22:27	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 22:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:27		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: EB-04-202010 **Lab ID: 60350822039** Collected: 10/08/20 17:10 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:44	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:44	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:44	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:44	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:44	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:44	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 21:44	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	86-117		1		10/12/20 21:44	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:44		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-96-202010 **Lab ID: 60350822040** Collected: 10/08/20 17:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:42	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 22:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:42	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 22:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:42	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:42	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:42	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:42	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:42	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:42	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 22:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 22:42	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 22:42	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 22:42	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:42		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-97-202010 **Lab ID: 60350822041** Collected: 10/08/20 17:28 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 22:56	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 22:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 22:56	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 22:56	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 22:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 22:56	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 22:56	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 22:56	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 22:56	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 22:56	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 22:56	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 22:56	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 22:56	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 22:56	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 22:56	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 22:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:56	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 22:56	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 22:56	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 22:56	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 22:56	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 22:56	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 22:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 22:56	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 22:56	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 22:56	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 22:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 22:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 22:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 22:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 22:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 22:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 22:56	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		10/12/20 22:56	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 22:56	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 22:56		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: DUP-10-202010 **Lab ID: 60350822042** Collected: 10/08/20 17:28 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 23:40	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 23:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 23:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 23:40	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:40	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 23:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:40	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 23:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:40	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 23:40	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 23:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 23:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 23:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/15/20 14:37	156-59-2	
trans-1,2-Dichloroethene	**0.18J**	ug/L	1.0	0.15	1		10/12/20 23:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:40	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:40	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 23:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:40	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:40	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:40	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 23:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 23:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/15/20 14:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 23:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 23:40	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 23:40	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		10/12/20 23:40	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:40		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: MW-179-202010 **Lab ID: 60350822043** Collected: 10/08/20 17:11 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**8.9J**	ug/L	10.0	4.7	1		10/12/20 23:11	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 23:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 23:11	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 23:11	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 23:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 23:11	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 23:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 23:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 23:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 23:11	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 23:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 23:11	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 23:11	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 23:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 23:11	107-06-2	
1,1-Dichloroethene	**0.36J**	ug/L	1.0	0.21	1		10/12/20 23:11	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	1.0	0.15	1		10/12/20 23:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 23:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 23:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 23:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 23:11	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 23:11	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 23:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 23:11	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 23:11	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 23:11	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 23:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 23:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 23:11	79-00-5	
Trichloroethene	**22.9**	ug/L	1.0	0.25	1		10/12/20 23:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 23:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 23:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 23:11	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/12/20 23:11	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 23:11	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 23:11		

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(913)599-5665

ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: EB-05-202010 **Lab ID: 60350822044** Collected: 10/08/20 17:55 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		10/12/20 21:59	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		10/12/20 21:59	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:59		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: IW-134-202010 **Lab ID: 60350822045** Collected: 10/08/20 16:46 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 01:06	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/13/20 01:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 01:06	75-27-4	
Bromoform	**0.71J**	ug/L	1.0	0.38	1		10/13/20 01:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 01:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 01:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 01:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 01:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 01:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 01:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/13/20 01:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/13/20 01:06	74-87-3	
Dibromochloromethane	**0.38J**	ug/L	1.0	0.17	1		10/13/20 01:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 01:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 01:06	107-06-2	
1,1-Dichloroethene	**1.5**	ug/L	1.0	0.21	1		10/13/20 01:06	75-35-4	
cis-1,2-Dichloroethene	**10.6**	ug/L	1.0	0.15	1		10/13/20 01:06	156-59-2	
trans-1,2-Dichloroethene	**0.59J**	ug/L	1.0	0.15	1		10/13/20 01:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 01:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 01:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 01:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 01:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 01:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 01:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 01:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 01:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 01:06	79-34-5	
Tetrachloroethene	**0.34J**	ug/L	1.0	0.15	1		10/13/20 01:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 01:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 01:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 01:06	79-00-5	
Trichloroethene	**1110**	ug/L	20.0	5.0	20		10/13/20 01:20	79-01-6	
Vinyl chloride	**0.38J**	ug/L	1.0	0.25	1		10/13/20 01:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 01:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/13/20 01:06	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		10/13/20 01:06	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		10/13/20 01:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 01:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TB-08-202010 **Lab ID: 60350822046** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:02	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:02	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:02	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:02	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:02	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:02	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:02	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:02	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:02	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:02	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:02	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:02	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:02	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:02	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:02	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:02	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:02	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:02	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:02	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:02	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:02	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:02	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:02	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:02	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:02	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:02	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 21:02	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		10/12/20 21:02	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:02	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:02		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TB-09-202010 **Lab ID: 60350822047** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:16	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:16	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:16	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:16	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:16	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:16	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:16	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:16	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:16	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:16	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:16	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:16	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:16	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:16	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:16	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:16	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:16	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:16	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		10/12/20 21:16	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		10/12/20 21:16	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		10/12/20 21:16	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:16		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Sample: TB-10-202010 **Lab ID: 60350822048** Collected: 10/08/20 08:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/12/20 21:30	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		10/12/20 21:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/12/20 21:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/12/20 21:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/12/20 21:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/12/20 21:30	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/12/20 21:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/12/20 21:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/12/20 21:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/12/20 21:30	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		10/12/20 21:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		10/12/20 21:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/12/20 21:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/12/20 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/12/20 21:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		10/12/20 21:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/12/20 21:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/12/20 21:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/12/20 21:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/12/20 21:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/12/20 21:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/12/20 21:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/12/20 21:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/12/20 21:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/12/20 21:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/12/20 21:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/12/20 21:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/12/20 21:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		10/12/20 21:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/12/20 21:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/12/20 21:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		10/12/20 21:30	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		10/12/20 21:30	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		10/12/20 21:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/12/20 21:30		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 695115
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Water LHC
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2098800 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetylene	ug/L	ND	0.74	0.11	10/20/20 21:25	
Ethane	ug/L	ND	1.0	0.075	10/20/20 21:25	
Ethene	ug/L	ND	1.0	0.12	10/20/20 21:25	
Methane	ug/L	3.0J	5.0	2.5	10/20/20 21:25	B0

LABORATORY CONTROL SAMPLE & LCSD: 2098801 2098802

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetylene	ug/L	38	31	37	81	97	70-130	18	20	
Ethane	ug/L	100	84	100	83	102	70-130	21	20	
Ethene	ug/L	140	120	150	85	105	70-130	21	20	
Methane	ug/L	490	390	480	79	99	70-130	23	20	R1

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 684042
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2765332 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	26.8	10/22/20 14:42	

LABORATORY CONTROL SAMPLE: 2765333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	5000	4980	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765334 2765335

Parameter	Units	60350822003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	6150	5000	5000	11300	11200	104	100	75-125	2	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 681957
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822005, 60350822008

METHOD BLANK: 2756627 Matrix: Water
Associated Lab Samples: 60350822005, 60350822008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 16:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 16:01	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 16:01	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 16:01	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 16:01	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 16:01	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 16:01	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 16:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 16:01	
Acetone	ug/L	ND	10.0	4.7	10/12/20 16:01	
Benzene	ug/L	ND	1.0	0.088	10/12/20 16:01	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 16:01	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 16:01	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 16:01	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 16:01	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 16:01	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 16:01	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 16:01	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 16:01	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 16:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 16:01	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 16:01	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 16:01	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 16:01	
Styrene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
Toluene	ug/L	ND	1.0	0.18	10/12/20 16:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 16:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 16:01	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 16:01	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 16:01	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 16:01	
1,2-Dichloroethane-d4 (S)	%	98	86-117		10/12/20 16:01	
4-Bromofluorobenzene (S)	%	100	80-120		10/12/20 16:01	
Toluene-d8 (S)	%	100	80-120		10/12/20 16:01	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2756628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	78-118	
1,1,2-Trichloroethane	ug/L	20	20.4	102	82-117	
1,1-Dichloroethane	ug/L	20	20.5	103	85-120	
1,1-Dichloroethene	ug/L	20	20.6	103	81-124	
1,2-Dichloroethane	ug/L	20	17.6	88	79-118	
1,2-Dichloropropane	ug/L	20	20.0	100	85-117	
2-Butanone (MEK)	ug/L	100	89.7	90	70-125	
2-Hexanone	ug/L	100	92.3	92	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	73-131	
Acetone	ug/L	100	99.8	100	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	15.5	77	66-133	
Bromomethane	ug/L	20	23.7	118	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	20.1	100	80-121	
Chlorobenzene	ug/L	20	20.2	101	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	101	85-117	
Dibromochloromethane	ug/L	20	17.8	89	82-122	
Ethylbenzene	ug/L	20	19.9	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.4	107	80-117	
Tetrachloroethene	ug/L	20	20.5	103	83-119	
Toluene	ug/L	20	20.2	101	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	83-117	
Trichloroethene	ug/L	20	21.2	106	80-118	
Vinyl chloride	ug/L	20	22.9	114	76-144	
Xylene (Total)	ug/L	60	62.2	104	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682135
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822029, 60350822030, 60350822031, 60350822032, 60350822033, 60350822034, 60350822035, 60350822036, 60350822037, 60350822038, 60350822039, 60350822040, 60350822041, 60350822042, 60350822043, 60350822044, 60350822045, 60350822046, 60350822047, 60350822048

METHOD BLANK: 2757677
Matrix: Water
Associated Lab Samples: 60350822029, 60350822030, 60350822031, 60350822032, 60350822033, 60350822034, 60350822035, 60350822036, 60350822037, 60350822038, 60350822039, 60350822040, 60350822041, 60350822042, 60350822043, 60350822044, 60350822045, 60350822046, 60350822047, 60350822048

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/12/20 20:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/12/20 20:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/12/20 20:47	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/12/20 20:47	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/12/20 20:47	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/12/20 20:47	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/12/20 20:47	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/12/20 20:47	
2-Hexanone	ug/L	ND	10.0	1.5	10/12/20 20:47	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/12/20 20:47	
Acetone	ug/L	ND	10.0	4.7	10/12/20 20:47	
Benzene	ug/L	ND	1.0	0.088	10/12/20 20:47	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/12/20 20:47	
Bromoform	ug/L	ND	1.0	0.38	10/12/20 20:47	
Bromomethane	ug/L	ND	5.0	0.99	10/12/20 20:47	
Carbon disulfide	ug/L	ND	5.0	0.24	10/12/20 20:47	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/12/20 20:47	
Chlorobenzene	ug/L	ND	1.0	0.23	10/12/20 20:47	
Chloroethane	ug/L	ND	1.0	0.38	10/12/20 20:47	
Chloroform	ug/L	ND	1.0	0.17	10/12/20 20:47	
Chloromethane	ug/L	ND	1.0	0.44	10/12/20 20:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 20:47	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/12/20 20:47	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/12/20 20:47	
Ethylbenzene	ug/L	ND	1.0	0.18	10/12/20 20:47	
Methylene Chloride	ug/L	ND	1.0	0.81	10/12/20 20:47	
Styrene	ug/L	ND	1.0	0.17	10/12/20 20:47	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/12/20 20:47	
Toluene	ug/L	ND	1.0	0.18	10/12/20 20:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/12/20 20:47	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/12/20 20:47	
Trichloroethene	ug/L	ND	1.0	0.25	10/12/20 20:47	
Vinyl chloride	ug/L	ND	1.0	0.25	10/12/20 20:47	
Xylene (Total)	ug/L	ND	3.0	0.54	10/12/20 20:47	
1,2-Dichloroethane-d4 (S)	%	101	86-117		10/12/20 20:47	
4-Bromofluorobenzene (S)	%	103	80-120		10/12/20 20:47	
Toluene-d8 (S)	%	101	80-120		10/12/20 20:47	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2757678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.7	99	78-118	
1,1,2-Trichloroethane	ug/L	20	20.7	103	82-117	
1,1-Dichloroethane	ug/L	20	20.4	102	85-120	
1,1-Dichloroethene	ug/L	20	20.9	105	81-124	
1,2-Dichloroethane	ug/L	20	18.8	94	79-118	
1,2-Dichloropropane	ug/L	20	20.3	102	85-117	
2-Butanone (MEK)	ug/L	100	97.7	98	70-125	
2-Hexanone	ug/L	100	104	104	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	73-131	
Acetone	ug/L	100	112	112	59-135	
Benzene	ug/L	20	20.0	100	82-115	
Bromodichloromethane	ug/L	20	20.5	103	82-123	
Bromoform	ug/L	20	16.2	81	66-133	
Bromomethane	ug/L	20	19.9	100	27-179	
Carbon disulfide	ug/L	20	23.1	115	72-134	
Carbon tetrachloride	ug/L	20	20.2	101	80-121	
Chlorobenzene	ug/L	20	20.3	102	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.6	98	84-116	
Chloromethane	ug/L	20	15.7	78	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.9	100	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.3	102	85-117	
Dibromochloromethane	ug/L	20	17.7	89	82-122	
Ethylbenzene	ug/L	20	20.0	100	79-115	
Methylene Chloride	ug/L	20	20.2	101	80-126	
Styrene	ug/L	20	21.3	107	80-117	
Tetrachloroethene	ug/L	20	20.2	101	83-119	
Toluene	ug/L	20	19.9	99	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	21.1	105	83-117	
Trichloroethene	ug/L	20	21.0	105	80-118	
Vinyl chloride	ug/L	20	21.8	109	76-144	
Xylene (Total)	ug/L	60	61.1	102	82-120	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682136
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822009, 60350822010, 60350822011, 60350822012, 60350822013, 60350822014, 60350822015, 60350822016, 60350822017, 60350822018, 60350822019, 60350822020, 60350822021, 60350822023, 60350822024, 60350822025, 60350822026, 60350822027, 60350822028

METHOD BLANK: 2757679
Matrix: Water
Associated Lab Samples: 60350822009, 60350822010, 60350822011, 60350822012, 60350822013, 60350822014, 60350822015, 60350822016, 60350822017, 60350822018, 60350822019, 60350822020, 60350822021, 60350822023, 60350822024, 60350822025, 60350822026, 60350822027, 60350822028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 08:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 08:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 08:07	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 08:07	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 08:07	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 08:07	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 08:07	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 08:07	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 08:07	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 08:07	
Acetone	ug/L	ND	10.0	4.7	10/13/20 08:07	
Benzene	ug/L	ND	1.0	0.088	10/13/20 08:07	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 08:07	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 08:07	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 08:07	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 08:07	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 08:07	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 08:07	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 08:07	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 08:07	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 08:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 08:07	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 08:07	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 08:07	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 08:07	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 08:07	
Styrene	ug/L	ND	1.0	0.17	10/13/20 08:07	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 08:07	
Toluene	ug/L	ND	1.0	0.18	10/13/20 08:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 08:07	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 08:07	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 08:07	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 08:07	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 08:07	
1,2-Dichloroethane-d4 (S)	%	99	86-117		10/13/20 08:07	
4-Bromofluorobenzene (S)	%	101	80-120		10/13/20 08:07	
Toluene-d8 (S)	%	100	80-120		10/13/20 08:07	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2757680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	78-118	
1,1,2-Trichloroethane	ug/L	20	20.8	104	82-117	
1,1-Dichloroethane	ug/L	20	20.6	103	85-120	
1,1-Dichloroethene	ug/L	20	20.7	104	81-124	
1,2-Dichloroethane	ug/L	20	19.3	96	79-118	
1,2-Dichloropropane	ug/L	20	19.7	98	85-117	
2-Butanone (MEK)	ug/L	100	102	102	70-125	
2-Hexanone	ug/L	100	111	111	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	73-131	
Acetone	ug/L	100	118	118	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.6	103	82-123	
Bromoform	ug/L	20	17.0	85	66-133	
Bromomethane	ug/L	20	21.3	107	27-179	
Carbon disulfide	ug/L	20	22.7	114	72-134	
Carbon tetrachloride	ug/L	20	20.9	105	80-121	
Chlorobenzene	ug/L	20	20.8	104	80-120	
Chloroethane	ug/L	20	19.7	98	78-145	
Chloroform	ug/L	20	19.8	99	84-116	
Chloromethane	ug/L	20	18.5	93	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.1	105	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	19.8	99	79-115	
Methylene Chloride	ug/L	20	20.1	101	80-126	
Styrene	ug/L	20	21.7	109	80-117	
Tetrachloroethene	ug/L	20	20.3	101	83-119	
Toluene	ug/L	20	19.9	100	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.3	111	83-117	
Trichloroethene	ug/L	20	20.1	101	80-118	
Vinyl chloride	ug/L	20	22.0	110	76-144	
Xylene (Total)	ug/L	60	62.4	104	82-120	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682488
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822007, 60350822029, 60350822030, 60350822033, 60350822037

METHOD BLANK: 2758835 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822007, 60350822029, 60350822030, 60350822033, 60350822037

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 20:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 20:14	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 20:14	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 20:14	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 20:14	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 20:14	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 20:14	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 20:14	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 20:14	
Acetone	ug/L	ND	10.0	4.7	10/13/20 20:14	
Benzene	ug/L	ND	1.0	0.088	10/13/20 20:14	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 20:14	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 20:14	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 20:14	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 20:14	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 20:14	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 20:14	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 20:14	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 20:14	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 20:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 20:14	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 20:14	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 20:14	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 20:14	
Styrene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
Toluene	ug/L	ND	1.0	0.18	10/13/20 20:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 20:14	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 20:14	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 20:14	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 20:14	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 20:14	
1,2-Dichloroethane-d4 (S)	%	115	86-117		10/13/20 20:14	
4-Bromofluorobenzene (S)	%	108	80-120		10/13/20 20:14	
Toluene-d8 (S)	%	97	80-120		10/13/20 20:14	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2758836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.2	106	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.1	91	78-118	
1,1,2-Trichloroethane	ug/L	20	18.7	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	21.7	108	81-124	
1,2-Dichloroethane	ug/L	20	21.4	107	79-118	
1,2-Dichloropropane	ug/L	20	19.0	95	85-117	
2-Butanone (MEK)	ug/L	100	62.3	62	70-125	L2
2-Hexanone	ug/L	100	88.8	89	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.6	98	73-131	
Acetone	ug/L	100	112	112	59-135	
Benzene	ug/L	20	19.8	99	82-115	
Bromodichloromethane	ug/L	20	20.9	105	82-123	
Bromoform	ug/L	20	17.6	88	66-133	
Bromomethane	ug/L	20	25.0	125	27-179	
Carbon disulfide	ug/L	20	24.2	121	72-134	
Carbon tetrachloride	ug/L	20	23.0	115	80-121	
Chlorobenzene	ug/L	20	17.9	90	80-120	
Chloroethane	ug/L	20	21.5	107	78-145	
Chloroform	ug/L	20	20.5	103	84-116	
Chloromethane	ug/L	20	18.0	90	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.6	98	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	17.3	87	79-115	
Methylene Chloride	ug/L	20	19.7	99	80-126	
Styrene	ug/L	20	18.9	95	80-117	
Tetrachloroethene	ug/L	20	18.3	91	83-119	
Toluene	ug/L	20	18.8	94	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	83-117	
Trichloroethene	ug/L	20	21.1	105	80-118	
Vinyl chloride	ug/L	20	20.5	102	76-144	
Xylene (Total)	ug/L	60	54.2	90	82-120	
1,2-Dichloroethane-d4 (S)	%			108	86-117	
4-Bromofluorobenzene (S)	%			106	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682953
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822016, 60350822021, 60350822024, 60350822028, 60350822032, 60350822034

METHOD BLANK: 2760624 Matrix: Water
Associated Lab Samples: 60350822016, 60350822021, 60350822024, 60350822028, 60350822032, 60350822034

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/16/20 02:09	
Trichloroethene	ug/L	ND	1.0	0.25	10/16/20 02:09	
1,2-Dichloroethane-d4 (S)	%	100	86-117		10/16/20 02:09	
4-Bromofluorobenzene (S)	%	99	80-120		10/16/20 02:09	
Toluene-d8 (S)	%	101	80-120		10/16/20 02:09	

LABORATORY CONTROL SAMPLE: 2760625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	19.7	98	85-115	
Trichloroethene	ug/L	20	19.3	96	80-118	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			96	80-120	
Toluene-d8 (S)	%			102	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682994
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822022

METHOD BLANK: 2760880 Matrix: Water
Associated Lab Samples: 60350822022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichloroethene	ug/L	0.30J	1.0	0.25	10/15/20 15:58	
Xylene (Total)	ug/L	ND	3.0	0.54	10/15/20 15:58	
1,2-Dichloroethane-d4 (S)	%	101	86-117		10/15/20 15:58	
4-Bromofluorobenzene (S)	%	99	80-120		10/15/20 15:58	
Toluene-d8 (S)	%	99	80-120		10/15/20 15:58	

LABORATORY CONTROL SAMPLE: 2760881

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	20	19.7	98	80-118	
Xylene (Total)	ug/L	60	58.4	97	82-120	
1,2-Dichloroethane-d4 (S)	%			99	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760882 2760883

Parameter	Units	60351084008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Trichloroethene	ug/L	0.00042J mg/L	20	20	19.8	20.8	97	102	68-128	5	23	
Xylene (Total)	ug/L	0.079 mg/L	60	60	135	139	93	99	59-139	2	22	
1,2-Dichloroethane-d4 (S)	%						102	101	86-117			
4-Bromofluorobenzene (S)	%						93	94	80-120			
Toluene-d8 (S)	%						101	100	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682998
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350822042

METHOD BLANK: 2760913 Matrix: Water
Associated Lab Samples: 60350822042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/15/20 13:49	
Trichloroethene	ug/L	ND	1.0	0.25	10/15/20 13:49	
1,2-Dichloroethane-d4 (S)	%	105	86-117		10/15/20 13:49	
4-Bromofluorobenzene (S)	%	102	80-120		10/15/20 13:49	
Toluene-d8 (S)	%	96	80-120		10/15/20 13:49	

LABORATORY CONTROL SAMPLE: 2760914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	21.0	105	85-115	
Trichloroethene	ug/L	20	18.6	93	80-118	
1,2-Dichloroethane-d4 (S)	%			102	86-117	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2760915 2760916

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
cis-1,2-Dichloroethene	ug/L	37500	20000	20000	52600	54700	76	86	69-127	4	18	
Trichloroethene	ug/L	ND	20000	20000	17900	18500	90	92	68-128	3	23	
1,2-Dichloroethane-d4 (S)	%						100	107	86-117			
4-Bromofluorobenzene (S)	%						96	100	80-120			
Toluene-d8 (S)	%						97	101	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 683570
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822022, 60350822023, 60350822032

METHOD BLANK: 2763906 Matrix: Water
Associated Lab Samples: 60350822022, 60350822023, 60350822032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/19/20 10:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/19/20 10:55	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/19/20 10:55	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/19/20 10:55	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/19/20 10:55	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/19/20 10:55	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/19/20 10:55	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/19/20 10:55	
2-Hexanone	ug/L	ND	10.0	1.5	10/19/20 10:55	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/19/20 10:55	
Acetone	ug/L	ND	10.0	4.7	10/19/20 10:55	
Benzene	ug/L	ND	1.0	0.088	10/19/20 10:55	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/19/20 10:55	
Bromoform	ug/L	ND	1.0	0.38	10/19/20 10:55	
Bromomethane	ug/L	ND	5.0	0.99	10/19/20 10:55	
Carbon disulfide	ug/L	ND	5.0	0.24	10/19/20 10:55	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/19/20 10:55	
Chlorobenzene	ug/L	ND	1.0	0.23	10/19/20 10:55	
Chloroethane	ug/L	ND	1.0	0.38	10/19/20 10:55	
Chloroform	ug/L	ND	1.0	0.17	10/19/20 10:55	
Chloromethane	ug/L	ND	1.0	0.44	10/19/20 10:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/19/20 10:55	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/19/20 10:55	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/19/20 10:55	
Ethylbenzene	ug/L	ND	1.0	0.18	10/19/20 10:55	
Methylene Chloride	ug/L	ND	1.0	0.81	10/19/20 10:55	
Styrene	ug/L	ND	1.0	0.17	10/19/20 10:55	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/19/20 10:55	
Toluene	ug/L	ND	1.0	0.18	10/19/20 10:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/19/20 10:55	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/19/20 10:55	
Trichloroethene	ug/L	ND	1.0	0.25	10/19/20 10:55	
Vinyl chloride	ug/L	ND	1.0	0.25	10/19/20 10:55	
Xylene (Total)	ug/L	ND	3.0	0.54	10/19/20 10:55	
1,2-Dichloroethane-d4 (S)	%	111	86-117		10/19/20 10:55	
4-Bromofluorobenzene (S)	%	104	80-120		10/19/20 10:55	
Toluene-d8 (S)	%	95	80-120		10/19/20 10:55	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2763907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	105	78-118	
1,1,2-Trichloroethane	ug/L	20	18.5	93	82-117	
1,1-Dichloroethane	ug/L	20	16.9	84	85-120	L2
1,1-Dichloroethene	ug/L	20	21.1	106	81-124	
1,2-Dichloroethane	ug/L	20	19.5	97	79-118	
1,2-Dichloropropane	ug/L	20	19.5	98	85-117	
2-Butanone (MEK)	ug/L	100	96.2	96	70-125	
2-Hexanone	ug/L	100	99.5	100	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	73-131	
Acetone	ug/L	100	110	110	59-135	
Benzene	ug/L	20	18.9	94	82-115	
Bromodichloromethane	ug/L	20	20.9	104	82-123	
Bromoform	ug/L	20	20.2	101	66-133	
Bromomethane	ug/L	20	25.3	127	27-179	
Carbon disulfide	ug/L	20	25.1	125	72-134	
Carbon tetrachloride	ug/L	20	21.2	106	80-121	
Chlorobenzene	ug/L	20	18.7	94	80-120	
Chloroethane	ug/L	20	21.9	109	78-145	
Chloroform	ug/L	20	19.2	96	84-116	
Chloromethane	ug/L	20	16.6	83	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.8	109	85-117	
Dibromochloromethane	ug/L	20	20.8	104	82-122	
Ethylbenzene	ug/L	20	18.4	92	79-115	
Methylene Chloride	ug/L	20	23.0	115	80-126	
Styrene	ug/L	20	21.1	105	80-117	
Tetrachloroethene	ug/L	20	19.1	96	83-119	
Toluene	ug/L	20	18.2	91	83-115	
trans-1,2-Dichloroethene	ug/L	20	17.0	85	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.0	110	83-117	
Trichloroethene	ug/L	20	17.0	85	80-118	
Vinyl chloride	ug/L	20	21.1	105	76-144	
Xylene (Total)	ug/L	60	57.1	95	82-120	
1,2-Dichloroethane-d4 (S)	%			104	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			98	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682624
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822031

METHOD BLANK: 2759310 Matrix: Water
Associated Lab Samples: 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/14/20 14:59	

LABORATORY CONTROL SAMPLE: 2759311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2759312 2759314

Parameter	Units	60350921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.066	0.5	0.5	0.57	0.55	100	98	75-125	2	20	

SAMPLE DUPLICATE: 2759313

Parameter	Units	60350921001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.066	0.066	0	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 682929 | Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D | Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822001, 60350822002, 60350822007, 60350822026, 60350822029

METHOD BLANK: 2760524 Matrix: Water
Associated Lab Samples: 60350822001, 60350822002, 60350822007, 60350822026, 60350822029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	ND	0.050	0.039	10/15/20 12:16	

LABORATORY CONTROL SAMPLE: 2760525

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	101	80-120	

MATRIX SPIKE SAMPLE: 2760936

Parameter	Units	60351247006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	0.5	0.47	93	75-125	

SAMPLE DUPLICATE: 2760527

Parameter	Units	60350730002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 2760528

Parameter	Units	60350822026 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 683971
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004

METHOD BLANK: 2765112 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/20/20 18:36	
Sulfate	mg/L	ND	1.0	0.28	10/20/20 18:36	

METHOD BLANK: 2765905 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/21/20 09:07	
Sulfate	mg/L	ND	1.0	0.28	10/21/20 09:07	

METHOD BLANK: 2766512 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/21/20 09:13	
Sulfate	mg/L	ND	1.0	0.28	10/21/20 09:13	

LABORATORY CONTROL SAMPLE: 2765113

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.3	107	90-110	
Sulfate	mg/L	5	5.4	107	90-110	

LABORATORY CONTROL SAMPLE: 2765906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	104	90-110	
Sulfate	mg/L	5	5.2	103	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2766513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765114 2765115

Parameter	Units	60351499001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1590	1000	1000	3340	3350	176	177	80-120	0	15	M1
Sulfate	mg/L	40000	25000	25000	68400	67800	114	111	80-120	1	15	

MATRIX SPIKE SAMPLE: 2765116

Parameter	Units	60350824001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	13.8	5	23.0	184	80-120	E,M1
Sulfate	mg/L	480	250	756	110	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 684252
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2766008 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.39	10/21/20 09:38	
Sulfate	mg/L	ND	1.0	0.28	10/21/20 09:38	

METHOD BLANK: 2767047 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/22/20 09:20	
Sulfate	mg/L	ND	1.0	0.28	10/22/20 09:20	

METHOD BLANK: 2768690 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.39	10/23/20 09:11	
Sulfate	mg/L	ND	1.0	0.28	10/23/20 09:11	

METHOD BLANK: 2768951 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.44J	1.0	0.39	10/24/20 09:13	
Sulfate	mg/L	ND	1.0	0.28	10/24/20 09:13	

LABORATORY CONTROL SAMPLE: 2766009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.4	107	90-110	
Sulfate	mg/L	5	5.4	108	90-110	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

LABORATORY CONTROL SAMPLE: 2767048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Sulfate	mg/L	5	5.5	111	90-110	L1

LABORATORY CONTROL SAMPLE: 2768236

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Sulfate	mg/L	5	5.5	110	90-110	

LABORATORY CONTROL SAMPLE: 2768691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.0	100	90-110	
Sulfate	mg/L	5	5.3	107	90-110	

LABORATORY CONTROL SAMPLE: 2768952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.2	105	90-110	
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2766010 2766011

Parameter	Units	60350919001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6160	5000	5000	13000	12900	136	135	80-120	0	15	M1
Sulfate	mg/L	14000	5000	5000	20500	20400	129	128	80-120	0	15	E,M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2766012 2766013

Parameter	Units	60350923006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	20.1	10	10	31.5	31.6	101	102	80-120	0	15	
Sulfate	mg/L	99.7	50	50	166	165	113	112	80-120	0	15	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 681857
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2756331 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	0.063	10/09/20 12:23	
Nitrogen, Nitrite	mg/L	ND	0.10	0.063	10/09/20 12:23	
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.058	10/09/20 12:23	

LABORATORY CONTROL SAMPLE: 2756332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1	0.96	96	70-130	
Nitrogen, Nitrite	mg/L	1	1.0	105	90-110	
Nitrogen, NO2 plus NO3	mg/L	2	2.0	100	90-110	

MATRIX SPIKE SAMPLE: 2756333

Parameter	Units	60350822007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	0.48	1	1.5	98	70-130	
Nitrogen, Nitrite	mg/L	ND	1	1.1	112	90-110	M1
Nitrogen, NO2 plus NO3	mg/L	0.48	2	2.6	105	90-110	

SAMPLE DUPLICATE: 2756334

Parameter	Units	60350822016 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	
Nitrogen, Nitrite	mg/L	ND	ND		20	
Nitrogen, NO2 plus NO3	mg/L	ND	ND		20	

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 685217
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004

METHOD BLANK: 2770131 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/26/20 22:26	

LABORATORY CONTROL SAMPLE: 2770132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.3	107	80-120	

MATRIX SPIKE SAMPLE: 2770133

Parameter	Units	60350715005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	284	500	779	99	80-120	

SAMPLE DUPLICATE: 2770134

Parameter	Units	60350715010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	58.7	62.2	6	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 685222 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

METHOD BLANK: 2770135 Matrix: Water
Associated Lab Samples: 60350822006, 60350822007, 60350822016, 60350822026, 60350822029, 60350822031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 04:38	

LABORATORY CONTROL SAMPLE: 2770136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	5	5.4	109	80-120	

MATRIX SPIKE SAMPLE: 2770137

Parameter	Units	60350822006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	12.2	25	36.9	99	80-120	

SAMPLE DUPLICATE: 2770138

Parameter	Units	60350822016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	19.5	18.9	3	25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 685224 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

METHOD BLANK: 2770142 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.36	10/27/20 14:10	

LABORATORY CONTROL SAMPLE: 2770143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	5	5.2	104	80-120	

MATRIX SPIKE SAMPLE: 2770145

Parameter	Units	60350519005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	5	4.5	81	80-120	

SAMPLE DUPLICATE: 2770144

Parameter	Units	60350519005 Result	Dup Result	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	0.50J	0.48J		25	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

QC Batch: 695022
QC Batch Method: AM23G
Analysis Method: AM23G
Analysis Description: Low Level Volatile Fatty Acids
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

METHOD BLANK: 2098439 Matrix: Water
Associated Lab Samples: 60350822003, 60350822004, 60350822006, 60350822016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetic Acid	mg/L	ND	0.50	0.12	10/19/20 23:34	
Butyric Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Formic acid	mg/L	ND	0.50	0.055	10/19/20 23:34	
Hexanoic Acid	mg/L	ND	0.50	0.058	10/19/20 23:34	
Lactic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pentanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
Propionic Acid	mg/L	ND	0.50	0.053	10/19/20 23:34	
Pyruvic Acid	mg/L	ND	0.50	0.060	10/19/20 23:34	
i-Hexanoic Acid	mg/L	ND	0.50	0.056	10/19/20 23:34	
i-Pentanoic Acid	mg/L	ND	0.50	0.061	10/19/20 23:34	

LABORATORY CONTROL SAMPLE: 2098440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetic Acid	mg/L	2	2.0	100	70-130	
Butyric Acid	mg/L	2	2.0	102	70-130	
Formic acid	mg/L	2	2.0	101	70-130	
Hexanoic Acid	mg/L	2	2.0	101	70-130	
Lactic Acid	mg/L	2	2.0	98	70-130	
Pentanoic Acid	mg/L	2	2.0	99	70-130	
Propionic Acid	mg/L	2	2.0	103	70-130	
Pyruvic Acid	mg/L	2	1.7	86	70-130	
i-Hexanoic Acid	mg/L	2	2.0	103	70-130	
i-Pentanoic Acid	mg/L	2	2.0	103	70-130	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 681957
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682135
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682136
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682488
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 682953
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 683570
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B0	Analyte was detected in an associated blank at a concentration greater than the MDL.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350822003	**TMW-32-202010**	AM20GAX	695115		
60350822004	**TMW-16-202010**	AM20GAX	695115		
60350822006	**TMW-25-202010**	AM20GAX	695115		
60350822007	**MW-25R-202010**	AM20GAX	695115		
60350822016	**MW-186-202010**	AM20GAX	695115		
60350822026	**MW-87-202010**	AM20GAX	695115		
60350822029	**MW-95-202010**	AM20GAX	695115		
60350822031	**MW-89-202010**	AM20GAX	695115		
60350822003	**TMW-32-202010**	EPA 3010	684042	EPA 6010	684364
60350822004	**TMW-16-202010**	EPA 3010	684042	EPA 6010	684364
60350822006	**TMW-25-202010**	EPA 3010	684042	EPA 6010	684364
60350822007	**MW-25R-202010**	EPA 3010	684042	EPA 6010	684364
60350822016	**MW-186-202010**	EPA 3010	684042	EPA 6010	684364
60350822026	**MW-87-202010**	EPA 3010	684042	EPA 6010	684364
60350822029	**MW-95-202010**	EPA 3010	684042	EPA 6010	684364
60350822031	**MW-89-202010**	EPA 3010	684042	EPA 6010	684364
60350822003	**TMW-32-202010**	EPA 5030B/8260	682488		
60350822004	**TMW-16-202010**	EPA 5030B/8260	682488		
60350822005	**ITMW-1R-202010**	EPA 5030B/8260	681957		
60350822007	**MW-25R-202010**	EPA 5030B/8260	682488		
60350822008	**MW-22-202010**	EPA 5030B/8260	681957		
60350822009	**DUP-07-202010**	EPA 5030B/8260	682136		
60350822010	**MW-24-202010**	EPA 5030B/8260	682136		
60350822011	**DUP.08-202010**	EPA 5030B/8260	682136		
60350822012	**ITMW-16-202010**	EPA 5030B/8260	682136		
60350822013	**MW-204-202010**	EPA 5030B/8260	682136		
60350822014	**MW-202-202010**	EPA 5030B/8260	682136		
60350822015	**MW-28-202010**	EPA 5030B/8260	682136		
60350822016	**MW-186-202010**	EPA 5030B/8260	682136		
60350822016	**MW-186-202010**	EPA 5030B/8260	682953		
60350822017	**ITMW-2R-202010**	EPA 5030B/8260	682136		
60350822018	**DUP-09-202010**	EPA 5030B/8260	682136		
60350822019	**ITMW-21-202010**	EPA 5030B/8260	682136		
60350822020	**MW-200-202010**	EPA 5030B/8260	682136		
60350822021	**ITMW-10-202010**	EPA 5030B/8260	682136		
60350822021	**ITMW-10-202010**	EPA 5030B/8260	682953		
60350822022	**MW-85R-202010**	EPA 5030B/8260	682994		
60350822022	**MW-85R-202010**	EPA 5030B/8260	683570		
60350822023	**ITMW-11-202010**	EPA 5030B/8260	682136		
60350822023	**ITMW-11-202010**	EPA 5030B/8260	683570		
60350822024	**ITMW-6-202010**	EPA 5030B/8260	682136		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350822024	ITMW-6-202010	EPA 5030B/8260	682953		
60350822025	ITMW-5-202010	EPA 5030B/8260	682136		
60350822026	MW-87-202010	EPA 5030B/8260	682136		
60350822027	MW-46R-202010	EPA 5030B/8260	682136		
60350822028	ITMW-19-202010	EPA 5030B/8260	682136		
60350822028	ITMW-19-202010	EPA 5030B/8260	682953		
60350822029	MW-95-202010	EPA 5030B/8260	682135		
60350822029	MW-95-202010	EPA 5030B/8260	682488		
60350822030	ITMW-12R-202010	EPA 5030B/8260	682135		
60350822030	ITMW-12R-202010	EPA 5030B/8260	682488		
60350822031	MW-89-202010	EPA 5030B/8260	682135		
60350822032	MW-198-202010	EPA 5030B/8260	682135		
60350822032	MW-198-202010	EPA 5030B/8260	682953		
60350822032	MW-198-202010	EPA 5030B/8260	683570		
60350822033	MW-37-202010	EPA 5030B/8260	682135		
60350822033	MW-37-202010	EPA 5030B/8260	682488		
60350822034	IW-77-202010	EPA 5030B/8260	682135		
60350822034	IW-77-202010	EPA 5030B/8260	682953		
60350822035	ITMW-18-202010	EPA 5030B/8260	682135		
60350822036	IW-132-202010	EPA 5030B/8260	682135		
60350822037	MW-93-202010	EPA 5030B/8260	682135		
60350822037	MW-93-202010	EPA 5030B/8260	682488		
60350822038	ITMW-7-202010	EPA 5030B/8260	682135		
60350822039	EB-04-202010	EPA 5030B/8260	682135		
60350822040	MW-96-202010	EPA 5030B/8260	682135		
60350822041	MW-97-202010	EPA 5030B/8260	682135		
60350822042	DUP-10-202010	EPA 5030B/8260	682135		
60350822042	DUP-10-202010	EPA 5030B/8260	682998		
60350822043	MW-179-202010	EPA 5030B/8260	682135		
60350822044	EB-05-202010	EPA 5030B/8260	682135		
60350822045	IW-134-202010	EPA 5030B/8260	682135		
60350822046	TB-08-202010	EPA 5030B/8260	682135		
60350822047	TB-09-202010	EPA 5030B/8260	682135		
60350822048	TB-10-202010	EPA 5030B/8260	682135		
60350822001	TMW-10-202010	SM 4500-S-2 D	682929		
60350822002	TMW-11-202010	SM 4500-S-2 D	682929		
60350822007	MW-25R-202010	SM 4500-S-2 D	682929		
60350822026	MW-87-202010	SM 4500-S-2 D	682929		
60350822029	MW-95-202010	SM 4500-S-2 D	682929		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350822031	**MW-89-202010**	SM 4500-S-2 D	682624		
60350822003	**TMW-32-202010**	EPA 300.0	683971		
60350822004	**TMW-16-202010**	EPA 300.0	683971		
60350822006	**TMW-25-202010**	EPA 300.0	684252		
60350822007	**MW-25R-202010**	EPA 300.0	684252		
60350822016	**MW-186-202010**	EPA 300.0	684252		
60350822026	**MW-87-202010**	EPA 300.0	684252		
60350822029	**MW-95-202010**	EPA 300.0	684252		
60350822031	**MW-89-202010**	EPA 300.0	684252		
60350822003	**TMW-32-202010**	EPA 353.2	681857		
60350822004	**TMW-16-202010**	EPA 353.2	681857		
60350822006	**TMW-25-202010**	EPA 353.2	681857		
60350822007	**MW-25R-202010**	EPA 353.2	681857		
60350822016	**MW-186-202010**	EPA 353.2	681857		
60350822026	**MW-87-202010**	EPA 353.2	681857		
60350822029	**MW-95-202010**	EPA 353.2	681857		
60350822031	**MW-89-202010**	EPA 353.2	681857		
60350822003	**TMW-32-202010**	SM 5310C	685217		
60350822004	**TMW-16-202010**	SM 5310C	685217		
60350822006	**TMW-25-202010**	SM 5310C	685222		
60350822007	**MW-25R-202010**	SM 5310C	685222		
60350822016	**MW-186-202010**	SM 5310C	685222		
60350822026	**MW-87-202010**	SM 5310C	685222		
60350822029	**MW-95-202010**	SM 5310C	685222		
60350822031	**MW-89-202010**	SM 5310C	685222		
60350822003	**TMW-32-202010**	SM 5310C	685224		
60350822004	**TMW-16-202010**	SM 5310C	685224		
60350822006	**TMW-25-202010**	SM 5310C	685224		
60350822016	**MW-186-202010**	SM 5310C	685224		
60350822003	**TMW-32-202010**	AM23G	695022		
60350822004	**TMW-16-202010**	AM23G	695022		
60350822006	**TMW-25-202010**	AM23G	695022		
60350822016	**MW-186-202010**	AM23G	695022		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix W... Label Here or List Pace Workorder Number or MTJL Log-in

WO# : 60350822

60350822

ALL SH...

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Purchase Order # / Quote # / Turnaround Date Required: / Compliance Monitoring? [ ] Yes [ ] No / DW PWS ID #: / DW Location Code #: / Immediately Packed on Ice? [ ] Yes [ ] No / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:
Collected by (print): Haley Ahlers	
Collected by (signature): Haley Ahlers	
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide	LAB USE ONLY: Lab Sample # / Comments
9	TMW-10-202010	GW	G	10/8/20	0830	n/a	n/a		1											X	
8	TMW-11-202010				0820				1											X	
20	TMW-32-202010				1250				12	X	X	X	X	X	X	X	X	X			
2°	TMW-16-202010				1520				12	X	X	X	X	X	X	X	X	X			
1°	ITMW-1R-202010				0825				3	X											
3	TMW-25-202010				0810				9		X	X	X	X	X	X	X	X			
2°	MW-25R-202010				0800				10	X		X	X	X		X	X		X	X	
1°	MW-22-202010				0905				3	X											
1°	DUP-01-202010				0905				3	X											
1°	MW-24-202010				0853				3	X											

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	N	N	(NA)
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:			
Sample pH Acceptable	(Y)	N	NA
pH Strips: 603222, 603173			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:			

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: (Wet [ ]) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: Bubble Zip

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client (Courier) [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T289

Cooler Temp Upon Receipt 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4, 1.8

Comments:

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

Nonconformance(s): (YES) / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers/Ramboll	10/8/20 1830	[illegible]	10.9.20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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Page 1 of 5

F-ALL-C-010-rev.00, 05Jul2018

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350822

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected / PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required: _____

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
1	DUP-08-202010	GW	G	10/8/20	0853	n/a	n/a		3	X									
1	ITMW-16-202010				1009				3	X									
1	MW-204-202010				1016				3	X									
1	MW-202-202010				0946				3	X									
3	MW-28-202010				1015				3	X									
2	MW-186-202010				0955				12	X	X	X	X	X	X	X	X	X	
2	ITMW-2R-202010				1030				3	X									
1	DUP-09-202010				1030				3	X									
1	ITMW-21-202010				1125				3	X									
1	MW-200-202010				1108				3	X									

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: (Wet) [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used:

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: N NA

Therm ID #: Td99

Cooler Temp Upon Receipt 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4 1.8

Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 1 of 5

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		[illegible]	10.9.20 0720
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

6035082

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
	Quote # / DW Location Code #:
Collected by (signature):	Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide
1	ITMW-10-202010	GW	G	10/8/20	1134	n/a	n/a		3	X										
2	MW-85R-202010				1210				3	X										
3	ITMW-11-202010				1205				3	X										
4	ITMW-6-202010				1144				3	X										
5	ITMW-5-202010				1223				3	X										
6	MW-87-202010				1205				10	X		X	X	X		X	X		X	X
7	MW-46R-202010				1242				3	X										
8	ITMW-19-202010				1335				3	X										
9	MW-95-202010				1358				10	X		X	X	X		X	X		X	X
10	ITMW-12R-202010				1350				3	X										

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

Packing Material Used:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

LAB Tracking #:

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.6 oC 1.2 1.4

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4 1.6

Comments:

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s) YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature) WCNT	Date/Time: 10-9-20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350822

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print):

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	Acetylene	Sulfide	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
2	MW-89-202010	GW	G	10/8/20	1440	n/a	n/a		10	X		X	X	X		X	X		X	X	
3	MW-198-202010				1505				3	X											
4	MW-37-202010				1505				3	X											
1	IW-77-202010				1412				3	X											
1	ITMW-18-202010				1610				3	X											
1	IW-132-202010				1455				3	X											
1	MW-93-202010				1609				3	X											
1	ITMW-7-202010				1638				3	X											
2	EB-04-202010				1710				3	X											
3	MW-96-202010				1705				3	X											

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used:

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC 1.4 1.8

Comments: _____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s) YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time: 10-9-20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

60350822

ALL SHADED AREAS are for LAB USE ONLY

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected / PT MT CT ET
Phone: / Email:	Site/Facility ID # / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order # / DW PWS ID #:
Collected by (signature):	Quote # / DW Location Code #: / Turnaround Date Required: / Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [ ] No / Analysis:____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:____			
Sample pH Acceptable	Y	N	NA
pH Strips:____			
Sulfide Present	Y	N	NA
Lead Acetate Strips:____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

	Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
1	MW-97-202010	GW	G	10/8/20	1728	n/a	n/a		3	X									
2	DUP-10-202010				1728				3	X									
3	MW-179-202010				1711				3	X									
4	EB-05-202010				1755				3	X									
5	IW-134-202010				1746				3	X									
6	TB-08-202010								2										
7	TB-09-202010								2										
8	TB-10-202010								2										

N/A

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: / LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:____

ACCT #:____

Template:____

Prelogin:____

PM:____

PB:____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T289

Cooler Temp Upon Receipt: 1.6 oC 1.2 1.6

Cooler Therm Corr. Factor: +0.2 oC

Cooler Temp Corrected: 1.8 oC 1.4 1.8

Comments:____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s): YES / NO

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		Wright Rue	10.9.20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 5 of 5

Pace Analytical
www.pacelabs.com

Sample Receiving Non-Conformance Form (NCF)

Date: 10.9.20	Evaluated by: Wright Wash
Client: Kimball	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

Received a set of HCL Trip blanks in each cooler

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered		Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

REVIEWED
By jchurch at 12:02 pm, 10/9/20

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 15, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350855001	**VP-14-202010**	Water	10/08/20 17:25	10/09/20 00:20

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350855001	**VP-14-202010**	EPA 5030B/8260	CJC	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 15, 2020

General Information:
1 sample was analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 682080

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2757494)
  - Acetone

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 682080

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60350519023

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2757510)
  - Tetrachloroethene
  - Trichloroethene
  - trans-1,2-Dichloroethene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2757511)
  - Carbon disulfide

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 15, 2020

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Sample: VP-14-202010 **Lab ID: 60350855001** Collected: 10/08/20 17:25 Received: 10/09/20 00:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		10/13/20 17:29	67-64-1	L1
Benzene	**0.14J**	ug/L	1.0	0.088	1		10/13/20 17:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		10/13/20 17:29	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		10/13/20 17:29	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		10/13/20 17:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		10/13/20 17:29	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		10/13/20 17:29	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		10/13/20 17:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		10/13/20 17:29	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		10/13/20 17:29	75-00-3	
Chloroform	**0.26J**	ug/L	1.0	0.17	1		10/13/20 17:29	67-66-3	
Chloromethane	**0.53J**	ug/L	1.0	0.44	1		10/13/20 17:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		10/13/20 17:29	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		10/13/20 17:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		10/13/20 17:29	107-06-2	
1,1-Dichloroethene	**0.79J**	ug/L	1.0	0.21	1		10/13/20 17:29	75-35-4	
cis-1,2-Dichloroethene	**1.9**	ug/L	1.0	0.15	1		10/13/20 17:29	156-59-2	
trans-1,2-Dichloroethene	**0.15J**	ug/L	1.0	0.15	1		10/13/20 17:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		10/13/20 17:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		10/13/20 17:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		10/13/20 17:29	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		10/13/20 17:29	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		10/13/20 17:29	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		10/13/20 17:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		10/13/20 17:29	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		10/13/20 17:29	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		10/13/20 17:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		10/13/20 17:29	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		10/13/20 17:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		10/13/20 17:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		10/13/20 17:29	79-00-5	
Trichloroethene	**38.3**	ug/L	1.0	0.25	1		10/13/20 17:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		10/13/20 17:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		10/13/20 17:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	80-120		1		10/13/20 17:29	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	86-117		1		10/13/20 17:29	17060-07-0	
Toluene-d8 (S)	95	%	80-120		1		10/13/20 17:29	2037-26-5	
Preservation pH	**1.0**		0.10		1		10/13/20 17:29		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

QC Batch: 682080
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60350855001

METHOD BLANK: 2757493 Matrix: Water
Associated Lab Samples: 60350855001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	10/13/20 13:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	10/13/20 13:42	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	10/13/20 13:42	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	10/13/20 13:42	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	10/13/20 13:42	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	10/13/20 13:42	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	10/13/20 13:42	
2-Hexanone	ug/L	ND	10.0	1.5	10/13/20 13:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	10/13/20 13:42	
Acetone	ug/L	ND	10.0	4.7	10/13/20 13:42	
Benzene	ug/L	ND	1.0	0.088	10/13/20 13:42	
Bromodichloromethane	ug/L	ND	1.0	0.12	10/13/20 13:42	
Bromoform	ug/L	ND	1.0	0.38	10/13/20 13:42	
Bromomethane	ug/L	ND	5.0	0.99	10/13/20 13:42	
Carbon disulfide	ug/L	ND	5.0	0.24	10/13/20 13:42	
Carbon tetrachloride	ug/L	ND	1.0	0.19	10/13/20 13:42	
Chlorobenzene	ug/L	ND	1.0	0.23	10/13/20 13:42	
Chloroethane	ug/L	ND	1.0	0.38	10/13/20 13:42	
Chloroform	ug/L	ND	1.0	0.17	10/13/20 13:42	
Chloromethane	ug/L	ND	1.0	0.44	10/13/20 13:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	10/13/20 13:42	
Dibromochloromethane	ug/L	ND	1.0	0.17	10/13/20 13:42	
Ethylbenzene	ug/L	ND	1.0	0.18	10/13/20 13:42	
Methylene Chloride	ug/L	ND	1.0	0.81	10/13/20 13:42	
Styrene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Tetrachloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
Toluene	ug/L	ND	1.0	0.18	10/13/20 13:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	10/13/20 13:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	10/13/20 13:42	
Trichloroethene	ug/L	ND	1.0	0.25	10/13/20 13:42	
Vinyl chloride	ug/L	ND	1.0	0.25	10/13/20 13:42	
Xylene (Total)	ug/L	ND	3.0	0.54	10/13/20 13:42	
1,2-Dichloroethane-d4 (S)	%	116	86-117		10/13/20 13:42	
4-Bromofluorobenzene (S)	%	111	80-120		10/13/20 13:42	
Toluene-d8 (S)	%	96	80-120		10/13/20 13:42	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

LABORATORY CONTROL SAMPLE: 2757494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	97	78-118	
1,1,2-Trichloroethane	ug/L	20	18.8	94	82-117	
1,1-Dichloroethane	ug/L	20	19.6	98	85-120	
1,1-Dichloroethene	ug/L	20	20.3	101	81-124	
1,2-Dichloroethane	ug/L	20	21.9	110	79-118	
1,2-Dichloropropane	ug/L	20	18.6	93	85-117	
2-Butanone (MEK)	ug/L	100	106	106	70-125	
2-Hexanone	ug/L	100	96.2	96	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	73-131	
Acetone	ug/L	100	146	146	59-135	L1
Benzene	ug/L	20	19.2	96	82-115	
Bromodichloromethane	ug/L	20	21.8	109	82-123	
Bromoform	ug/L	20	19.1	95	66-133	
Bromomethane	ug/L	20	25.2	126	27-179	
Carbon disulfide	ug/L	20	23.3	116	72-134	
Carbon tetrachloride	ug/L	20	20.9	104	80-121	
Chlorobenzene	ug/L	20	18.0	90	80-120	
Chloroethane	ug/L	20	19.3	97	78-145	
Chloroform	ug/L	20	20.2	101	84-116	
Chloromethane	ug/L	20	16.9	84	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	85-115	
cis-1,3-Dichloropropene	ug/L	20	19.9	100	85-117	
Dibromochloromethane	ug/L	20	19.4	97	82-122	
Ethylbenzene	ug/L	20	17.5	87	79-115	
Methylene Chloride	ug/L	20	18.9	95	80-126	
Styrene	ug/L	20	19.0	95	80-117	
Tetrachloroethene	ug/L	20	17.2	86	83-119	
Toluene	ug/L	20	18.4	92	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	83-117	
Trichloroethene	ug/L	20	19.1	96	80-118	
Vinyl chloride	ug/L	20	19.0	95	76-144	
Xylene (Total)	ug/L	60	53.9	90	82-120	
1,2-Dichloroethane-d4 (S)	%			109	86-117	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	18.8	19.9	94	99	74-130	6	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.6	17.7	88	89	60-128	1	19	
1,1,2-Trichloroethane	ug/L	ND	20	20	15.7	16.7	79	83	66-125	6	28	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2757510 2757511

Parameter	Units	60350519023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/L	ND	20	20	17.2	17.9	86	90	81-124	4	23	
1,1-Dichloroethene	ug/L	1.8	20	20	17.9	20.6	81	94	64-141	14	21	
1,2-Dichloroethane	ug/L	0.25J	20	20	19.6	20.0	97	99	64-135	2	22	
1,2-Dichloropropane	ug/L	ND	20	20	15.8	17.2	79	86	73-125	9	19	
2-Butanone (MEK)	ug/L	ND	100	100	85.3	70.2	85	70	58-121	19	22	
2-Hexanone	ug/L	ND	100	100	80.9	81.3	81	81	61-125	0	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	87.9	90.2	88	90	67-125	3	20	
Acetone	ug/L	ND	100	100	113	109	113	109	49-113	4	32	
Benzene	ug/L	ND	20	20	16.5	17.7	83	88	49-140	7	25	
Bromodichloromethane	ug/L	ND	20	20	18.1	19.0	90	95	71-124	5	19	
Bromoform	ug/L	ND	20	20	15.4	15.8	77	79	56-113	2	18	
Bromomethane	ug/L	ND	20	20	21.9	22.7	110	114	12-165	3	43	
Carbon disulfide	ug/L	ND	20	20	14.2	20.3	71	101	66-145	35	18	R1
Carbon tetrachloride	ug/L	ND	20	20	18.4	20.1	92	100	84-130	9	21	
Chlorobenzene	ug/L	ND	20	20	13.8	15.4	69	77	68-126	11	14	
Chloroethane	ug/L	ND	20	20	17.5	19.7	87	99	67-145	12	28	
Chloroform	ug/L	ND	20	20	17.7	18.7	89	94	72-123	5	17	
Chloromethane	ug/L	ND	20	20	16.1	18.1	79	89	31-175	11	34	
cis-1,2-Dichloroethene	ug/L	4.6	20	20	19.9	21.5	76	84	69-127	8	18	
cis-1,3-Dichloropropene	ug/L	ND	20	20	15.0	15.6	75	78	60-124	4	20	
Dibromochloromethane	ug/L	ND	20	20	16.0	16.8	80	84	68-123	5	24	
Ethylbenzene	ug/L	ND	20	20	13.1	15.0	66	75	52-140	13	28	
Methylene Chloride	ug/L	ND	20	20	15.8	17.1	79	86	68-125	8	24	
Styrene	ug/L	ND	20	20	13.9	15.8	69	79	56-136	13	20	
Tetrachloroethene	ug/L	ND	20	20	11.6	14.6	58	73	59-133	23	28	M1
Toluene	ug/L	ND	20	20	15.0	16.4	75	82	56-137	9	21	
trans-1,2-Dichloroethene	ug/L	0.16J	20	20	13.8	17.3	68	86	70-130	23	24	M1
trans-1,3-Dichloropropene	ug/L	ND	20	20	15.3	15.7	76	79	69-121	3	24	
Trichloroethene	ug/L	101	20	20	114	120	67	98	68-128	5	23	M1
Vinyl chloride	ug/L	0.60J	20	20	16.4	18.6	79	90	51-148	13	23	
Xylene (Total)	ug/L	ND	60	60	40.6	45.2	68	75	59-139	11	22	
1,2-Dichloroethane-d4 (S)	%						115	113	86-117			
4-Bromofluorobenzene (S)	%						107	107	80-120			
Toluene-d8 (S)	%						97	96	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350855

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350855001	**VP-14-202010**	EPA 5030B/8260	682080		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workscope ... or MTJL Log-in

WO# : 60350855

60350855

ALL ... Y

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print): Haley Ahlers

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature): Haley Ahlers

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

Analyses

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	Chloride	Sulfate	Nitrate	TOC	DOC	6010 Iron	Methane/Ethane/Ethene AM20GAX	Volatile Fatty Acids	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
VP-14-202010	GW	G	10/8/20	1725	n/a	n/a		2	X									

Haley Ahlers

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: Bubble Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T299

Cooler Temp Upon Receipt 1.6 oC

Cooler Therm Corr. Factor +0.2 oC

Cooler Temp Corrected 1.8 oC

Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 1 of 1

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Haley Ahlers / Ramboll	10/8/20 1830	L Zupf / Pa	10.9.20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

F-ALL-C-010-rev.00, 05Jul2018

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October 26, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Gulf Coast

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60350858001	**MW-50R-202010**	Water	10/05/20 16:35	10/09/20 01:20
60350858002	**TMW-10-202010**	Water	10/05/20 18:02	10/09/20 01:20
60350858003	**MW-58R-202010**	Water	10/07/20 12:37	10/09/20 01:20
60350858004	**IW-73-202010**	Water	10/07/20 13:45	10/09/20 01:20
60350858005	**MW-38-202010**	Water	10/07/20 14:03	10/09/20 01:20
60350858006	**IW-147-202010**	Water	10/07/20 16:00	10/09/20 01:20
60350858007	**TMW-11-202010**	Water	10/07/20 17:15	10/09/20 01:20
60350858008	**TMW-9-202010**	Water	10/07/20 12:15	10/09/20 01:20
60350858009	**RW-69-202010**	Water	10/06/20 17:48	10/09/20 01:20
60350858010	**MW-95-202010**	Water	10/08/20 13:58	10/09/20 01:20
60350858011	**MW-87-202010**	Water	10/08/20 12:05	10/09/20 01:20
60350858012	**MW-89-202010**	Water	10/08/20 14:40	10/09/20 01:20

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60350858001	**MW-50R-202010**	AM20GAX	AWE	1	GCLA
60350858002	**TMW-10-202010**	AM20GAX	AWE	1	GCLA
60350858003	**MW-58R-202010**	AM20GAX	AWE	1	GCLA
60350858004	**IW-73-202010**	AM20GAX	AWE	1	GCLA
60350858005	**MW-38-202010**	AM20GAX	AWE	1	GCLA
60350858006	**IW-147-202010**	AM20GAX	AWE	1	GCLA
60350858007	**TMW-11-202010**	AM20GAX	AWE	1	GCLA
60350858008	**TMW-9-202010**	AM20GAX	AWE	1	GCLA
60350858009	**RW-69-202010**	AM20GAX	AWE	1	GCLA
60350858010	**MW-95-202010**	AM20GAX	AWE	1	GCLA
60350858011	**MW-87-202010**	AM20GAX	AWE	1	GCLA
60350858012	**MW-89-202010**	AM20GAX	AWE	1	GCLA

GCLA = Pace Analytical Gulf Coast

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Method: **AM20GAX**
Description: Indicator Gases Bubblestrip H2
Client: Ramboll_AR
Date: October 26, 2020

General Information:
12 samples were analyzed for AM20GAX by Pace Analytical Gulf Coast. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: MW-50R-202010 **Lab ID: 60350858001** Collected: 10/05/20 16:35 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.70J**	nM	1.9	0.49	1		10/16/20 15:42	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: TMW-10-202010 **Lab ID: 60350858002** Collected: 10/05/20 18:02 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**1.0J**	nM	1.9	0.49	1		10/16/20 15:57	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: MW-58R-202010 **Lab ID: 60350858003** Collected: 10/07/20 12:37 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.70J**	nM	1.9	0.49	1		10/21/20 16:14	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: IW-73-202010 **Lab ID: 60350858004** Collected: 10/07/20 13:45 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.78J**	nM	1.9	0.49	1		10/21/20 16:26	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: MW-38-202010 **Lab ID: 60350858005** Collected: 10/07/20 14:03 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.71J**	nM	1.9	0.49	1		10/21/20 16:38	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: IW-147-202010 **Lab ID: 60350858006** Collected: 10/07/20 16:00 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**2.6**	nM	1.9	0.49	1		10/21/20 16:51	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: TMW-11-202010 **Lab ID: 60350858007** Collected: 10/07/20 17:15 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**1.0J**	nM	1.9	0.49	1		10/21/20 17:03	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: TMW-9-202010 **Lab ID: 60350858008** Collected: 10/07/20 12:15 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.88J**	nM	1.9	0.49	1		10/21/20 17:15	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: RW-69-202010 **Lab ID: 60350858009** Collected: 10/06/20 17:48 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.79J**	nM	1.9	0.49	1		10/16/20 16:09	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: MW-95-202010 **Lab ID: 60350858010** Collected: 10/08/20 13:58 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**3.8**	nM	1.9	0.49	1		10/22/20 17:26	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: MW-87-202010 **Lab ID: 60350858011** Collected: 10/08/20 12:05 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**0.98J**	nM	1.9	0.49	1		10/22/20 17:38	1333-74-0	

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Sample: MW-89-202010 **Lab ID: 60350858012** Collected: 10/08/20 14:40 Received: 10/09/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Indicator Gases Bubblestrip H2	Analytical Method: AM20GAX Pace Analytical Gulf Coast								
Hydrogen	**1.2J**	nM	1.9	0.49	1		10/22/20 17:51	1333-74-0	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

QC Batch: 694753
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Bubble Strip H2
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350858001, 60350858002, 60350858009

METHOD BLANK: 2096703 Matrix: Air
Associated Lab Samples: 60350858001, 60350858002, 60350858009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Hydrogen	nM	ND	1.9	0.49	10/16/20 11:29	

LABORATORY CONTROL SAMPLE & LCSD: 2096704 2096705

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hydrogen	nM	12	12	12	101	100	70-130	1	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

QC Batch: 695131
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Bubble Strip H2
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350858003, 60350858004, 60350858005, 60350858006, 60350858007, 60350858008

METHOD BLANK: 2098961 Matrix: Air
Associated Lab Samples: 60350858003, 60350858004, 60350858005, 60350858006, 60350858007, 60350858008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Hydrogen	nM	ND	1.9	0.49	10/21/20 12:16	

LABORATORY CONTROL SAMPLE & LCSD: 2098962 2098963

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hydrogen	nM	12	10	10	84	86	70-130	2	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

QC Batch: 695308
QC Batch Method: AM20GAX
Analysis Method: AM20GAX
Analysis Description: Indicator Gases Bubble Strip H2
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 60350858010, 60350858011, 60350858012

METHOD BLANK: 2099843 Matrix: Air
Associated Lab Samples: 60350858010, 60350858011, 60350858012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Hydrogen	nM	ND	1.9	0.49	10/22/20 16:01	

LABORATORY CONTROL SAMPLE & LCSD: 2099844 2099845

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hydrogen	nM	12	12	12	99	102	70-130	3	20	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60350858

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60350858001	**MW-50R-202010**	AM20GAX	694753		
60350858002	**TMW-10-202010**	AM20GAX	694753		
60350858003	**MW-58R-202010**	AM20GAX	695131		
60350858004	**IW-73-202010**	AM20GAX	695131		
60350858005	**MW-38-202010**	AM20GAX	695131		
60350858006	**IW-147-202010**	AM20GAX	695131		
60350858007	**TMW-11-202010**	AM20GAX	695131		
60350858008	**TMW-9-202010**	AM20GAX	695131		
60350858009	**RW-69-202010**	AM20GAX	694753		
60350858010	**MW-95-202010**	AM20GAX	695308		
60350858011	**MW-87-202010**	AM20GAX	695308		
60350858012	**MW-89-202010**	AM20GAX	695308		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Wo... Workorder Number or

WO# : 60350858

60350858

ALL SHA...

Company: Ramboll	Billing Information:
Address:	
Report To: Tamara House-Knight	Email To:
Copy To:	Site Collection Info/Address:
Customer Project Name/Number:	State: / County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET
Phone: Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): Haley Ahlers	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature): Haley Ahlers	Turnaround Date Required: Immediately Packed on Ice: [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: Hydrogen
MW-50R-202010	AR	G	10/5/20	1635	n/a	n/a		1	X
TMW-10-202010	"	"	10/5/20	1802	"	"		"	"
MW-58R-202010			10/7/20	1237					
IW-73-202010			10/7/20	1345					
MW-38-202010			10/7/20	1403					
IW-147-202010			10/7/20	1600					
TMW-11-202010			10/5/20	1715					
ITMW-9-202010			10/7/20	1215					
RW-69-202010			10/6/20	1748					
MW-95-202010	↓	↓	10/8/20	1358	↓	↓		↓	↓

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles Intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples Received on Ice	(Y)	N	NA
VOA - Headspace Acceptable	Y	N	(NA)
USDA Regulated Soils	Y	N	(NA)
Samples in Holding Time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: _____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Bubble Bags

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2537169

Samples received via: FEDEX UPS Client (Courier) Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: T299
Cooler 1 Temp Upon Receipt: 1.6 oC
Cooler 1 Therm Corr. Factor: +0.0 oC
Cooler 1 Corrected Temp: 1.6 oC
Comments:

Relinquished by/Company: (Signature) Haley Ahlers / Ramboll	Date/Time: 10/8/20 1830	Received by/Company: (Signature) Upright Inc.	Date/Time: 10-9-20 0120
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N (NA)
HCL MeOH TSP Other

Non Conformance(s): YES / (NO)

Page: 1 of: 2

CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company:	Billing Information:
Address:	
Report To:	Email To:
Copy To:	Site Collection Info/Address:
Customer Project Name/Number:	State: / County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET
Phone: Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print):	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **: U

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses: hydrogen

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	hydrogen
MW-87-202010	AR	G	10/8/20	1205	n/a	n/a		1	X
MW-89-202010	↓	↓	10/8/20	1440	↓	↓		1	X

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Bubble Bag

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: 2537170

Samples received via: FEDEX UPS Client (Courier) Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: T285
Cooler 1 Temp Upon Receipt: 1.6 oC
Cooler 1 Therm Corr. Factor: +0.2 oC
Cooler 1 Corrected Temp: 1.8 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 10-9-20 0120
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y (N) NA
HCL MeOH TSP Other

Non Conformance(s): YES / (NO)

Page: 2 of: 2

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 29, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FT SMITH AR
Pace Project No.: 60352070

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

REV-1, 10/29/20: Sample ID changed from MW-84-202010 to MW-84-20201020 per client request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: WHIRLPOOL, FT SMITH AR
Pace Project No.: 60352070

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: WHIRLPOOL, FT SMITH AR
Pace Project No.: 60352070

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60352070001	**MW-84-20201020**	Water	10/20/20 14:40	10/21/20 09:00

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project:
Pace Project No.:

Method:
Description:
Client:
Date:

This data package has been reviewed for quality and completeness and is approved for release.

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60352070

60352070

Client Name: Ramboll

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 3980 4231 0919 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☒ Zplc

Thermometer Used: T291 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.4 **Corr. Factor** +0.2 **Corrected** 1.6

Date and initials of person examining contents: 10/21/20 SP

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☐Yes ☒No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#	☐Yes ☐No ☒N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☒N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

REVIEWED
By jchurch at 8:43 am, 10/23/20

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:

Company:	RAMBOLL
Address:	1807 Park 270 Dr. St. Louis, MO 63146
Email To:	thouseknight@ramboll.com
Phone:	Fax:
Requested Due Date/TAT:	Normal TAT

Section B Required Project Information:

Report To:	Tamara House-Knight
Copy To:	Haley Ahlers
Purchase Order No.:	
Project Name:	Whirlpool, Ft. Smith, AR
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: AR

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other: Ascorbic acid	Analysis Test Y/N	VOCs 8260	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-84-202010	WT	G	/	/	10/20	1440		3								X				60352070
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Ian McKay / RAMBOLL	10/20		Miller/Pace	10/21/20	0900	1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Caroline Chavers

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/20/20

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Tamara R. House-Knight
Ramboll
3107 Armand Street
Monroe, LA 71201

Phone: 501-916-2100

Fax:

Identifier: 029RJ **Date Rec:** 10/08/2020 **Report Date:** 10/14/2020

Client Project #: 16900016820 **Client Project Name:** Whirlpool

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:



NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Ramboll**
Project: Whirlpool

MI Project Number: **029RJ**
Date Received: 10/08/2020

Sample Information

Client Sample ID:		**MW-58R-202010**	**ITMW-9-202010**	**IW-73-202010**	**IW-147-202010**	**MW-38-202010**
Sample Date:		10/07/2020	10/07/2020	10/07/2020	10/07/2020	10/07/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		CB/CB	CB/CB	CB/CB	CB/CB	CB/CB
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	<5.00E-01	<5.00E-01	**1.79E+01**	**6.00E-01**	**4.13E+01**
tceA Reductase	TCE	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01	**7.00E+00**
Vinyl Chloride Reductase	VCR	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Ramboll**
Project: Whirlpool

MI Project Number: **029RJ**
Date Received: 10/08/2020

Sample Information

Client Sample ID:		**RW-69-202010**	**TMW-10-202010**	**MW-50R-202010**	**MW-95-202010**	**TMW-11-202010**
Sample Date:		10/08/2020	10/08/2020	10/08/2020	10/08/2020	10/08/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		CB/CB	CB/CB	CB/CB	CB/CB	CB/CB
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**1.20E+00**	**1.12E+03**	<2.50E+00	<5.00E-01	**3.41E+02**
tceA Reductase	TCE	<5.00E-01	**1.15E+03**	<2.50E+00	<5.00E-01	**7.81E+01**
BAV1 Vinyl Chloride Reductase	BVC	<5.00E-01	<2.00E+00	<2.50E+00	<5.00E-01	<2.50E+00
Vinyl Chloride Reductase	VCR	<5.00E-01	**7.76E+02**	<2.50E+00	<5.00E-01	**6.65E+01**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Ramboll**
Project: Whirlpool

MI Project Number: **029RJ**
Date Received: 10/08/2020

Sample Information

Client Sample ID:		**MW-89-202010**	**MW-87-202010**
Sample Date:		10/08/2020	10/08/2020
Units:		cells/mL	cells/mL
Analyst/Reviewer:		CB/CB	CB/CB
Dechlorinating Bacteria			
Dehalococcoides	*DHC*	**1.50E+00**	<2.00E+00
tceA Reductase	TCE	<1.00E+00	<2.00E+00
BAV1 Vinyl Chloride Reductase	BVC	<1.00E+00	<2.00E+00
Vinyl Chloride Reductase	VCR	<1.00E+00	<2.00E+00

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **10/8/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/08/2020	10/14/2020	0 °C	102%	non-detect	non-detect
BVC	10/08/2020	10/14/2020	0 °C	102%	non-detect	non-detect
TCE	10/08/2020	10/14/2020	0 °C	100%	non-detect	non-detect
VCR	10/08/2020	10/14/2020	0 °C	105%	non-detect	non-detect

Samples Received **10/9/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/09/2020	10/14/2020	0 °C	103%	non-detect	non-detect
BVC	10/09/2020	10/14/2020	0 °C	102%	non-detect	non-detect
TCE	10/09/2020	10/14/2020	0 °C	100%	non-detect	non-detect
VCR	10/09/2020	10/14/2020	0 °C	105%	non-detect	non-detect

REPORT TO:

Name: Tamara House-Knight
Company: Ramboll
Address:

email: Thouseknight@Ramboll.com
Phone:
Fax:

Project Manager: Tamara House-knight
Project Name: whirlpool
Project No.: 1690001682O

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name: Tamara House-knight
Company: Ramboll
Address:

email: Thouseknight@Ramboll.com
Phone:
Fax:

Purchase Order No.
Subcontract No.
MI Quote No.

microbialinsights
10515 Research Dr
Knoxville, TN 37932
865-573-8188
www.microbe.com

Please Check One:
☒ More samples to follow
☐ No Additional Samples

Report Type: ☒ Standard (default) ☐ Microbial Insights Level III raw data(15% surcharge) ☐ Microbial Insights Level IV (25% surcharge) ☐ Comprehensive Interpretive(15%) ☐ Historical Interpretive (35%)

EDD type: ☒ Microbial Insights Standard (default) ☐ All other available EDDs (5% surcharge) Specify EDD Type:

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information						Analyses				CENSUS: Please select the target organism/gene																						
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	Total Number of Containers	PLFA	NGS	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes (bvc, tce, vcr)	DHBt (Dehalobacter)	DHG (Dehalogenimonas)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Denitrifiers-nirS and nirK)	AMO (ammonia oxidizing bacteria)	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Napthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	RNA (Expression Option)*	Other: UCR	Other:	Other:
029RJ1	MW-S8R-202010	10-7-20	1237	GW	1					X																				X		
2	ITMW-9-202010	10-7-20	1215	GW	1					X																				X		
3	IW-73-202010	10-7-20	1345	GW	1					X																				X		
4	IW-147-202010	10-7-20	1600	GW	1					X																				X		
5	MW-38-202010	10-7-20	1403	GW	1					X																				X		

Relinquished by: David Meyer Date 10-7-20/1830 Received by: Date 10/8/2020 950

It is vital that chain of custody is filled out correctly & that all relative information is provided.
Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

REPORT TO:
Name: Tamara House-Knight
Company: Ramboll
Address:
email: thouseknight@Ramboll.com
Phone:
Fax:

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)
Name:
Company:
Address:
email:
Phone:
Fax:

microbialinsights
10515 Research Dr
Knoxville, TN 37932
865-573-8188
www.microbe.com

Project Manager:
Project Name:
Project No.:

Purchase Order No.
Subcontract No.
MI Quote No.

Please Check One:
☐ More samples to follow
☐ No Additional Samples

Report Type: ☒ Standard (default) ☐ Microbial Insights Level III raw data(15% surcharge) ☐ Microbial Insights Level IV (25% surcharge) ☐ Comprehensive Interpretive(15%) ☐ Historical Interpretive (35%)
EDD type: ☒ Microbial Insights Standard (default) ☐ All other available EDDs (5% surcharge) Specify EDD Type:

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information						Analyses				CENSUS: Please select the target organism/gene																				
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	Total Number of Containers	PLFA	NGS	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes (bvc, tce, vcr)	DHBt (Dehalobacter)	DHG (Dehalogenimonas)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Dentrifiers-nirS and nirK)	AMO (ammonia oxidizing bacteria)	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Napthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	RNA (Expression Option)*	Other: VCR / Other: / Other:
029R56	RW-69-202010	10/8/20	0940	GW	1					X																				X
7	TMW-10-202010	↓	0830	↓	↓					↓																				↓
8	MW-50R-202010		0855																											
9	MW-95-202010		1358																											
10	TMW-11-202010		0820																											
11	MW-89-202010		1440																											
12	MW-87-202010	↓	1205	↓	↓					↓																				↓

Relinquished by: Haley Arlen Date 10/8/20
Received by: [illegible] Date 10/9/20

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Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

* additional cost and sample preservation are associated with RNA samples.

**Saturday delivery: See sampling protocol for alternate shipping address.

REPORT TO:

Name: Tamara House-Knight
Company: Ramboll
Address:

email: Thouseknight@Ramboll.com
Phone:
Fax:

Project Manager: Tamara House-knight
Project Name: whirlpool
Project No.: 1690001682O

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name: Tamara House-knight
Company: Ramboll
Address:

email: Thouseknight@Ramboll.com
Phone:
Fax:

Purchase Order No.
Subcontract No.
MI Quote No.

microbialinsights
10515 Research Dr
Knoxville, TN 37932
865-573-8188
www.microbe.com

Please Check One:
☒ More samples to follow
☐ No Additional Samples

Report Type: ☒ Standard (default) ☐ Microbial Insights Level III raw data(15% surcharge) ☐ Microbial Insights Level IV (25% surcharge) ☐ Comprehensive Interpretive(15%) ☐ Historical Interpretive (35%)

EDD type: ☒ Microbial Insights Standard (default) ☐ All other available EDDs (5% surcharge) Specify EDD Type:

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information						Analyses				CENSUS: Please select the target organism/gene																						
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	Total Number of Containers	PLFA	NGS	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes (bvc, tce, vcr)	DHBt (Dehalobacter)	DHG (Dehalogenimonas)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Denitrifiers-nirS and nirK)	AMO (ammonia oxidizing bacteria)	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Napthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	RNA (Expression Option)*	Other: UCR	Other:	Other:
029RJ1	MW-S8R-202010	10-7-20	1237	GW	1					X																				X		
2	ITMW-9-202010	10-7-20	1215	GW	1					X																				X		
3	IW-73-202010	10-7-20	1345	GW	1					X																				X		
4	IW-147-202010	10-7-20	1600	GW	1					X																				X		
5	MW-38-202010	10-7-20	1403	GW	1					X																				X		

Relinquished by: David Meyer Date 10-7-20/1830 Received by: Date 10/8/2020 950

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Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

Attachment D

Data Validation Report

LEVEL II DATA VALIDATION REVIEW

Semi-Annual Groundwater Monitoring Event October 2020

Whirlpool Corporation

Fort Smith, Arkansas

Laboratory Sample Delivery Groups (SDGs): 60350359, 60350519, 60350715, 60350720, 60350822, 60350855, 60350858, 60352070, and 10536886

Laboratory: Pace Analytical Services, LLC located in Lenexa, Kansas, and Minneapolis, Minnesota

Reviewer: Kristin Drucquer

Date Reviewed: December 8, 2020

This data validation report has been prepared by Ramboll US Corporation (Ramboll) to assess the validity and usability of laboratory analytical data generated from samples collected during the semi-annual groundwater sampling event at the Whirlpool Corporation, Fort Smith, Arkansas site (Site) from October 5-8, 2020, and from October 20-22, 2020.

The analytical data were evaluated for quality assurance and quality control (QA/QC) based on the following document: *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (OSWER 9355.0-136, EPA-540-R-2017-002, January 2017) and *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review* (OSWER 9355.0-135, EPA-540-R-2017-001, January 2017).

This report summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness and comparability relative to the project data quality objectives. This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability of the data.

One hundred twenty-three groundwater samples, 24 air samples, 10 blind groundwater field duplicates, two airfield duplicates, five equipment rinsate blanks and 10 trip blanks were analyzed for one or more of the following analyses:

- Volatile organic compounds (VOCs) by USEPA 8260;
- VOCs by USEPA TO-15;
- Chloride and sulfate by USEPA 300.0;
- Iron USEPA 6010;
- Nitrate, nitrite, and nitrogen as nitrite and nitrate by USEPA 353.2;
- Total organic carbon (TOC) and dissolved organic carbon (DOC) by SM5310C;
- Dissolved gases (acetylene, methane, ethane, ethene, and hydrogen) by Method AM20GAX; and
- Volatile fatty acids (VFA) by Method AM23G.

Pace Analytical Services, LLC (Pace) located in Lenexa, Kansas, analyzed all the aqueous samples with the exception of the analyses for dissolved gases and volatile fatty acids. Pace Analytical Gulf Coast located in Baton Rouge, Louisiana, performed the analysis for dissolved gases and VFAs.

The air analyses were performed by Pace located in Minneapolis, Minnesota.

The table below summarizes the field sample identifications, sample type, laboratory sample identification and matrix types for the data included in this data set:

Field ID	Sample Type	Lab ID	Matrix
SDG: 60350359			
TMW-10-202010	SA	60350359001	Aqueous
TMW-11-202010	SA	60350359002	Aqueous
MW-50R-202010	SA	60350359003	Aqueous
TMW-36-202010	SA	60350359004	Aqueous
TMW-19-202010	SA	60350359005	Aqueous
TMW-29-202010	SA	60350359006	Aqueous
TMW-36B-202010	SA	60350359007	Aqueous
TB-01-202010	TB	60350359008	Aqueous
SDG: 60350519			
MW-187-202010	SA	60350519001	Aqueous
MW-61R-202010	SA	60350519002	Aqueous
MW-176-202010	SA	60350519003	Aqueous
MW-60R-202010	SA	60350519004	Aqueous
MW-189-202010	SA	60350519005	Aqueous
MW-188-202010	SA	60350519006	Aqueous
MW-40R-202010	SA	60350519007	Aqueous
MW-91-202010	SA	60350519008	Aqueous
MW-195-202010	SA	60350519009	Aqueous
MW-62R-202010	SA	60350519010	Aqueous
TMW-20-202010	SA	60350519011	Aqueous
MW-29-202010	SA	60350519012	Aqueous
MW-55R-202010	SA	60350519013	Aqueous
MW-63R-202010	SA	60350519014	Aqueous
MW-197-202010	SA	60350519015	Aqueous
MW-39R-202010	SA	60350519016	Aqueous
TMW-22R-202010	SA	60350519017	Aqueous
ITMW-20-202010	SA	60350519018	Aqueous
MW-175-202010	SA	60350519019	Aqueous
MW-199-202010	SA	60350519020	Aqueous
TMW-35-202010	SA	60350519021	Aqueous
MW-196-202010	SA	60350519022	Aqueous
RW-69-202010	SA	60350519023	Aqueous
MW-68-202010	SA	60350519024	Aqueous
TMW-21-202010	SA	60350519025	Aqueous
MW-56R-202010	SA	60350519026	Aqueous
MW-84-202010	SA	60350519027	Aqueous
TMW-24-202010	SA	60350519028	Aqueous
TB-02-202010	TB	60350519029	Aqueous
TB-03-202010	TB	60350519030	Aqueous
TB-04-202010	TB	60350519031	Aqueous

Field ID	Sample Type	Lab ID	Matrix
SDG: 60350715			
MW-99-202010	SA	60350715001	Aqueous
MW-191-202010	SA	60350715002	Aqueous
MW-182-202010	SA	60350715003	Aqueous
MW-190-202010	SA	60350715004	Aqueous
TMW-30-202010	SA	60350715005	Aqueous
MW-194-202010	SA	60350715006	Aqueous
TMW-23-202010	SA	60350715007	Aqueous
MW-192-202010	SA	60350715008	Aqueous
TMW-27-202010	SA	60350715009	Aqueous
TMW-26-202010	SA	60350715010	Aqueous
MW-57R-202010	SA	60350715011	Aqueous
DUP-02-202010	FD	60350715012	Aqueous
MW-183R-202010	SA	60350715013	Aqueous
DUP-03-202010	FD	60350715014	Aqueous
ITMW-9-202010	SA	60350715015	Aqueous
TMW-12-202010	SA	60350715016	Aqueous
TMW-14-202010	SA	60350715017	Aqueous
DUP-04-202010	FD	60350715018	Aqueous
IW-73-202010	SA	60350715019	Aqueous
MW-58R-202010	SA	60350715020	Aqueous
MW-83-202010	SA	60350715021	Aqueous
DUP-01-202010	FD	60350715022	Aqueous
MW-38-202010	SA	60350715023	Aqueous
TMW-34-202010	SA	60350715024	Aqueous
MW-185-202010	SA	60350715025	Aqueous
IW-78-202010	SA	60350715026	Aqueous
MW-82-202010	SA	60350715027	Aqueous
MW-201-202010	SA	60350715028	Aqueous
MW-27-202010	SA	60350715029	Aqueous
IW-147-202010	SA	60350715030	Aqueous
MW-184-202010	SA	60350715031	Aqueous
DUP-05-202010	FD	60350715032	Aqueous
MW-178-202010	SA	60350715033	Aqueous
MW-26-202010	SA	60350715034	Aqueous
EB-01-202010	EB	60350715035	Aqueous
EB-02-202010	EB	60350715036	Aqueous
EB-03-202010	EB	60350715037	Aqueous
MW-98-202010	SA	60350715038	Aqueous
TMW-25-202010	SA	60350715039	Aqueous
TB-05-202010	TB	60350715040	Aqueous
TB-06-202010	TB	60350715041	Aqueous
TB-07-202010	TB	60350715042	Aqueous
DUP-06-202010	FD	60350715043	Aqueous
SDG: 60350720			
VP-08-202010	SA	60350720001	Aqueous
VP-07-202010	SA	60350720002	Aqueous
VP-12-202010	SA	60350720003	Aqueous

Field ID	Sample Type	Lab ID	Matrix
VP-10-202010	SA	60350720004	Aqueous
SDG: 60350822			
TMW-10-20201008	SA	60350822001	Aqueous
TMW-11-20201008	SA	60350822002	Aqueous
TMW-32-202010	SA	60350822003	Aqueous
TMW-16-202010	SA	60350822004	Aqueous
ITMW-1R-202010	SA	60350822005	Aqueous
TMW-25-20201008	SA	60350822006	Aqueous
MW-25R-202010	SA	60350822007	Aqueous
MW-22-202010	SA	60350822008	Aqueous
DUP-07-202010	FD	60350822009	Aqueous
MW-24-202010	SA	60350822010	Aqueous
DUP-08-202010	FD	60350822011	Aqueous
ITMW-16-202010	SA	60350822012	Aqueous
MW-204-202010	SA	60350822013	Aqueous
MW-202-202010	SA	60350822014	Aqueous
MW-28-202010	SA	60350822015	Aqueous
MW-186-202010	SA	60350822016	Aqueous
ITMW-2R-202010	SA	60350822017	Aqueous
DUP-09-202010	FD	60350822018	Aqueous
ITMW-21-202010	SA	60350822019	Aqueous
MW-200-202010	SA	60350822020	Aqueous
ITMW-10-202010	SA	60350822021	Aqueous
MW-85R-202010	SA	60350822022	Aqueous
ITMW-11-202010	SA	60350822023	Aqueous
ITMW-6-202010	SA	60350822024	Aqueous
ITMW-5-202010	SA	60350822025	Aqueous
MW-87-202010	SA	60350822026	Aqueous
MW-46R-202010	SA	60350822027	Aqueous
ITMW-19-202010	SA	60350822028	Aqueous
MW-95-202010	SA	60350822029	Aqueous
ITMW-12R-202010	SA	60350822030	Aqueous
MW-89-202010	SA	60350822031	Aqueous
MW-198-202010	SA	60350822032	Aqueous
MW-37-202010	SA	60350822033	Aqueous
IW-77-202010	SA	60350822034	Aqueous
ITMW-18-202010	SA	60350822035	Aqueous
IW-132-202010	SA	60350822036	Aqueous
MW-93-202010	SA	60350822037	Aqueous
ITMW-7-202010	SA	60350822038	Aqueous
EB-04-202010	EB	60350822039	Aqueous
MW-96-202010	SA	60350822040	Aqueous
MW-97-202010	SA	60350822041	Aqueous
DUP-10-202010	FD	60350822042	Aqueous
MW-179-202010	SA	60350822043	Aqueous
EB-05-202010	EB	60350822044	Aqueous
IW-134-202010	SA	60350822045	Aqueous
TB-08-202010	TB	60350822046	Aqueous
TB-09-202010	TB	60350822047	Aqueous
TB-10-202010	TB	60350822048	Aqueous

Field ID	Sample Type	Lab ID	Matrix
SDG: 60350855			
VP-14-202010	SA	60350855001	Aqueous
SDG: 60350858			
MW-50R-202010	SA	60350858001	Aqueous
TMW-10-202010	SA	60350858002	Aqueous
MW-58R-202010-H2	SA	60350858003	Aqueous
IW-73-202010-H2	SA	60350858004	Aqueous
MW-38-202010-H2	SA	60350858005	Aqueous
IW-147-202010-H2	SA	60350858006	Aqueous
TMW-11-202010	SA	60350858007	Aqueous
ITMW-9-202010-H2	SA	60350858008	Aqueous
RW-69-202010-H2	SA	60350858009	Aqueous
MW-95-202010-H2	SA	60350858010	Aqueous
MW-87-202010-H2	SA	60350858011	Aqueous
MW-89-202010-H2	SA	60350858012	Aqueous
SDG: 60352070			
MW-84-20201020	SA	60352070001	Aqueous
SDG: 10536886			
Z1-1-IA-202010	SA	10536886001	Air
Z3-2-IA-202010	SA	10536886002	Air
Z3-1-IA-202010	SA	10536886003	Air
Z4-1-IA-202010	SA	10536886004	Air
Z4-2-IA-202010	SA	10536886005	Air
Z2-1-IA-202010	SA	10536886006	Air
Z5-OF-IA-202010	SA	10536886007	Air
Z6-1-IA-202010	SA	10536886008	Air
Z5-1-IA-202010	SA	10536886009	Air
Z6-2-IA-202010-DUP	FD	10536886010	Air
Z6-2-IA-202010	SA	10536886011	Air
Z5-2-IA-202010	SA	10536886012	Air
Z1-1-SS-202010	SA	10536886013	Air
Z3-2-SS-202010	SA	10536886014	Air
Z3-1-SS-202010	SA	10536886015	Air
Z4-1-SS-202010	SA	10536886016	Air
Z4-2-SS-202010	SA	10536886017	Air
Z2-1-SS-202010	SA	10536886018	Air
AA-2-202010	SA	10536886019	Air
Z5-OF-SS-202010	SA	10536886020	Air
Z6-1-SS-202010	SA	10536886021	Air
Z6-2-SS-202010	SA	10536886022	Air
Z6-2-SS-202010-DUP	FD	10536886023	Air
Z5-2-SS-202010	SA	10536886024	Air
Z5-1-SS-202010	SA	10536886025	Air
AA-3-202010	SA	10536886026	Air

Sample Type: SA = Sample TB = Trip Blank FD = Field Duplicate EB = Equipment Blank

The laboratory reports were evaluated for the following QC elements:

- Data Package Completeness;
- Sample Preservation and Holding Times;
- Blanks;
- Surrogate Compound Recoveries;

- Laboratory Control Sample (LCS);
- Matrix Spike/Matrix Spike Duplicates (MS/MSD);
- Laboratory and Field Precision; and
- Overall Assessment of Data.

General Overall Assessment:

_____ Data are usable without qualification.

__X__ Data are usable with qualification (noted below).

_____ Some or all data are unusable for any purpose (detailed below).

Case Narrative Comments: Any case narrative comments concerning data qualification were noted below.

1.0 Data Package Completeness

Were all items delivered as specified on the chain-of-custody (COC) and is the data package complete?

Yes, the analysis was performed as requested on the COC records. All samples were received by the laboratory and analyzed properly with appropriate corrective actions taken when appropriate. The percent completeness for all methods is 100%, with no data rejected as a result of the data validation.

2.0 Laboratory Case Narrative, Sample Preservation and Cooler Receipt Form

Were issues noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narratives indicated the following issues associated with project samples included in this data set:

- **SDG 60350359 –** The laboratory indicated nonconformances for MS/MSD recoveries. See Section 8.0 for discussion.
- **SDG: 60350519** – The laboratory indicated nonconformances for hold times, method blank detections, surrogate recoveries, LCS recoveries, and MS/MSD recoveries. See Sections 3.0, 4.0, 5.0, 7.0 and 8.0 for discussion.
- **SDG: 60350715 –** The laboratory indicated nonconformances for surrogate recoveries, LCS recoveries, MS/MSD recoveries, and elevated reporting limits. See Sections 5.0, 7.0, 8.0 and 11.0 for discussion.
- **SDG: 60350720** – The case narrative did not indicate any exceptions.
- **SDG: 60350822 –** The laboratory indicated nonconformances for surrogate recoveries, LCS recoveries, and MS/MSD recoveries. See Sections 5.0, 7.0 and 8.0 for discussion.
- **SDG: 60350855 -** The laboratory indicated nonconformances for LCS recoveries. See Section 7.0 for discussion.
- **SDG: 60350858** – The case narrative did not indicate any exceptions.
- **SDG: 60352070** – The case narrative did not indicate any exceptions.
- **SDG: 10536886 –** The laboratory indicated that results reported for sample Z6-2-SS-202010 may have been biased due to carryover contamination. See Section 10.0 for discussion.

3.0 Technical Holding Times and Sample Receipt

Were samples received within the required temperature and preservation requirements?

No. All samples were received within the required temperature criteria. All samples were received within the required preservation requirements, with two exceptions. The post-analysis pH measurement for VOCs was measured at 5.0 for sample MW-99-202010 and at 6.0 for sample TMW-30-202010. The analysis for VOCs was performed within 7-days for a non-preserved sample; therefore, no data were qualified.

Were samples extracted/analyzed within method specific holding time requirements?

No. The analyses for nitrite was performed outside the method holding time of 48 hours for sample MW-61R-202010. The nitrite, nitrate, and the combined nitrate/nitrite result were qualified "UJ" as estimated non-detect.

4.0 Blank Contamination

Were any analytes detected in the associated laboratory or field blanks?

Yes. The following table summarizes analytes detected in laboratory method and field blanks collected as part of this data set:

SDG	Blank ID	Blank Type	Analyte	Concentration	Units
60350359	2096648	Method	Methane	3.5 J	µg/L
60350359	2760607	Method	Chloride	0.56 J	mg/L
60350519	2097192	Method	Methane	2.8 J	µg/L
60350519	2765218	Method	Chloride	0.41 J	mg/L
60350519	TB-03-202010	Trip	1,2-Dichloroethene	0.26 J	µg/L
60350519	TB-04-202010	Trip	1,2-Dichloroethene	0.29 J	µg/L
60350715	2098533	Method	Methane	2.8 J	µg/L
60350715	2098800	Method	Methane	3.0 J	µg/L
60350715	2765069	Method	Chloride	0.56	mg/L
60350822	2098800	Method	Methane	3.0 J	µg/L
60350822	2760880	Method	Trichloroethene	0.30 J	µg/L
60350822	2765112	Method	Chloride	0.56 J	mg/L
60350822	2766008	Method	Chloride	0.56 J	mg/L
60350822	2768951	Method	Chloride	0.44 J	mg/L

ID = Identification µg/L = micrograms per liter J = result was detected between the method detection limit and reporting limit and is considered estimated mg/L = milligrams per liter

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration for organics and 10X for common laboratory contaminants or inorganics did not require qualification.

Results that are qualified due to blank contamination are summarized in the table below.

SDG	Field ID	Analyte	Qualification
60350519	MW-189-202010	Methane	**J+**
60350519	RW-69-202010	1,2-Dichloroethane	**U**
60350519	MW-84-202010	1,2-Dichloroethane	**U**
60350715	IW-73-202010	Methane	**J+**
60350715	MW-38-202010	Methane	**J**

ID = Identification U = Non-detect J = Estimated J+ = Estimated with a high bias

5.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No. Three surrogates (4-bromofluorobenzene, 1,2-dichloroethane-d4, and toluene-d8) were added to each aqueous sample analyzed for VOCs to evaluate the laboratory performance on individual samples. Percent recoveries for all volatile surrogates in all samples analyzed for VOCs were within the laboratory acceptance limits, with several exceptions. The surrogate recoveries for 1,2-dichloroethane-d4 were slightly above the acceptance criteria of 117% for samples MW-196-202010, RW-69-202010, TMW-21-202010, MW-84-202010, MW-38-202010, TMW-16-202010, and MW-37-202010. All recoveries were below 125% with one exception. The recovery for 1,2-dichloroethane-d4 was 127% for sample TMW-16-202010. cis-1,2-dichlororoethene was detected above the RL and the result was qualified "J+" as estimated high a potential high bias. The results associated with recoveries between the upper control limit of 117% and 125% are not likely to be significantly biased due to the surrogate exceedances and were not qualified. The surrogate recoveries for 4-bromofluorobenzene and toluene-d8 were within the acceptance criteria for all samples.

6.0 Internal Standards

Were the Internal standard areas within control limits and was the retention time criteria met?

Yes. Internal standards indicate whether GC/MS sensitivity and response were stable during each analysis. The laboratory reported that all criteria were within method requirements.

7.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No. The LCS, and laboratory control sample duplicate (LCSD) when analyzed, provide information on the accuracy of the analytical method and on the laboratory performance. LCS/LCSD recoveries which were outside acceptance evaluation criteria are summarized in the table below.

SDG	LCS/LCSD ID	Analyte	LCS/LCSD Recovery (%)	LCS/LCSD Recovery Criteria (%)
60350519	2755238	Acetone	**160**	59-135
60350519	2757494	Acetone	**146**	59-135
60350715	2756057	Acetone	**137/137**	59-135
60350715	2756067	Acetone	**137**	59-135
60350715	2758836	2-Butanone	**62**	70-125
60350822	2758836	2-Butanone	**62**	70-125
60350822	2763907	1,1-Dichloroethane	**84**	85-120
60350855	2757494	Acetone	**146**	59-135

LCS = Laboratory Control Sample LCSD = Laboratory Control Sample Duplicate % = Percent

In addition, the relative percent difference (RPD) for methane in LCS 2098801/LCSD 2098802 in SDG 60350715 was above the acceptance criteria for methane. Results that are qualified due to LCS recoveries are summarized in the table below.

SDG	Field ID	Analyte	Qualification
60350519	MW-176-202010	Acetone	J+
60350519	MW-84-202010	Acetone	J
60350715	MW-38-202010	Methane	J

SDG	Field ID	Analyte	Qualification
60350715	TMW-34-202010	Methane	J
60350715	IW-147-202010	Methane	J
60350715	MW-99-202010	Acetone	J+
60350715	ITMW-9-202010	2-Butanone	UJ
60350715	MW-38-202010	2-Butanone	UJ
60350715	IW-147-202010	2-Butanone	UJ
60350715	TMW-25-202010	2-Butanone	UJ
60350715	DUP-06-202010	2-Butanone	UJ
60350822	TMW-32-202010	2-Butanone	UJ
60350822	TMW-16-202010	2-Butanone	UJ
60350822	MW-25R-202010	2-Butanone	UJ
60350822	MW-85R-202010	1,1-Dichloroethane	J-
60350822	ITMW-11-202010	1,1-Dichloroethane	UJ
60350822	MW-95-202010	2-Butanone	UJ
60350822	ITMW-12R-202010	2-Butanone	UJ
60350822	MW-37-202010	2-Butanone	UJ
60350822	MW-93-202010	2-Butanone	UJ

ID = Identification UJ = Estimated non-detect J = Estimated J+ = Estimated with a high bias
J- = Estimated with a low bias

8.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples reported as part of these SDGs?

Yes. MS/MSD data are used to assess long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery at the time of sample analysis.

Were MS/MSD recoveries within evaluation criteria?

No. MS/MSD recoveries which were outside acceptance evaluation criteria are summarized in the table below.

SDG	Sample ID	Analyte	MS/MSD Recovery (%)	MS/MSD Recovery Criteria (%)
60350359	TMW-11-202010	Chloride	**139**	80-120
60350359	TMW-11-202010	Sulfate	**-58**	80-120
60350519	MW-188-202010	Acetone	**115/121**	49-121
60350519	MW-40R-202010	Acetone	**117/117**	49-113
60350519	MW-195-202010	Acetone	**117**/110	49-113
60350519	MW-195-202010	Styrene	60/**30**	56-136
60350519	RW-69-202010	Tetrachloroethene	**58**/73	59-133
60350519	RW-69-202010	trans-1,2-Dichloroethene	**68**/86	70-130
60350519	RW-69-202010	Trichloroethene	**67**/98	68-128
60350519	RW-69-202010	Sulfate	**189/193**	80-120
60350519	RW-69-202010	TOC	**78**	80-120
60350519	MW-189-202010	Acetone	**133/127**	49-113
60350519	MW-189-202010	Chloride	**125/124**	80-120
60350715	MW-99-202010	Iron	**54/156**	75-125
60350715	MW-194-202010	Chloride	**126**	80-120
60350822	MW-25R-202010	Nitrite	**112**	90-110

MS = Matrix Spike MSD = Matrix Spike Duplicate % = Percent

In addition, MS/MSD RPDs exceeded the control limit of 20% for styrene (66%) for the MS/MSD prepared from sample MW-195-202010 and for carbon disulfide (35%) for the MS/MSD prepared from sample RW-69-202010.

Only the parent samples spiked were evaluated for qualification. Results associated with low recoveries were qualified "UJ" as estimated non-detect or "J-" as estimated with a low bias. Results associated with high recoveries were qualified "J+" as estimated with a high bias and non-detect result were not qualified. MS/MSD recoveries that were outside the control limits but the concentrations in the non-spiked samples exceeded 4x the spike concentrations were not evaluated. MS/MSD recoveries for non-project samples were not evaluated.

Results that are qualified due to MS/MSD recoveries are summarized in the table below.

SDG	Field ID	Analyte	Qualification
60350359	TMW-11-202010	Sulfate	J-
60350359	TMW-11-202010	Chloride	J+
60350519	MW-189-202010	Chloride	J+
60350519	RW-69-202010	Sulfate	J+
60350519	RW-69-202010	Organic Carbon (total)	UJ
60350519	MW-195-202010	Styrene	UJ
60350519	RW-69-202010	Trichloroethene	J-
60350519	RW-69-202010	trans-1,2-Dichloroethene	J
60350519	RW-69-202010	Tetrachloroethene	UJ
60350715	MW-194-202010	Chloride	J+

ID = Identification UJ = Estimated non-detect J = Estimated J+ = Estimated with a high bias
J- = Estimated with a low bias

The result for trans-1,2-Dichloroethene in sample RW-69-202010 was already qualified "J" because the concentration was reported below the RL; therefore, an additional data qualifier was not applied for this sample result.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples performed as part of this SDG?

Yes, laboratory duplicates, when required by the method were analyzed. The RPDs were within laboratory acceptance criteria.

10.0 Field Duplicate Results (Field Precision)

Were field duplicate samples collected as part of the evaluated SDGs?

Yes. The table below summarizes field duplicate pairs.

SDG	Field ID	Field Duplicate ID
60350715	MW-83-202010	DUP-01-202010
60350715	MW-57R-202010	DUP-02-202010
60350715	TMW-23-202010	DUP-03-202010
60350715	MW-192-202010	DUP-04-202010

SDG	Field ID	Field Duplicate ID
60350715	MW-184-202010	DUP-05-202010
60350715	TMW-27-202010	DUP-06-202010
60350822	MW-22-202010	DUP-07-202010
60350822	MW-24-202010	DUP-08-202010
60350822	ITMW-2R-202010	DUP-09-202010
60350822	MW-97-202010	DUP-10-202010
60350822	Z6-2-IA-202010	Z6-2-IA-202010-DUP
60350822	Z6-2-SS-202010	Z6-2-SS-202010-DUP

ID = Identification

Were field duplicates within evaluation criteria?

Yes. RPDs were calculated for results that were above the reporting limit in both the parent sample and field duplicate. All calculated RPDs were within 30%. The laboratory noted that the results for 1,1-dichloroethane, 1,1,1-trichloroethane, and tetrachloroethene may have been biased high in sample Z6-2-SS-202010 due to instrument carryover. These parameters were also detected in the field duplicate sample and the calculated RPDs were 0% for 1,1-dichloroethane, 1.5% for 1,1,1-trichloroethane, and 0% for tetrachloroethene. The results were not qualified for potential carryover because the filed duplicate did not indicate any disparity with the parent sample.

11.0 Detects and Calibration Range

For samples that were diluted and nondetect, were undiluted results also reported?

No. All samples collected as part of this data set and analyzed with dilutions had detections above the RL, with one exception. Sample TMW-30-202010 was diluted for non-target analyte interference. Carbon disulfide and trichloroethene were detected in the sample between the MDL and RL and the results were qualified “J” as estimated. The other parameters in this sample were reported as non-detect with elevated RLs.

For samples that were not diluted and detected, were the results within calibration range?

No. The result for vinyl chloride in reported for sample IW-147-202010 exceeded the initial calibration range and was qualified “J” as estimated. Results reported between the laboratory method detection limit (MDL) and RL were flagged “J” as estimated by the laboratory.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes. The results for TOC and DOC for sample MW-99-202010were qualified “J” as estimated because the result for DOC was greater in concentration than TOC.

13.0 Overall Data Assessment

The data are usable for its intended purpose based on an evaluation of the QC parameters discussed in this report. Some data are qualified as estimated due to the inability to meet all QC criteria. The table below summarizes the final qualifications for the analytical data.

Data Qualifier Summary:

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350519005	MW-189-202010	Methane	J+	Method blank contamination
60350519008	MW-91-202010	Ethane	J	Result < RL
60350519025	TMW-21-202010	Ethane	J	Result < RL
60350519008	MW-91-202010	1-Butanecarboxylic Acid	J	Result < RL
60350519008	MW-91-202010	Butyric acid	J	Result < RL
60350519025	TMW-21-202010	1-Butanecarboxylic Acid	J	Result < RL
60350519002	MW-61R-202010	Nitrogen, Nitrate (As N)	UJ	Hold time exceeded
60350519002	MW-61R-202010	Nitrogen, Nitrite	UJ	Hold time exceeded
60350519002	MW-61R-202010	Nitrate/Nitrite	UJ	Hold time exceeded
60350519005	MW-189-202010	Chloride	J+	MS and MSD recoveries high
60350519023	RW-69-202010	Sulfate	J+	MS and MSD recoveries high
60350519002	MW-61R-202010	Organic Carbon (dissolved)	J	Result < RL
60350519002	MW-61R-202010	Organic Carbon (total)	J	Result < RL
60350519005	MW-189-202010	Organic Carbon (dissolved)	J	Result < RL
60350519005	MW-189-202010	Organic Carbon (total)	J	Result < RL
60350519017	TMW-22R-202010	Organic Carbon (total)	J	Result < RL
60350519023	RW-69-202010	Organic Carbon (total)	UJ	MS recovery low
60350519005	MW-189-202010	Iron	J	Result < RL
60350519001	MW-187-202010	1,1-Dichloroethane	J	Result < RL
60350519001	MW-187-202010	1,1-Dichloroethene	J	Result < RL
60350519003	MW-176-202010	trans-1,2-Dichloroethene	J	Result < RL
60350519003	MW-176-202010	Acetone	J+	LCS recovery high
60350519003	MW-176-202010	Benzene	J	Result < RL
60350519003	MW-176-202010	2-Butanone	J	Result < RL
60350519005	MW-189-202010	Vinyl Chloride	J	Result < RL
60350519005	MW-189-202010	1,1-Dichloroethene	J	Result < RL
60350519005	MW-189-202010	1,1-Dichloroethane	J	Result < RL
60350519005	MW-189-202010	Chloroform	J	Result < RL
60350519008	MW-91-202010	Benzene	J	Result < RL
60350519008	MW-91-202010	Tetrachloroethene	J	Result < RL
60350519008	MW-91-202010	trans-1,2-Dichloroethene	J	Result < RL
60350519008	MW-91-202010	4-Methyl-2-pentanone	J	Result < RL
60350519008	MW-91-202010	1,1-Dichloroethane	J	Result < RL
60350519008	MW-91-202010	Carbon Disulfide	J	Result < RL
60350519008	MW-91-202010	Vinyl Chloride	J	Result < RL
60350519008	MW-91-202010	1,1-Dichloroethene	J	Result < RL
60350519009	MW-195-202010	Styrene	UJ	MSD recovery low; MS/MSD RPD high
60350519009	MW-195-202010	Trichloroethene	J	Result < RL
60350519012	MW-29-202010	Benzene	J	Result < RL
60350519013	MW-55R-202010	1,1-Dichloroethene	J	Result < RL

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350519014	MW-63R-202010	cis-1,2-Dichloroethene	J	Result < RL
60350519015	MW-197-202010	Vinyl Chloride	J	Result < RL
60350519017	TMW-22R-202010	Benzene	J	Result < RL
60350519017	TMW-22R-202010	Toluene	J	Result < RL
60350519017	TMW-22R-202010	1,1-Dichloroethene	J	Result < RL
60350519019	MW-175-202010	1,1-Dichloroethene	J	Result < RL
60350519020	MW-199-202010	Chlorobenzene	J	Result < RL
60350519020	MW-199-202010	Chloroform	J	Result < RL
60350519020	MW-199-202010	Benzene	J	Result < RL
60350519020	MW-199-202010	Vinyl Chloride	J	Result < RL
60350519020	MW-199-202010	1,1-Dichloroethene	J	Result < RL
60350519020	MW-199-202010	1,1-Dichloroethane	J	Result < RL
60350519022	MW-196-202010	Trichloroethene	J	Result < RL
60350519023	RW-69-202010	1,2-Dichloroethane	U	TB contamination; qualify non-detect at RL
60350519023	RW-69-202010	Vinyl Chloride	J	Result < RL
60350519023	RW-69-202010	Trichloroethene	J-	MS recovery low
60350519023	RW-69-202010	trans-1,2-Dichloroethene	J	MS recovery low; Result < RL
60350519023	RW-69-202010	Tetrachloroethene	UJ	MS recovery low
60350519024	MW-68-202010	Chloromethane	J	Result < RL
60350519024	MW-68-202010	Trichloroethene	J	Result < RL
60350519024	MW-68-202010	Carbon Disulfide	J	Result < RL
60350519025	TMW-21-202010	Benzene	J	Result < RL
60350519025	TMW-21-202010	Chloromethane	J	Result < RL
60350519026	MW-56R-202010	trans-1,2-Dichloroethene	J	Result < RL
60350519026	MW-56R-202010	Vinyl Chloride	J	Result < RL
60350519027	MW-84-202010	Bromomethane	J	Result < RL
60350519027	MW-84-202010	Bromodichloromethane	J	Result < RL
60350519027	MW-84-202010	1,2-Dichloroethane	U	TB contamination; qualify non-detect at RL
60350519027	MW-84-202010	Dibromochloromethane	J	Result < RL
60350519027	MW-84-202010	Acetone	J	LCS recovery high; Result < RL
60350519030	TB-03-202010	1,2-Dichloroethane	J	Result < RL
60350519031	TB-04-202010	1,2-Dichloroethane	J	Result < RL
60350822003	TMW-32-202010	Ethene	J	Result < RL
60350822007	MW-25R-202010	Ethene	J	Result < RL
60350822016	MW-186-202010	Ethene	J	Result < RL
60350822026	MW-87-202010	Ethane	J	Result < RL
60350822029	MW-95-202010	Ethane	J	Result < RL
60350822003	TMW-32-202010	Acetic acid	J	Result < RL
60350822003	TMW-32-202010	Propionic Acid	J	Result < RL
60350822004	TMW-16-202010	Propionic Acid	J	Result < RL

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350822006	TMW-25-20201008	Propionic Acid	J	Result < RL
60350822016	MW-186-202010	Propionic Acid	J	Result < RL
60350822016	MW-186-202010	Acetic acid	J	Result < RL
60350822004	TMW-16-202010	Sulfate	J	Result < RL
60350822003	TMW-32-202010	Organic Carbon (dissolved)	J	Result < RL
60350822003	TMW-32-202010	Organic Carbon (total)	J	Result < RL
60350822026	MW-87-202010	Organic Carbon (total)	J	Result < RL
60350822031	MW-89-202010	Organic Carbon (total)	J	Result < RL
60350822003	TMW-32-202010	2-Butanone	UJ	LCS recovery low
60350822003	TMW-32-202010	Vinyl Chloride	J	Result < RL
60350822003	TMW-32-202010	1,2-Dichloroethane	J	Result < RL
60350822004	TMW-16-202010	Benzene	J	Result < RL
60350822004	TMW-16-202010	cis-1,2-Dichloroethene	J+	Surrogate recovery high
60350822004	TMW-16-202010	Carbon Disulfide	J	Result < RL
60350822004	TMW-16-202010	Vinyl Chloride	J	Result < RL
60350822004	TMW-16-202010	2-Butanone	UJ	LCS recovery low
60350822004	TMW-16-202010	Trichloroethene	J	Result < RL
60350822004	TMW-16-202010	Toluene	J	Result < RL
60350822005	ITMW-1R-202010	Benzene	J	Result < RL
60350822005	ITMW-1R-202010	Tetrachloroethene	J	Result < RL
60350822005	ITMW-1R-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822005	ITMW-1R-202010	1,1-Dichloroethene	J	Result < RL
60350822007	MW-25R-202010	Toluene	J	Result < RL
60350822007	MW-25R-202010	Acetone	J	Result < RL
60350822007	MW-25R-202010	Benzene	J	Result < RL
60350822007	MW-25R-202010	1,2-Dichloroethane	J	Result < RL
60350822007	MW-25R-202010	Tetrachloroethene	J	Result < RL
60350822007	MW-25R-202010	2-Butanone	UJ	LCS recovery low
60350822009	DUP-07-202010	Trichloroethene	J	Result < RL
60350822010	MW-24-202010	Chloroform	J	Result < RL
60350822010	MW-24-202010	Benzene	J	Result < RL
60350822010	MW-24-202010	Bromodichloromethane	J	Result < RL
60350822010	MW-24-202010	Carbon Disulfide	J	Result < RL
60350822010	MW-24-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822010	MW-24-202010	Dibromochloromethane	J	Result < RL
60350822011	DUP-08-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822011	DUP-08-202010	Benzene	J	Result < RL
60350822011	DUP-08-202010	Dibromochloromethane	J	Result < RL
60350822011	DUP-08-202010	Chloroform	J	Result < RL
60350822011	DUP-08-202010	Bromodichloromethane	J	Result < RL
60350822013	MW-204-202010	Chlorobenzene	J	Result < RL
60350822016	MW-186-202010	Trichloroethene	J	Result < RL
60350822016	MW-186-202010	Acetone	J	Result < RL
60350822016	MW-186-202010	cis-1,2-Dichloroethene	J	Result < RL

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350822016	MW-186-202010	Vinyl Chloride	J	Result < RL
60350822017	ITMW-2R-202010	Acetone	J	Result < RL
60350822017	ITMW-2R-202010	Toluene	J	Result < RL
60350822018	DUP-09-202010	Trichloroethene	J	Result < RL
60350822018	DUP-09-202010	Acetone	J	Result < RL
60350822018	DUP-09-202010	Toluene	J	Result < RL
60350822019	ITMW-21-202010	cis-1,2-Dichloroethene	J	Result < RL
60350822020	MW-200-202010	Trichloroethene	J	Result < RL
60350822021	ITMW-10-202010	Vinyl Chloride	J	Result < RL
60350822021	ITMW-10-202010	1,1-Dichloroethene	J	Result < RL
60350822021	ITMW-10-202010	1,1-Dichloroethane	J	Result < RL
60350822021	ITMW-10-202010	Toluene	J	Result < RL
60350822021	ITMW-10-202010	Tetrachloroethene	J	Result < RL
60350822022	MW-85R-202010	1,1-Dichloroethane	J-	LCS recovery low
60350822022	MW-85R-202010	1,1,2,2-Tetrachloroethane	J	Result < RL
60350822022	MW-85R-202010	Toluene	J	Result < RL
60350822023	ITMW-11-202010	1,1-Dichloroethane	UJ	LCS recovery low
60350822023	ITMW-11-202010	Dibromochloromethane	J	Result < RL
60350822023	ITMW-11-202010	Tetrachloroethene	J	Result < RL
60350822024	ITMW-6-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822024	ITMW-6-202010	1,1-Dichloroethane	J	Result < RL
60350822024	ITMW-6-202010	Chloroform	J	Result < RL
60350822025	ITMW-5-202010	1,1-Dichloroethane	J	Result < RL
60350822025	ITMW-5-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822025	ITMW-5-202010	Chloroform	J	Result < RL
60350822026	MW-87-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822027	MW-46R-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822028	ITMW-19-202010	Bromodichloromethane	J	Result < RL
60350822028	ITMW-19-202010	1,1,2,2-Tetrachloroethane	J	Result < RL
60350822028	ITMW-19-202010	Tetrachloroethene	J	Result < RL
60350822028	ITMW-19-202010	Acetone	J	Result < RL
60350822028	ITMW-19-202010	Chloromethane	J	Result < RL
60350822029	MW-95-202010	1,2-Dichloroethane	J	Result < RL
60350822029	MW-95-202010	Toluene	J	Result < RL
60350822029	MW-95-202010	1,1-Dichloroethane	J	Result < RL
60350822029	MW-95-202010	Bromoform	J	Result < RL
60350822029	MW-95-202010	Carbon Tetrachloride	J	Result < RL
60350822029	MW-95-202010	2-Butanone	UJ	LCS recovery low
60350822029	MW-95-202010	1,1,2,2-Tetrachloroethane	J	Result < RL
60350822029	MW-95-202010	Benzene	J	Result < RL
60350822030	ITMW-12R-202010	Toluene	J	Result < RL
60350822030	ITMW-12R-202010	1,1-Dichloroethane	J	Result < RL
60350822030	ITMW-12R-202010	1,1,2,2-Tetrachloroethane	J	Result < RL
60350822030	ITMW-12R-202010	1,1,2-Trichloroethane	J	Result < RL
60350822030	ITMW-12R-202010	2-Butanone	UJ	LCS recovery low

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350822030	ITMW-12R-202010	Benzene	J	Result < RL
60350822031	MW-89-202010	cis-1,2-Dichloroethene	J	Result < RL
60350822032	MW-198-202010	Carbon Tetrachloride	J	Result < RL
60350822032	MW-198-202010	Bromodichloromethane	J	Result < RL
60350822032	MW-198-202010	1,2-Dichloroethane	J	Result < RL
60350822032	MW-198-202010	Dibromochloromethane	J	Result < RL
60350822032	MW-198-202010	Benzene	J	Result < RL
60350822033	MW-37-202010	2-Butanone	UJ	LCS recovery low
60350822033	MW-37-202010	Chloroform	J	Result < RL
60350822033	MW-37-202010	1,1-Dichloroethane	J	Result < RL
60350822033	MW-37-202010	Chloromethane	J	Result < RL
60350822033	MW-37-202010	Bromoform	J	Result < RL
60350822033	MW-37-202010	Ethyl Benzene	J	Result < RL
60350822034	IW-77-202010	Bromoform	J	Result < RL
60350822034	IW-77-202010	1,1-Dichloroethene	J	Result < RL
60350822034	IW-77-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822035	ITMW-18-202010	1,1-Dichloroethane	J	Result < RL
60350822035	ITMW-18-202010	Tetrachloroethene	J	Result < RL
60350822035	ITMW-18-202010	Chloroform	J	Result < RL
60350822035	ITMW-18-202010	Vinyl Chloride	J	Result < RL
60350822036	IW-132-202010	cis-1,2-Dichloroethene	J	Result < RL
60350822036	IW-132-202010	Chloroform	J	Result < RL
60350822036	IW-132-202010	1,1-Dichloroethene	J	Result < RL
60350822037	MW-93-202010	Chloromethane	J	Result < RL
60350822037	MW-93-202010	1,1,1-Trichloroethane	J	Result < RL
60350822037	MW-93-202010	1,1,2-Trichloroethane	J	Result < RL
60350822037	MW-93-202010	Bromoform	J	Result < RL
60350822037	MW-93-202010	Bromodichloromethane	J	Result < RL
60350822037	MW-93-202010	1,1-Dichloroethane	J	Result < RL
60350822037	MW-93-202010	2-Butanone	UJ	LCS recovery low
60350822038	ITMW-7-202010	Benzene	J	Result < RL
60350822042	DUP-10-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822043	MW-179-202010	1,1-Dichloroethene	J	Result < RL
60350822043	MW-179-202010	Acetone	J	Result < RL
60350822045	IW-134-202010	Bromoform	J	Result < RL
60350822045	IW-134-202010	trans-1,2-Dichloroethene	J	Result < RL
60350822045	IW-134-202010	Vinyl Chloride	J	Result < RL
60350822045	IW-134-202010	Dibromochloromethane	J	Result < RL
60350822045	IW-134-202010	Tetrachloroethene	J	Result < RL
60350359001	TMW-10-202010	Ethane	J	Result < RL
60350359002	TMW-11-202010	Ethene	J	Result < RL
60350359002	TMW-11-202010	Ethane	J	Result < RL
60350858001	MW-50R-202010	HYDROGEN (H2)	J	Result < RL
60350858002	TMW-10-202010	HYDROGEN (H2)	J	Result < RL
60350858007	TMW-11-202010	HYDROGEN (H2)	J	Result < RL

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350359001	TMW-10-202010	Acetic acid	J	Result < RL
60350359002	TMW-11-202010	Acetic acid	J	Result < RL
60350359002	TMW-11-202010	Lactic Acid	J	Result < RL
60350359002	TMW-11-202010	n-Hexanoic acid	J	Result < RL
60350359004	TMW-36-202010	Acetic acid	J	Result < RL
60350359005	TMW-19-202010	Acetic acid	J	Result < RL
60350359002	TMW-11-202010	Sulfate	J-	MS recovery low
60350359002	TMW-11-202010	Chloride	J+	MS recovery high
60350359003	MW-50R-202010	Organic Carbon (total)	J	Result < RL
60350359004	TMW-36-202010	Organic Carbon (dissolved)	J	Result < RL
60350359004	TMW-36-202010	Organic Carbon (total)	J	Result < RL
60350359001	TMW-10-202010	Benzene	J	Result < RL
60350359001	TMW-10-202010	cis-1,2-Dichloroethene	J	Result < RL
60350359002	TMW-11-202010	cis-1,2-Dichloroethene	J	Result < RL
60350359002	TMW-11-202010	Trichloroethene	J	Result < RL
60350359002	TMW-11-202010	Vinyl Chloride	J	Result < RL
60350359003	MW-50R-202010	Trichloroethene	J	Result < RL
60350359004	TMW-36-202010	Vinyl Chloride	J	Result < RL
60350359004	TMW-36-202010	Tetrachloroethene	J	Result < RL
60350359004	TMW-36-202010	Chloroform	J	Result < RL
60350359005	TMW-19-202010	1,1-Dichloroethene	J	Result < RL
60350359005	TMW-19-202010	1,1-Dichloroethane	J	Result < RL
60350359007	TMW-36B-202010	Benzene	J	Result < RL
60350715006	MW-194-202010	Ethane	J	Result < RL
60350715010	TMW-26-202010	Ethane	J	Result < RL
60350715019	IW-73-202010	Methane	J+	Method blank contamination
60350715023	MW-38-202010	Ethane	J	Result < RL
60350715023	MW-38-202010	Methane	J	Method blank contamination; LCS/LCSD RPD high
60350715024	TMW-34-202010	Methane	J	LCS/LCSD RPD high
60350715030	IW-147-202010	Ethene	J	Result < RL
60350715030	IW-147-202010	Methane	J	LCS/LCSD RPD high
60350715006	MW-194-202010	Acetic acid	J	Result < RL
60350715006	MW-194-202010	Propionic Acid	J	Result < RL
60350715024	TMW-34-202010	Acetic acid	J	Result < RL
60350715030	IW-147-202010	Nitrate/Nitrite	J	Result < RL
60350715006	MW-194-202010	Chloride	J+	MS recovery high
60350715001	MW-99-202010	Organic Carbon (total)	J	Dissolved organic carbon concentration was higher than total organic carbon concentration

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350715001	MW-99-202010	Organic Carbon (dissolved)	J	Dissolved organic carbon concentration was higher than total organic carbon concentration
60350715006	MW-194-202010	Organic Carbon (total)	J	Result < RL
60350715006	MW-194-202010	Organic Carbon (dissolved)	J	Result < RL
60350715015	ITMW-9-202010	Organic Carbon (total)	J	Result < RL
60350715019	IW-73-202010	Organic Carbon (total)	J	Result < RL
60350715023	MW-38-202010	Organic Carbon (total)	J	Result < RL
60350715024	TMW-34-202010	Organic Carbon (total)	J	Result < RL
60350715024	TMW-34-202010	Organic Carbon (dissolved)	J	Result < RL
60350715001	MW-99-202010	Acetone	J+	LCS recovery high
60350715001	MW-99-202010	Carbon Disulfide	J	Result < RL
60350715001	MW-99-202010	Benzene	J	Result < RL
60350715001	MW-99-202010	4-Methyl-2-pentanone	J	Result < RL
60350715001	MW-99-202010	Trichloroethene	J	Result < RL
60350715003	MW-182-202010	Benzene	J	Result < RL
60350715004	MW-190-202010	1,1-Dichloroethane	J	Result < RL
60350715004	MW-190-202010	1,1-Dichloroethene	J	Result < RL
60350715005	TMW-30-202010	Trichloroethene	J	Result < RL
60350715005	TMW-30-202010	Carbon Disulfide	J	Result < RL
60350715006	MW-194-202010	cis-1,2-Dichloroethene	J	Result < RL
60350715007	TMW-23-202010	1,1-Dichloroethene	J	Result < RL
60350715010	TMW-26-202010	Acetone	J	Result < RL
60350715010	TMW-26-202010	Carbon Disulfide	J	Result < RL
60350715010	TMW-26-202010	Vinyl Chloride	J	Result < RL
60350715011	MW-57R-202010	Vinyl Chloride	J	Result < RL
60350715011	MW-57R-202010	trans-1,2-Dichloroethene	J	Result < RL
60350715012	DUP-02-202010	Vinyl Chloride	J	Result < RL
60350715012	DUP-02-202010	trans-1,2-Dichloroethene	J	Result < RL
60350715013	MW-183R-202010	Trichloroethene	J	Result < RL
60350715014	DUP-03-202010	1,1-Dichloroethene	J	Result < RL
60350715015	ITMW-9-202010	2-Butanone	UJ	LCS recovery low
60350715015	ITMW-9-202010	Chloroform	J	Result < RL
60350715015	ITMW-9-202010	Benzene	J	Result < RL
60350715016	TMW-12-202010	Vinyl Chloride	J	Result < RL
60350715018	DUP-04-202010	Trichloroethene	J	Result < RL
60350715019	IW-73-202010	Vinyl Chloride	J	Result < RL
60350715019	IW-73-202010	1,1-Dichloroethene	J	Result < RL
60350715019	IW-73-202010	trans-1,2-Dichloroethene	J	Result < RL
60350715020	MW-58R-202010	Vinyl Chloride	J	Result < RL
60350715020	MW-58R-202010	trans-1,2-Dichloroethene	J	Result < RL
60350715021	MW-83-202010	trans-1,2-Dichloroethene	J	Result < RL
60350715021	MW-83-202010	Dibromochloromethane	J	Result < RL

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350715021	MW-83-202010	cis-1,2-Dichloroethene	J	Result < RL
60350715022	DUP-01-202010	Dibromochloromethane	J	Result < RL
60350715022	DUP-01-202010	cis-1,2-Dichloroethene	J	Result < RL
60350715023	MW-38-202010	2-Butanone	UJ	LCS recovery low
60350715023	MW-38-202010	Benzene	J	Result < RL
60350715023	MW-38-202010	Chloroform	J	Result < RL
60350715024	TMW-34-202010	1,1-Dichloroethane	J	Result < RL
60350715024	TMW-34-202010	Tetrachloroethene	J	Result < RL
60350715025	MW-185-202010	1,1-Dichloroethane	J	Result < RL
60350715026	IW-78-202010	Dibromochloromethane	J	Result < RL
60350715026	IW-78-202010	Acetone	J	Result < RL
60350715026	IW-78-202010	cis-1,2-Dichloroethene	J	Result < RL
60350715029	MW-27-202010	cis-1,2-Dichloroethene	J	Result < RL
60350715030	IW-147-202010	Benzene	J	Result < RL
60350715030	IW-147-202010	Chloromethane	J	Result < RL
60350715030	IW-147-202010	Vinyl Chloride	J	Concentration exceeds initial calibration range
60350715030	IW-147-202010	Carbon Disulfide	J	Result < RL
60350715030	IW-147-202010	2-Butanone	UJ	LCS recovery low
60350715030	IW-147-202010	Dibromochloromethane	J	Result < RL
60350715030	IW-147-202010	Carbon Tetrachloride	J	Result < RL
60350715031	MW-184-202010	Trichloroethene	J	Result < RL
60350715032	DUP-05-202010	Trichloroethene	J	Result < RL
60350715033	MW-178-202010	cis-1,2-Dichloroethene	J	Result < RL
60350715039	TMW-25-202010	Benzene	J	Result < RL
60350715039	TMW-25-202010	Carbon Disulfide	J	Result < RL
60350715039	TMW-25-202010	trans-1,2-Dichloroethene	J	Result < RL
60350715039	TMW-25-202010	Toluene	J	Result < RL
60350715039	TMW-25-202010	2-Butanone	UJ	LCS recovery low
60350715043	DUP-06-202010	1,2-Dichloroethane	J	Result < RL
60350715043	DUP-06-202010	2-Butanone	UJ	LCS recovery low
60350720001	VP-08-202010	2-Hexanone	J	Result < RL
60350720001	VP-08-202010	Benzene	J	Result < RL
60350720001	VP-08-202010	Toluene	J	Result < RL
60350720002	VP-07-202010	2-Butanone	J	Result < RL
60350720002	VP-07-202010	Toluene	J	Result < RL
60350720002	VP-07-202010	Benzene	J	Result < RL
60350720003	VP-12-202010	Benzene	J	Result < RL
60350720003	VP-12-202010	Chloroform	J	Result < RL
60350720003	VP-12-202010	Acetone	J	Result < RL
60350720004	VP-10-202010	Vinyl Chloride	J	Result < RL
60350720004	VP-10-202010	trans-1,2-Dichloroethene	J	Result < RL
60350720004	VP-10-202010	Benzene	J	Result < RL
60350720004	VP-10-202010	Chloroform	J	Result < RL

Lab Sample ID	Field ID	Analyte	Qualifier	Reason for Qualification
60350720004	VP-10-202010	Toluene	J	Result < RL
60350855001	VP-14-202010	Chloromethane	J	Result < RL
60350855001	VP-14-202010	1,1-Dichloroethene	J	Result < RL
60350855001	VP-14-202010	Benzene	J	Result < RL
60350855001	VP-14-202010	trans-1,2-Dichloroethene	J	Result < RL
60350855001	VP-14-202010	Chloroform	J	Result < RL
60350858003	MW-58R-202010	HYDROGEN (H2)	J	Result < RL
60350858004	IW-73-202010	HYDROGEN (H2)	J	Result < RL
60350858005	MW-38-202010	HYDROGEN (H2)	J	Result < RL
60350858008	ITMW-9-202010	HYDROGEN (H2)	J	Result < RL
60350858009	RW-69-202010	HYDROGEN (H2)	J	Result < RL
60350858011	MW-87-202010	HYDROGEN (H2)	J	Result < RL
60350858012	MW-89-202010	HYDROGEN (H2)	J	Result < RL

Data Validation Qualifier Codes:

U = Non-detect. The compound was analysed for, but not detected.

J = Estimated. The associated numerical value is an estimated quantity. The analyte was detected but the reported value may not be accurate or precise.

J+ = Estimated with a high bias. The associated numerical value is an estimated quantity. The analyte was detected but the reported value may not be accurate or precise.

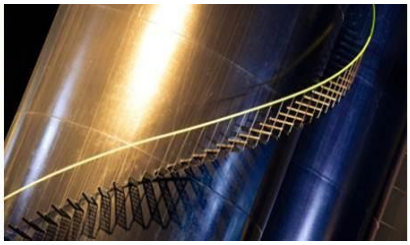
J- = Estimated with a low bias. The associated numerical value is an estimated quantity. The analyte was detected but the reported value may not be accurate or precise.

UJ = Estimated Non-detect. The analyte was not detected above the method detection limit. However, it is an estimated quantity due to poor accuracy or precision. This qualification is also used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate or another spike recovery.

R = Rejected. The sample results are unusable due to the quality of the data generated.

Attachment E

2020 Supplemental Investigation Report


ATTACHMENT E

2020 Supplemental Investigation Report

Whirlpool Facility
Fort Smith, Arkansas

Prepared for:
Whirlpool Corporation

Prepared by:
Ramboll US Consulting, Inc

Date:
February 2021

Project Number:
1690017901

RAMBOLL

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1 Introduction

On behalf of Whirlpool Corporation (Whirlpool), Ramboll US Consulting, Inc (Ramboll) has prepared this 2020 Supplemental Investigation Report (Report) for the former Whirlpool facility on Jenny Lind Road in Fort Smith, Arkansas (Site) (see Figure 1). This report summarizes the three offsite investigations, one monitoring well replacement in the source area and one additional monitoring well installation south of the former Whirlpool manufacturing building. This work was completed in July and September 2020. The three investigations and well replacement activities further described in this report include:

- Southwest: An offsite investigation was completed to the southwest (McPherson Oil and Geren Road right of way) based on trichloroethylene (TCE) concentrations detected at the southwest property boundary of the former Whirlpool property at TMW-32. The investigation included hydropunch groundwater samples at nine locations, soil profiles to shale bedrock at five locations and the installation of two monitoring wells (MW-197 and MW-199) in July and September 2020 (Figure 2). The work was performed in accordance with the approved Revised Action Plan (RAP), Appendix F of the 2018 Semi-Annual Report dated July 2018 and approved by the Arkansas Energy and Environment's Division of Energy and Environment Division of Environmental Quality (ADEQ) on August 24, 2018.
- South: An offsite investigation was completed to the south [the Harmon Arkansas Properties, LLC (Harmon) property] based on TCE concentrations detected at the southern property boundary at TMW-36. The investigation included hydropunch groundwater samples at five locations, soil profiles to shale bedrock at four locations and the installation of two monitoring wells (MW-201 and MW-203) in July and September 2020 (Figure 3). The work was performed in accordance with the approved South Property Boundary Investigation Work Plan dated March 9, 2020 and approved by ADEQ on April 21, 2020.
- Northeast: An offsite investigation was completed to the northeast (6427 Jenny Lind Road Property, owned by the Fort Smith Boys & Girls Club) in response to ADEQ correspondence dated November 26, 2019, providing conditional approval for the 2019 Action Plan. The 2019 Action Plan included supplemental remediation at MW-99 consisting of injections of in-situ chemical reduction (ISCR) reagents to form a permeable reactive barrier (PRB) in the vicinity of MW-99. ADEQ's conditional approval of the 2019 Action Plan requested additional investigation in the area of the proposed PRB in the vicinity of MW-99 on the 6427 Jenny Lind Road property. As requested, this work plan consisted of additional plume delineation to the north, south and east of MW-99 followed by installation of permanent monitoring wells positioned after plume delineation was complete. The investigation included groundwater samples collected from temporary groundwater monitoring wells at three locations, soil profiles to shale bedrock at three locations and the installation of two monitoring wells (MW-200 and MW-202) in July 2020 (Figure 4). The work was performed in accordance with the approved

Northeast Supplemental Investigation Work Plan dated December 19, 2019 and approved by ADEQ on January 14, 2020.

- Onsite Replacement Monitoring Well: MW-198 was installed between IW-147 and IW-155 as required by ADEQ in accordance with the approved Well Repair and Replacement Work Plan dated August 20, 2019 (and associated ADEQ correspondence dated December 19, 2019).
- Onsite Monitoring Well: MW-204 was installed on the Whirlpool property south of the former Whirlpool manufacturing building at the southwest corner of the former lay down yard in approximately the former location of boring M-325 to investigate current groundwater conditions.

Prior to initiating any drilling activities, both Arkansas One-Call Utility Locating Services and a private utility locator were contacted to identify underground utilities and other potential obstructions in the work areas.

Soil cuttings generated from soil boring and well installation activities were containerized in 50 gallon drums and staged on the former Whirlpool manufacturing facility property. Purge water generated from groundwater development activities was also containerized and stored on the former Whirlpool property. Soil investigation derived waste (IDW) from the July investigations was disposed of as non-hazardous waste by Environmental Remediation Specialists (ERS) and transported to American Environmental Landfill, Inc. on July 28, 2020. Water IDW was disposed of as non-hazardous waste by ERS and transported to Waste Management – Quarry Landfill RDF on July 27, 2020. Waste disposal manifests are provided in Appendix A.

2 Southwest Plume Investigation

This report documents the findings from the investigation on the Beavers Family Trust and 2014 Musgrove Family Business Trust property occupied by McPherson Oil located at the 1201 Geren Road Property and the Geren Road right of way south and west of McPherson Oil. The investigation was performed during the weeks of July 13, 2020, and September 21, 2020. Ramboll, on behalf of Whirlpool, requested access from the Beavers Family Trust and 2014 Musgrove Family Business Trust to perform a groundwater investigation on the subject property to characterize potential groundwater impacts from TCE. The investigation activities summarized in this report were completed in accordance with the June 2018 Revised Action Plan submitted to ADEQ as Appendix F of the 2018 Semi-Annual Monitoring Report and the December 18, 2019, Property Access Agreement.

Investigation of the Southwest Plume in 2020 consisted of two events:

- The initial groundwater investigation at the McPherson Oil (formerly B&M Oil) property to the west of the southwest property boundary in July 2020 included hydropunch groundwater sampling at five locations, soil profiles to shale bedrock at three locations and the installation of two new monitoring wells; and,
- In September 2020, the expanded groundwater investigation included one additional soil profile at McPherson Oil and on Geren Road, to the south of McPherson Oil. Hydropunch groundwater samples were collected at five locations and a soil profile to shale bedrock was completed at one location.

2.1 McPherson Oil Investigation

In accordance with the work plan, investigation activities were performed by completing hydropunch groundwater samples at MCP-HP-01 through MCP-HP-04 and MCP-HP-07. Soil borings were completed at MCP-HP-05 and MCP-HP-06 (completed as MW-199), and MW-197 (Figure 2). Prior to initiating drilling activities, both Arkansas One-Call Utility Locating Services and a private utility locator were contracted to identify underground utilities and other potential obstructions in the work areas. Drilling activities were completed using a Geoprobe 7722DT direct push drilling rig capable of drilling with hollow stem augers and completion of soil probes using direct push technology (DPT).

A continuous soil core was obtained for geologic logging at boring locations MCP-HP-05, MCP-HP-06/MW-199, and MW-197. The soil profiles observed at each location were logged by a Ramboll geologist. The continuous soil core was obtained using the GeoProbe™ Dual Tube 22 (DT-22) - 2.25 inch outside diameter (OD) steel casing soil sampling system and 1.25 inch liners for soil sample retrieval. Saturated soil samples were collected at MW-197 [20-25 feet below ground surface (bgs)] and MCP-HP-06 (19-21 feet bgs) (MW-199) and analyzed for volatile organic compounds (VOCs) by USEPA Method 8260, total organic carbon (TOC) by USEPA

Method 9060 and magnetic susceptibility[1]. Boring logs for these three borings are provided in Appendix B.

Groundwater sampling was completed to delineate the extent of groundwater impact at MCP-HP-01 through MCP-HP-04 and MCP-HP-07 utilizing the GeoProbe™ SP-16 direct push sampling tool (hydropunch) (boring logs for MCP-HP-01 through MCP-HP-04 and MCP-HP-07 were not prepared since soil samples were not collected at these locations) and at MCP-HP-05 and MCP-HP-06 using temporary well screens. The hydropunch soil borings were advanced using DPT until refusal, targeting the top of the shale at the bottom of the Basal Transmissive Zone (BTZ). At soil probe refusal, drilling rods were pulled up to expose the hydropunch 4 foot long stainless-steel screen (positioned with the base of the well screen at the total depth of the soil probe). Groundwater samples were collected at each location using a peristaltic pump and dedicated tubing. The sample point was purged prior to sampling to remove fines and achieve reasonable sample quality depending on the quantity of groundwater available. After groundwater sampling was completed, the soil probes for the hydropunch locations were properly abandoned using bentonite cement grout placed using a tremie tube. Groundwater samples were analyzed for VOCs by USEPA Method 8260. Laboratory analytical report are provided in Appendix C.

MW-197 and MW-199 were completed using hollow stem auger drilling methods (MW-199 was completed at the GeoProbe™ boring location MCP-HP-06). MW-197 and MW-199 were constructed with a 2 inch diameter schedule 40 PVC casing and a 10 foot long, 0.010 inch slotted 2 inch diameter schedule 40 PVC well screen to total depths of 25 and 22 feet bgs, respectively. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 2 feet above the top of the screen followed by 2 feet of annular seal consisting of hydrated bentonite pellets above the top of the sand pack. The remainder of the annular space was pressure grouted with a bentonite/cement grout installed with a tremie pipe from the bottom of the open well annulus to the surface. The wells were completed with expandable locking well caps and steel manhole covers set inside a 2 feet x 2 feet concrete pad, flush with the ground surface. MW-197 and MW-199 were installed on July 14 and 16, respectively, and both were developed in accordance with ADEQ guidance (Interim Policy PRCR 96-4, Section L, Page 9) on July 18, 2020, and surveyed by an Arkansas-Licensed Surveyor.

Prior to groundwater sampling of MW-197 and MW-199, the wells were purged while monitoring pH, conductivity, dissolved oxygen (DO) and oxidation reduction potential (ORP). After stabilization of these parameters within 10% and a visual reduction in turbidity, samples were collected, and tubing was removed for proper disposal. Groundwater samples from the monitoring wells were analyzed for VOCs by USEPA Method 8260.

The soil cuttings generated from drilling activities for MCP-HP-05, MCP-HP-06 (MW-199), MCP-HP-08, MCP-HP-11 and MW-197 were collected and containerized in 55 gallon drums and

[1] Magnetic susceptibility is an estimate of the amount of magnetite in a soil sample available to react abiotically with chlorinated compounds such as TCE.

staged on the former Whirlpool manufacturing facility property. Purge water generated from groundwater development activities was containerized for disposal and staged on the former Whirlpool manufacturing facility property. The soil and water investigation derived waste were disposed of as non-hazardous waste by ERS and transported to American Environmental Landfill, Inc on July 29, 2020.

2.2 Geren Road Investigation

Results from the July 2020 investigation indicated that the groundwater plume extended to the south and southwest of the McPherson Oil facility and subsequent investigation activities proceeded further to the southwest in September 2020.

In September 2020, Ramboll oversaw hydropunch groundwater sampling at four locations (MCP-HP-09, MCP-HP-10, MCP-HP-12 and MCP-HP-13) along the south side of Geren Road, running east to west at the south of the McPherson Oil property (Figure 2). The stratigraphic profile was assessed in borings MCP-HP-08 (located on the McPherson Oil facility property) and MCP-HP-11 (located on the south side of Geren Road at the southwest extent of the investigation) in order to identify the water bearing zones in the vicinity of those two borings. All other hydropunches installed during this event were advanced consistent with the method described in Section 2.1 of this report, targeting the top of the shale at the bottom of the BTZ.

Excess soil and purge water from this event were containerized and stored at a secure location on the former Whirlpool property pending proper disposal.

2.2.1 Results

The lithology encountered at the McPherson Oil property and along Geren Road consists predominantly of clayey silts and silty clays from the surface to depths ranging from 14-20 feet bgs with occasional fine sand or sandy clay. This is underlain by a medium to coarse clayey sand and subrounded gravel zone to depths ranging from 14-25 feet bgs which correlates to the BTZ which varies from 2 feet thick at MW-199 to 7 feet thick at MCP-HP-05. The BTZ was noted to be wet to saturated at MCP-HP-08 and MW-199. Below the BTZ is a thin layer of clayey silt at MW-199 and MCP-HP-05. All borings encountered a shale or weathered shale bedrock. The top of shale bedrock was encountered at depths ranging from 15 (MCP-HP-11) to 25 feet bgs (MW-197). The shale bedrock elevation generally decreases in elevation to the southwest toward MW-199 and then increases in elevation from MW-199 to MCP-HP-11 (Figure 5). The refusal depths at the hydropunch locations were not used to generate the shale bedrock isocontours. Well construction and soil boring logs from this event are provided in Appendix B.

Cross Section A – A' in Appendix D provides a sectional view of the soil profile over the shale bedrock and the thinning of the soil profile as the shale becomes shallower and the surface elevation decreases. The potentiometric surface in the monitoring wells is several feet above the BTZ where increased moisture (wet) sand and/or gravel with silts and clay were noted as observed at other locations. The limited moisture in MCP-HP-05 at McPherson Oil and MCP-

HP-11 at the southwest extent of the investigation on Geren Road was in the silty clay at approximately 5 feet BGS. The BTZ was observed to be dry at MCP-HP-11.

2.2.2 Soil

Laboratory analysis of the saturated soil samples indicated TCE concentrations in MW-197 (20-25 feet) and MCP-HP-06 (19-21 feet) (MW-199) were 2.1 micrograms per kilograms (µg/kg) J and 1.6 µg/kg J (the "J" qualifier indicates the reported concentrations were below laboratory reporting limits). No other VOC constituents were detected. The detected concentrations are less than the Remedial Action Decision Document (RADD) remedial action level (RAL) of 0.129 mg/kg (129 ug/kg) for TCE.

2.2.3 Total Organic Carbon and Magnetic Susceptibility

Ramboll collected soil samples for TOC and magnetic susceptibility analysis from the borings for MW-197 and MW-199 during the July 2020 effort. Soil samples were collected from the BTZ using laboratory supplied containers. The depths of samples and associated analytical results are listed in the table below.

WELL ID	SAMPLE INTERVAL (feet)	TOC (mg/kg)	MAG SUSCEPTIBILITY	
			RESULT (m^3/kg)	PLUS OR MINUS
MW-197	20-25	310 J (211)	4.3E-07	7.7E-08
MW-199	23-24	ND	7.1E-08	3.2E-09

Notes:
mg/kg: Milligrams per kilograms
m^3/kg: Cubic meters per kilograms

TOC soil results were comparable with the results from previous sampling efforts indicating low organic carbon concentrations in the BTZ.

Magnetic susceptibility is an estimate of the amount of magnetite in a soil sample available to react abiotically with chlorinated compounds such as TCE. The USEPA Biological Pathway Identification Criteria (BioPIC) screening tool as discussed within the Development and Validation of a Quantitative Framework and Management Expectation Tool for the Selection of Bioremediation Approaches at Chlorinated Ethene Sites (ESTCP Project ER-201129) (final report December 2015) was used to evaluate the magnetic susceptibility results as they may relate to the TCE degradation pathway. The BioPIC tool plots the degradation rate constant versus magnetic susceptibility values (the BioPIC tool plot has been presented in previous Action Plans and in the Monitoring Well Installation Letter Report dated November 11, 2016). The degradation rate constant calculated for the South Plume for the Whirlpool site is -0.15 yr^{-1} based upon the regression analysis of groundwater data from the South Plume presented in the Two Year Technical Review Report dated January 2016. The BioPIC tool plot for a degradation rate constant of -0.15 yr^{-1} indicates that mass magnetic susceptibility can help explain the

apparent in situ rate of TCE degradation if the magnetic susceptibility results range from 3E-08 m^3/kg^{-1} to 1E-06 m^3/kg^{-1}. The magnetic susceptibility values for soil collected at MW-197 and MW-199 locations at the former Whirlpool Fort Smith site fall within this range suggesting "the mass magnetic susceptibility can explain the apparent in situ rate of TCE degradation" (ESTCP Project ER-201129). These results are comparable to the range of magnetic susceptibility values for soil samples collected during previous investigations in September 2016, April 2017, October 2017 and April 2018. Further discussion regarding abiotic degradation is presented in the 2020 Annual Report.

2.2.4 Groundwater

Groundwater sample results indicated TCE concentrations were detected above the RADD RAL of 5 micrograms per liter (µg/L) at MCP-HP-03 (52.8 µg/L), MCP-HP-05 (6.4 µg/L), MCP-HP-07 (14.9 µg/L), MCP-HP-10 (30.2 µg/L), MCP-HP-11 (18.1 µg/L) and MCP-HP-13 (55.7 µg/L). TCE was detected above the RAL in both monitoring wells installed on the McPherson Oil property, with concentrations of 17.0 µg/L and 66.7 µg/L in MW-197 and MW-199, respectively. MW-197 and MW-199 were also sampled in October 2020 during the annual sampling event at concentrations of 20.1 µg/L and 92.3 µg/L, respectively. The Southwest ISCR Treatment Area, completed at the former Whirlpool property boundary with McPherson Oil in July and October 2018 has reduced concentrations up-gradient from MW-199 (TCE reductions in area wells reduced by approximately 67% to 99%, Table 3, Attachment F of the 2020 Annual Report). The current disposition of the impacts at McPherson oil reflect the decreasing TCE concentrations upgradient at the property boundary of the former Whirlpool facility.

The October 2020 groundwater potentiometric surface map (Figure 6) indicates that groundwater flow is generally to the southwest on the McPherson Oil property. This is consistent with the Whirlpool property onsite gradient near the onsite ISCR Treatment Zone. The plume is now detached near the Whirlpool property boundary and extends from TMW-30 and TMW-32 through MW-199.

Analytical laboratory reports from this event are included in Appendix C and a summary of VOC results are provided in Table 1.

3 South Plume Investigation

This report documents the findings from the supplemental investigation on the Harmon property. The investigation was performed during the weeks of July 13, 2020, and September 21, 2020, and included performing five soil borings (HM-HP-01 through HM-HP-05) and the installation of two new monitoring wells (MW-201 and MW-203). Ramboll, on behalf of Whirlpool, requested access from Harmon to perform a groundwater investigation on the subject property to characterize potential groundwater impacts from TCE. The investigation activities summarized in this report were completed in accordance with the approved South Property Boundary Investigation Work Plan dated March 9, 2020, and approved by ADEQ on April 21, 2020, and the March 3, 2020, Property Access Agreement.

Investigation of the Southwest Plume in 2020 consisted of two events:

- The initial Groundwater investigation at the Harmon property to the south of the southern property boundary in July 2020; and
- The installation of an additional monitoring well on the Harmon property in September 2020.

In November 2019, a supplemental southern investigation was performed along the southern property boundary of the former Whirlpool facility, consisting of the installation of groundwater monitoring well TMW-36B and seven hydropunch soil probes for collection of groundwater samples. TMW-36B was installed within the shallow saturated soils from approximately 26-31 feet bgs to assess TCE concentrations in a potentially separate shallow water bearing zone observed during installation of TMW-36 (installed in June 2019, screened interval from 36 to 41 feet bgs in the BTZ). The seven hydropunch soil probes were installed in order to characterize the east and west boundaries of groundwater impacts along the south property boundary. Based on these results indicating TCE concentrations in groundwater exceeding the RAL, further investigation was proposed on the Harmon property to the south of the south property boundary.

3.1 Harmon Investigation

In accordance with the work plan, investigation activities were performed by completing soil borings at six locations consisting of HM-HP-01 through HM-HP-04 and HM-HP-05 (completed as MW-201) in July 2020 and the completion of MW-203 in September 2020. Prior to initiating drilling activities, both Arkansas One-Call Utility Locating Services and a private utility locator were contracted to identify underground utilities and other potential obstructions in the work areas. Drilling activities were completed using a Geoprobe 7722DT direct push drilling rig capable of drilling with hollow stem augers and completion of soil probes using DPT.

A continuous soil core was obtained for geologic logging at boring locations HM-HP-02, HM-HP-04, HM-HP-05/MW-201 and MW-203. The soil profiles observed at each location logged by a Ramboll geologist. The continuous soil core was obtained using the GeoProbe™ Dual Tube 22

(DT-22) - 2.25 inch OD steel casing soil sampling system and 1.25 inch liners for soil sample retrieval. Boring logs for these four borings are provided in Appendix B.

Groundwater sampling was completed to delineate the extent of groundwater impact at HM-HP-01 and HM-HP-03 utilizing the GeoProbe™ SP-16 direct push sampling tool (hydropunch) (boring logs for HM-HP-01 and HM-HP-03 were not prepared since only hydropunch groundwater samples were collected at these locations) and at HM-HP-02, HM-HP-04 and HM-HP-05 using temporary well screens. The hydropunch soil borings were advanced using DPT until refusal, targeting the top of the shale at the bottom of the BTZ. At soil probe refusal, drilling rods were pulled up to expose the hydropunch 4 foot long stainless-steel screen (positioned with the base of the well screen at the total depth of the soil probe). Groundwater samples were collected at each location using a peristaltic pump and dedicated tubing. The sample point was purged prior to sampling to remove fines and achieve reasonable sample quality depending on the quantity of groundwater available. After groundwater sampling was completed, the soil probes for the hydropunch locations were properly abandoned using bentonite cement grout placed using a tremie tube. Groundwater samples were analyzed for VOCs by USEPA Method 8260. Laboratory analytical report are provided in Appendix C.

MW-201 was installed to a total depth of 37.5 feet bgs, targeting the top of the shale at the base of the BTZ. MW-201 was constructed with 10 feet of 2 inch diameter, 0.01 slot PVC screen and 2 inch diameter, solid flush threaded schedule 40 PVC riser pipe to ground surface. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 2 feet above the top of the 10 foot screen, followed by at least 2 feet of annular seal consisting of hydrated bentonite chips. The remainder of the annular space was grouted with a bentonite/cement grout mixture. The well was completed with an expandable locking well cap and a steel manhole cover set inside a 2 feet x 2 feet concrete pad, flush with the ground surface. A well construction log is provided in Appendix B. Prior to groundwater sampling of MW-201 the well was developed in accordance with ADEQ guidance (Interim Policy PRCR 96-4). The well was purged 24 hours after installation and was performed while monitoring pH, conductivity, DO and ORP. After stabilization of these parameters within 10% and a visual reduction in turbidity, samples were collected, and tubing was removed for proper disposal.

MW-203 was installed via hollow stem auger to a depth of 38 feet bgs targeting the top of the shale at the bottom of the BTZ. MW-203 was constructed with 5 feet of 2 inch diameter, 0.01 slot PVC screen coupled to 2 inch diameter, solid flush threaded schedule 40 PVC riser pipe to ground surface. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 2 feet above the top of the 5 foot screen, followed by at least 2 feet of annular seal consisting of hydrated bentonite chips. The remainder of the annular space was grouted with a bentonite/cement grout mixture. The well was completed with an expandable locking well cap and a steel manhole cover set inside a 2 feet x 2 feet concrete pad, flush with the ground surface. A well construction log is provided in Appendix B. A 5 foot screen interval was selected in order to isolate the lower saturated zone from shallow saturated soils encountered during drilling. Prior to groundwater sampling of MW-201 the well was developed in

accordance with ADEQ guidance (Interim Policy PRCR 96-4). The well was purged 24 hours after installation and was performed while monitoring pH, conductivity, DO and ORP. A very slow recharge rate was noted when purging was attempted, possibly due to fine-grained sediment clogging the well screen. To clear the well screen, approximately 20 gallons of deionized water was poured into the well and surged with a PVC bailer. Later attempts to purge and sample the well were successful, with an adequate recharge rate in MW-203. After stabilization of these parameters within 10% and a visual reduction in turbidity, samples were collected and tubing was removed for proper disposal.

The soil cuttings generated from drilling activities for HM-HP-02, HM-HP-04, HM-HP-05/MW-201 and MW-203 were collected and containerized in 55 gallon drums and staged on the former Whirlpool manufacturing facility property. Purge water generated from groundwater development activities was containerized for disposal and staged on the former Whirlpool manufacturing facility property. The soil and water investigation derived waste were disposed of as non-hazardous waste by ERS and transported to American Environmental Landfill, Inc on July 29, 2020. The soil and water generated during the installation and development of MW-203 is containerized and staged on the Whirlpool property for future disposal.

3.1.1 Results

The lithology encountered at the Harmon property consists predominantly of silty clays and clayey silts extending from the surface to depths ranging from 31-37 feet bgs with occasional fine sand or sandy clay (encountered in HM-HP-04 and MW-201). This is underlain by a sandy and/or clayey gravel zone or gravel with sand/clay to depths ranging from 31-37 feet bgs which correlates to the BTZ, which varies from 1.5 feet thick at MH-HP-4 to 5.5 feet thick at MW-201. The BTZ was noted to be wet at MW-203. Below the BTZ is a thin layer of silty clay at HM-HP-04. All borings encountered a shale or weathered shale bedrock. The top of shale bedrock was encountered at depths ranging from 36-39 feet bgs. The shale bedrock elevation is relatively flat to the south of the whirlpool property with the exception of MW-203, which is a high point relative to the surrounding boring locations. Cross Section B – B' in Appendix D provides a sectional view of the soil profile over the shale bedrock. The thickness of the BTZ varies in thickness and generally thickens to the southwest. An upper clayey sand/silty sand portion of the BTZ was encountered in every boring with the exception of HM-HP-02, ranging in thickness from 1.5 to 8 feet. Boring logs and well construction logs from this event are provided in Appendix B.

TCE was non-detect in all groundwater samples collected from the Harmon Property Investigation except MW-203, which had a TCE concentration of 0.57 µg/L. The first set of hydropunch locations successfully defined the plume boundary on the Harmon Property. Monitoring wells MW-201 and MW-203 were installed to continue monitoring the plume boundary and groundwater potentiometric surface in this area. Groundwater analytical results from the July and September 2020 investigation events are provided in Table 2. Laboratory analytical reports are provided in Appendix C.

The October 2020 annual sampling groundwater potentiometric surface map (Figure 6) indicates that groundwater on the Harmon property exhibits a flat groundwater flow gradient. The groundwater elevation at MW-203 was anomalously lower than the surrounding monitoring wells during the well gauging event at the annual monitoring event. This newly installed well will be redeveloped at the 2021 Semi-Annual Monitoring Event.

4 Northeast Plume Investigation

This report documents the findings from the supplemental investigation on the 6427 Jenny Lind property. The investigation was performed during the week of July 13, 2020 and included performing three soil borings (NE-HP-01 through NE-HP-03) and completing two of the borings as monitoring wells (MW-200 and MW-202). Ramboll, on behalf of Whirlpool, requested access from the Boys & Girls Club to perform a groundwater investigation on the subject property to characterize potential groundwater impacts from TCE to the north, south and east of MW-99 and install additional monitoring wells where required to monitor groundwater concentrations and potentiometric surface gradient east and south from the Northeast ISCR Treatment Zone completed in this area (December 2019 (Northeast ISCR Treatment Zone, Attachment F of the 2020 Annual Report). Prior to the ISCR injections, TCE concentrations in groundwater measured at MW-99 had been increasing, including detections of TCE at 8.1 µg/L, 23.6 µg/L and 72.6 µg/L in November 2018, April 2019, and October 2019, respectively. Approximately one year following completion of the Northeast ISCR Treatment Area TCE concentrations in groundwater measured at MW-99 in October 2020 were 0.85 µg/L.

The investigation activities summarized in this report were completed in accordance with the approved Northeast Supplemental Investigation Work Plan dated December 19, 2019 and approved by ADEQ on January 14, 2020.

4.1 6427 Jenny Lind Property Investigation

In accordance with the work plan, investigation activities were performed by completing soil borings at three locations consisting of NE-HP-01 (completed as MW-200), NE-HP-02 (completed as MW-202) and NE-HP-03 in July 2020. Prior to initiating drilling activities, both Arkansas One-Call Utility Locating Services and a private utility locator were contracted to identify underground utilities and other potential obstructions in the work areas. Drilling activities were completed using a Geoprobe 7722DT direct push drilling rig capable of drilling with hollow stem augers and completion of soil probes using DPT.

A continuous soil core was obtained for geologic logging at boring locations NE-HP-01/MW-200, NE-HP-02/MW-202 and NE-HP-03. The soil profiles observed at each location were logged by a Ramboll Geologist. The continuous soil core was obtained using the GeoProbe™ Dual Tube 22 (DT-22) - 2.25 inch OD steel casing soil sampling system and 1.25 inch liners for soil sample retrieval. Boring logs for these three borings are provided in Appendix B. The soil borings at NE-HP-01, NE-HP-02 and NE-HP-03 were advanced to depths of 25.2 feet, 25.1 feet and 23.5 feet bgs, respectively, using DPT until refusal, targeting the top of the shale at the bottom of the BTZ.

Groundwater sampling was completed to delineate the extent of groundwater impact at NE-HP-01 through NE-HP-03 using temporary well screens. Groundwater samples were collected at each location using a peristaltic pump and dedicated tubing. The temporary well screen was purged prior to sampling to remove fines and achieve reasonable sample quality depending on

the quantity of groundwater available. After groundwater sampling was completed, the soil probes for the hydropunch locations were properly abandoned using bentonite cement grout placed using a tremie tube. Groundwater samples were analyzed for VOCs by USEPA Method 8260. Laboratory analytical report are provided in Appendix C.

MW-200 and MW-202 were installed directly adjacent to borings NE-HP-01 and NE-HP-02, respectively. The drilling and installation of the Boys & Girls Club wells on the 6427 Jenny Lind parcel were completed using hollow stem auger methods. MW-200 and MW-202 were constructed with a 2 inch diameter schedule 40 PVC casing and a 10 foot long, 0.010 inch slotted 2 inch diameter schedule 40 PVC well screen to total depths of 25.2 and 24.2 feet bgs, respectively. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 2 feet above the top of the screen followed by 2 feet of annular seal consisting of hydrated bentonite pellets above the top of the sand pack. The remainder of the annular space was pressure grouted with a bentonite/cement grout installed with a tremie pipe from the bottom of the open well annulus to the surface. The well was completed with an expandable, locking well cap and covered with a steel cover flush with the ground surface. The well construction logs are provided in Appendix B.

MW-200 and MW-202 were developed in accordance with ADEQ guidance (Interim Policy PRCR 96-4) while monitoring pH, conductivity, DO and ORP. After stabilization of these parameters within 10% and a visual reduction in turbidity, samples were collected, and tubing was removed for proper disposal. The monitoring wells were surveyed by an Arkansas-licensed surveyor.

4.1.1 Results

The lithology at the 6427 Jenny Lind (Boys & Girls Club property) consisted of silty clay at the surface to depths of 17-18 feet bgs underlain by a clayey gravel, clayey sand or gravelly clay layer identified as the BTZ, over dry silty clay, underlain by shale. The range of material identified as the BTZ is apparent comparing NE-HP-03 where there was observed less than six inches of clayey (wet) sand inches over several feet of dry silty clay to MW-200 where several feet of gravel with clay and gravel with sand and clay (moist to wet) was observed. Cross Section C – C' in Appendix D provides a west to east sectional view of the soil profile over the shale bedrock. The BTZ appears to nearly pinch out at MW-99 before rebounding to several feet thick at MW-200 as the shale surface decreases in elevation to the east. Cross Section D – D' in Appendix D provides a north to south sectional view of the soil profile over the shale bedrock. The BTZ was encountered in all borings but as discussed above is limited to a few inches at NE-HP-03. Shale depths were used to further refine the shale bedrock map (Figure 5), indicating a low or trough at MW-99 extending north-northeast towards MW-184, with higher shale elevations south and west of MW-99.

Groundwater level monitoring data collected during this event with the additional monitoring wells indicated a greater northern gradient component from MW-202 to MW-184 than previously

observed. Additional water level data collection events will assist in determining how prevalent this northern gradient is (Figure 6).

Results from the initial groundwater sampling in July 2020 indicated that TCE was non-detect at NE-HP-01 (MW-200) (below 1.0 µg/L), 1.5 µg/L at NE-HP-02 (MW-202) and 0.17 µg/L at NE-HP-03 (Figure 4, Table 3). Subsequent groundwater sampling in October 2020 indicated that TCE was < 1.0 µg/L (0.25J) at MW-200 and 9.3 µg/L at MW-202. The two additional monitoring wells were installed to provide groundwater elevation data to determine localized potentiometric surface gradient and provide VOC monitoring south and east of the ISCR Treatment Zone completed in the area of MW-99. To the northeast, TCE was either non-detect or detected at less than 1 µg/L in all groundwater samples collected during this investigation. Currently, there continues to be no known complete exposure pathways to groundwater on the Boys & Girls Club property to cause health risk concerns.

5 Onsite Well Installations

In addition to the offsite investigations conducted at the former Whirlpool facility in 2020, supplemental onsite activities included:

- Installation of MW-198 in the source area to the north of the former Whirlpool manufacturing facility; and
- Installation of MW-204 to the southwest of the former Whirlpool manufacturing facility, in the area of boring location M-325.

5.1 Source Area (MW-198)

MW-198 was installed on July 15, 2020, in accordance with the approved Well Repair and Replacement Work Plan dated August 20, 2019, and the associated Response to ADEQ Correspondence Dated December 2, 2019, in which ADEQ “required the placement of a new monitoring well between IW-147 and IW-155 south southeast of the former location of MW-86." TCE concentrations in this area have historically been elevated e.g. MW-86 when last sampled April 2019 TCE in groundwater was 75,000 µg/L. In October 2020 the TCE concentration at IW-147 was 76,800 µg/L and at MW-198 TCE was 20,600 µg/L.

On July 15, 2020, Ramboll personnel oversaw the installation of MW-198 at the location requested by ADEQ. MW-198 was installed using hollow stem augers to a total depth of 29 feet bgs, targeting the top of the shale at the bottom of the BTZ. MW-198 was constructed with 10 feet of 0.010 inch slotted 2 inch diameter schedule 40 PVC screen coupled to 2 inch diameter schedule 40 PVC riser to surface. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 2 feet above the top of the screen followed by 5 feet of annular seal consisting of hydrated bentonite pellets above the top of the sand pack. The remainder of the annular space was pressure grouted with a bentonite/cement grout installed with a tremie pipe from the bottom of the open well annulus to the surface. The well was completed with an expandable, locking well cap and covered with a steel cover flush with the ground surface. The well construction logs are provided in Appendix B.

A continuous soil core was obtained and logged by a Ramboll geologist and monitored with a Photoionization Detector (PID) for organic vapors. The continuous soil core was obtained using the GeoProbe™ Dual Tube 22 (DT-22) - 2.25 inch OD steel casing soil sampling system and 1.25 inch liners for soil sample retrieval. Soil samples were collected from six intervals (15-17.5 feet bgs, 17.5-20 feet bgs , 20-22.5 feet bgs, 23-25 feet bgs, 25-27.5 feet bgs and 27.5-28 feet bgs and placed into Oil-In-Soil jars to test for the presence of dense non-aqueous phase liquid (DNAPL).

MW-198 was developed on July 18, 2020 in accordance with ADEQ guidance (Interim Policy PRCR 96-4) using a dedicated bailer. The well was purged 24 hours after installation and was performed while monitoring pH, conductivity, DO and ORP. After stabilization of these

parameters within 10% and a visual reduction in turbidity, tubing was removed for proper disposal.

5.1.1 Results

Lithology in the MW-198 boring consisted of reddish-brown silty clay from the surface to approximately 20 feet, underlain by a layer of gravel with clay and sand (identified as the BTZ) which extended from 20 feet bgs to 29 feet bgs and was underlain by weathered shale. Elevated PID readings were detected in the soil, ranging from 2.1 parts per million (ppm) at 0-2.5 feet bgs, to 250.5 ppm at 27.5-29.0 feet bgs.

Soil was collected from six intervals (15-17.5 feet bgs, 17.5-20 feet bgs, 20-22.5 feet bgs, 23-25 feet bgs, 25-27.5 feet bgs and 27.5-28 feet bgs) and placed into separate Oil-In-Soil jars to test for the presence of DNAPL. Soil chosen from the wettest portions of each interval, homogenized and added to the fill line in the jars, then deionized water was added to the water fill line as described in the provided instructions. In the presence of DNAPL a red dye will appear. No red dye or DNAPL was observed in all the soil samples collected.

Groundwater samples were collected from MW-198 for the first time in October 2020 during the annual Site wide monitoring event. The TCE concentration at MW-198 was 20,600 µg/L; concentrations of degradation constituents cis-1,2-DCE and vinyl chloride (VC) were 1,550 µg/L and 84.4 µg/L respectively.

5.2 Former M-325 Boring Location (MW-204)

MW-204 was installed on September 24, 2020, to delineate the onsite groundwater plume. MW-204 was installed in the area of the former M-325 boring location to the southwest of the former Whirlpool manufacturing building.

MW-204 was installed using hollow stem augers to a depth of 36 feet bgs, targeting the top of the shale at the bottom of the BTZ. MW-204 was constructed with 10 feet of 0.010 inch slotted 2 inch diameter schedule 40 PVC screen coupled to 2 inch diameter schedule 40 PVC riser to surface. A 20/40 grade sand pack was installed in the well annulus around the PVC screen to approximately 2 feet above the top of the screen followed by 3 feet of annular seal consisting of hydrated bentonite pellets above the top of the sand pack. The remainder of the annular space was pressure grouted with a bentonite/cement grout installed with a tremie pipe from the bottom of the open well annulus to the surface. The well was completed with an expandable, locking well cap and covered with a steel cover flush with the ground surface. The well construction logs are provided in Appendix B. Prior to groundwater sampling of MW-204, the well was developed in accordance with ADEQ guidance (Interim Policy PRCR 96-4). The well was purged 24 hours after installation and was performed while monitoring pH, conductivity, DO and ORP. A very slow recharge rate was noted when purging was attempted, possibly due to fine-grained sediment clogging the well screen. To clear the well screen, approximately 20 gallons of deionized water was poured into the well and surged with a PVC bailer. Later attempts to purge

and sample the well were successful, with an adequate recharge rate in MW-204. After stabilization of these parameters within 10% and a visual reduction in turbidity, samples were collected, and tubing was removed for proper disposal.

A continuous soil core was obtained and logged by a Ramboll geologist and monitored with a PID for organic vapors. The continuous soil core was obtained using the GeoProbe™ Dual Tube 22 (DT-22) - 2.25 inch OD steel casing soil sampling system and 1.25 inch liners for soil sample retrieval.

5.2.1 Results

Lithology in the MW-204 boring consisted of clayey silts from surface to a depth of 20 feet bgs, underlain by silty clay to a depth of 27 feet bgs. Underlaying the silty clay was a layer of fine sand, dense and saturated to a depth of 32.5 feet bgs, which was then underlain by sandy gravel (the BTZ) to terminus.

TCE was detected in the groundwater at MW-204 with a concentration of 34.8 µg/L. When MW-204 was sampled a second time during Annual monitoring event in October 2020, TCE was detected in the groundwater at MW-204 with a concentration of 55.6 µg/L.

6 Summary and Conclusions

This report has presented the results of multiple offsite investigations conducted in July and September 2020. A summary of the investigations and associated conclusions are as follows:

- TCE concentrations were detected above the RADD of 5 µg/L in nine groundwater samples collected on the McPherson Oil property and along Geren Road, including the westernmost sample location (MCP-HP-11), indicating that further investigation is necessary to delineate the extent of the Southwest Plume.
- At the Harmon property to the south, TCE was not detected above 1.0 µg/L in groundwater at any new 2020 investigative locations. The objective to delineate the extent of TCE groundwater impacts has been successfully completed. To mitigate future plume expansion to the south near TMW-36, Ramboll oversaw ISCR injections in October 2020 (discussed in the 2020 Annual ISCR Report).
- To the northeast, TCE was either non-detect or detected at less than 1 µg/L in all groundwater samples collected during this investigation. Sampling in October 2020 indicated results still less than 1 µg/L except at MW-202 where TCE was 9.3 µg/L. The source for this TCE is unknown based on the apparent groundwater gradient to the north and historical investigation information. Additional investigation will be needed to determine the origin of impacts to MW-203. Currently, there continues to be no known complete exposure pathways to groundwater on the Boys & Girls Club property to cause health risk concerns.
- MW-198 was installed as a source area well between IW-147 and IW-155 to further assess TCE concentrations in the source area.
- MW-204 was installed near the former boring location M-325 to further refine the plume boundary on the whirlpool property.

The monitoring wells installed during these events will continue to be monitored in conjunction with semi-annual groundwater monitoring events as defined within the 2015 RADD until such time as a reduced monitoring program has been agreed to by ADEQ.

Tables

TABLE 1
SOUTHWEST INVESTIGATION ANALYTICAL RESULTS
MCPHERSON OIL AND 1201 E GEREN ROAD
(JULY, SEPTEMBER OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Remedial Action Levels per ADEQ RADD Issued Dec 2013	MW-197	MW-197	MW-199	MW-199	MW-199	MCP-HP-01	MCP-HP-02	MCP-HP-03	MCP-HP-04	MCP-HP-05	MCP-HP-07
Field Sample ID		MW-197-WG-2020922	MW-197-202010	MCP-HP-06-WG-22	MW-199-WG-2020922	MW-199-202010	MCP-HP-01-WG-29.5	MCP-HP-02-WG-31	MCP-HP-03-WG-28	MCP-HP-04-WG-27	MCP-HP-05	MCP-HP-07-WG-23
Lab Sample ID		60349069001	60350519015	60342800005	60349069002	60350519020	60342478007	60342478006	60342478004	60342478005	60342626002	60342972001
Collection Depth (feet bgs)				22 - 22			29.5 - 29.5	91 - 31	28 - 28	27 - 27		23 - 23
Sample Date		09/22/2020	10/06/2020	07/15/2020	09/22/2020	10/06/2020	07/13/2020	07/13/2020	07/13/2020	07/13/2020	07/14/2020	07/16/2020
Sample Method		Peristaltic Pump	Low Flow	Peristaltic Pump	Peristaltic Pump	Low Flow	Hydropunch	Hydropunch	Hydropunch	Hydropunch	Peristaltic Pump	Hydropunch
Comments												
Volatile Organic Compounds												
Acetone	12000	U (4.7)	U (4.7)	7.9 J (3.3)	U (4.7)	U (4.7)	U (3.3)	7.8 J (3.3)	9.6 J (3.3)	U (16.5)	U (3.3)	U (7.4)
Benzene	5.0	U (0.088)	U (0.088)	U (0.079)	0.19 J (0.088)	0.15 J (0.088)	U (0.079)	0.13 J (0.079)	0.23 J (0.079)	U (0.40)	U (0.079)	0.26 J (0.13)
2-Butanone	4900	U (2.4)	U (2.4)	11.1 (0.70)	U (2.4)	U (2.4)	U (0.70)	5.6 J (0.70)	2.3 J (0.70)	11.0 J (3.5)	U (0.70)	8.2 J (1.8)
Carbon Disulfide	720	U (0.24)	U (0.24)	U (0.16)	U (0.24)	U (0.24)	U (0.16)	U (0.16)	U (0.16)	U (0.80)	0.23 J (0.16)	U (0.086)
Chlorobenzene	100	1.7 (0.23)	1.7 (0.23)	0.14 J (0.13)	0.48 J (0.23)	0.62 J (0.23)	U (0.13)	U (0.13)	0.16 J (0.13)	U (0.65)	0.24 J (0.13)	U (0.17)
Chloroform	80	U (0.17)	U (0.17)	0.24 J (0.10)	0.19 J (0.17)	0.22 J (0.17)	0.13 J (0.10)	0.10 J (0.10)	0.38 J (0.10)	0.51 J (0.50)	U (0.10)	U (0.25)
1,1-Dichloroethane	2.4	U (0.098)	U (0.098)	U (0.097)	0.19 J (0.098)	0.24 J (0.098)	U (0.097)	U (0.097)	U (0.097)	U (0.48)	U (0.097)	U (0.12)
1,2-Dichloroethane	5.0	U (0.23)	U (0.23)	U (0.14)	U (0.23)	U (0.23)	U (0.14)	U (0.14)	U (0.14)	U (0.70)	U (0.14)	U (0.33)
1,1-Dichloroethene	7.0	U (0.21)	U (0.21)	0.30 J (0.22)	0.41 J (0.21)	0.49 J (0.21)	U (0.22)	U (0.22)	U (0.22)	U (1.1)	U (0.22)	U (0.14)
cis-1,2-Dichloroethene	70	7.8 (0.15)	8.4 (0.15)	4.7 (0.17)	5.1 (0.15)	6.7 (0.15)	U (0.17)	0.60 J (0.17)	4.4 (0.17)	U (0.85)	0.91 J (0.17)	1.1 (0.18)
Ethyl Benzene	700	U (0.18)	U (0.18)	0.29 J (0.12)	U (0.18)	U (0.18)	0.67 J (0.12)	0.47 J (0.12)	0.83 J (0.12)	1.3 J (0.60)	0.14 J (0.12)	0.40 J (0.20)
4-Methyl-2-pentanone	1000	U (1.4)	U (1.4)	U (0.56)	U (1.4)	U (1.4)	U (0.56)	1.2 J (0.56)	1.3 J (0.56)	U (2.8)	U (0.56)	U (1.3)
Methylene Chloride	5.0	U (0.81)	U (0.81)	U (0.27)	U (0.81)	U (0.81)	U (0.27)	U (0.27)	U (0.27)	2.2 J (1.4)	U (0.27)	U (0.35)
Toluene	1000	U (0.18)	U (0.18)	U (0.14)	U (0.18)	U (0.18)	U (0.14)	U (0.14)	0.29 J (0.14)	U (0.70)	U (0.14)	0.36 J (0.17)
Trichloroethene	5.0	17.0 (0.25)	20.1 (0.25)	41.8 (0.17)	66.7 (0.25)	92.3 (0.25)	U (0.17)	1.2 (0.17)	52.8 (0.17)	3.5 J (0.85)	6.4 (0.17)	14.9 (0.097)
Vinyl Chloride	2.0	0.99 J (0.25)	0.96 J (0.25)	0.40 J (0.11)	0.35 J (0.25)	0.35 J (0.25)	U (0.11)	U (0.11)	0.11 J (0.11)	U (0.55)	U (0.11)	U (0.17)
Xylenes (total)	10000	U (0.54)	U (0.54)	U (0.34)	U (0.54)	U (0.54)	3.9 (0.34)	2.3 J (0.34)	4.2 (0.34)	U (1.7)	U (0.34)	U (0.42)
Metals												
Iron		--	--	--	--	--	--	--	--	--	--	--
Monitored Natural Attenuation Parameters (Laboratory)												
Acetic acid		--	--	--	--	--	--	--	--	--	--	--
Organic Carbon (total)		--	--	--	--	--	--	--	--	--	--	--
Organic Carbon (dissolved)		--	--	--	--	--	--	--	--	--	--	--
Chloride		--	--	--	--	--	--	--	--	--	--	--
Iron, Ferric		--	--	--	--	--	--	--	--	--	--	--
Iron, Ferrous		--	4500	--	--	700	--	--	--	--	--	--
Nitrogen		--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (As N)		--	--	--	--	--	--	--	--	--	--	--
Propionic Acid		--	--	--	--	--	--	--	--	--	--	--
Sulfate		--	--	--	--	--	--	--	--	--	--	--
B_Gases												
Methane		--	--	--	--	--	--	--	--	--	--	--
Ethane		--	--	--	--	--	--	--	--	--	--	--
Ethene		--	--	--	--	--	--	--	--	--	--	--
Field Parameters												
Specific Conductivity (Field Analysis) [uS/cm]		--	793	--	--	871	--	--	--	--	--	--
Depth to Water [feet BTOC]		--	11.2	--	--	9.13	--	--	--	--	--	--
Dissolved Oxygen		--	120	--	--	120	--	--	--	--	--	--
Oxidation reduction potential [mV]		--	-68.4	--	--	66.5	--	--	--	--	--	--
pH (Field Analysis) [SU]		--	6.36	--	--	6.23	--	--	--	--	--	--
Temperature (Field) [C]		--	20.3	--	--	20.6	--	--	--	--	--	--
Turbidity (Field Parameters) [NTU]		--	0.52	--	--	12	--	--	--	--	--	--
Geochemical												
Formic acid		--	--	--	--	--	--	--	--	--	--	--

Notes:

1 All concentrations are presented in µg/L (ppb) except where otherwise
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD

µg/L = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VOC = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses
RADD = Remedial action decision document
ADEQ = Arkansas Department of Energy and Environment Division of Environmental Quality
µg/L = Micrograms per liter

RAMBOLL

TABLE 1
SOUTHWEST INVESTIGATION ANALYTICAL RESULTS
MCPHERSON OIL AND 1201 E GEREN ROAD
(JULY, SEPTEMBER OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Remedial Action Levels per ADEQ RADD Issued Dec 2013	MCP-HP-08	MCP-HP-09	MCP-HP-10	MCP-HP-11	MCP-HP-12	MCP-HP-13	TMW-26	TMW-30	TMW-32
Field Sample ID		MCP-HP-08-WG-20200923	MCP-HP-09-WG-20200923	MCP-HP-10-WG-20200923	MCP-HP-11-WG-20200924	MCP-HP-12-WG-20200925	MCP-HP-13-WG-20200925	TMW-26-202010	TMW-30-202010	TMW-32-202010
Lab Sample ID		60349217003	60349217001	60349217002	60349514001	60349514002	60349514003	60350715010	60350715005	60350822003
Collection Depth (feet bgs)										
Sample Date		09/23/2020	09/23/2020	09/23/2020	09/24/2020	09/25/2020	09/25/2020	10/07/2020	10/07/2020	10/08/2020
Sample Method		Peristaltic Pump	Hydropunch	Hydropunch	Peristaltic Pump	Hydropunch	Hydropunch	Low Flow	Low Flow	Low Flow
Comments										
Volatile Organic Compounds										
Acetone	12000	U (23.5)	U (4.7)	U (23.5)	U (23.5)	U (4.7)	U (4.7)	7.5 J (4.7)	U (94.0)	U (4.7)
Benzene	5.0	0.52 J (0.44)	U (0.088)	U (0.44)	U (0.44)	0.18 J (0.088)	U (0.088)	U (0.088)	U (1.8)	U (0.088)
2-Butanone	4900	U (12.0)	U (2.4)	U (12.0)	U (12.0)	U (2.4)	U (2.4)	U (2.4)	U (48.0)	UJ (2.4)
Carbon Disulfide	720	U (1.2)	U (0.24)	U (1.2)	U (1.2)	0.30 J (0.24)	U (0.24)	0.50 J (0.24)	8.7 J (4.8)	U (0.24)
Chlorobenzene	100	U (1.2)	U (0.23)	U (1.2)	U (1.2)	U (0.23)	0.63 J (0.23)	U (0.23)	U (4.6)	1.9 (0.23)
Chloroform	80	U (0.85)	U (0.17)	U (0.85)	U (0.85)	U (0.17)	U (0.17)	U (0.17)	U (3.4)	U (0.17)
1,1-Dichloroethane	2.4	U (0.49)	U (0.098)	U (0.49)	U (0.49)	U (0.098)	0.13 J (0.098)	U (0.098)	U (2.0)	U (0.098)
1,2-Dichloroethane	5.0	U (1.2)	U (0.23)	U (1.2)	U (1.2)	U (0.23)	U (0.23)	U (0.23)	U (4.6)	0.27 J (0.23)
1,1-Dichloroethene	7.0	U (1.0)	U (0.21)	U (1.0)	U (1.0)	U (0.21)	0.35 J (0.21)	U (0.21)	U (4.2)	U (0.21)
cis-1,2-Dichloroethene	70	U (0.75)	U (0.15)	2.8 J (0.75)	2.9 J (0.75)	0.45 J (0.15)	6.5 (0.15)	1.1 (0.15)	U (3.0)	7.3 (0.15)
Ethyl Benzene	700	U (0.90)	U (0.18)	U (0.90)	U (0.90)	U (0.18)	U (0.18)	U (0.18)	U (3.6)	U (0.18)
4-Methyl-2-pentanone	1000	U (7.0)	U (1.4)	U (7.0)	U (7.0)	U (1.4)	U (1.4)	U (1.4)	U (28.0)	U (1.4)
Methylene Chloride	5.0	U (4.0)	U (0.81)	U (4.0)	U (4.0)	U (0.81)	U (0.81)	U (0.81)	U (16.2)	U (0.81)
Toluene	1000	U (0.90)	U (0.18)	U (0.90)	U (0.90)	0.21 J (0.18)	U (0.18)	8.2 (0.18)	U (3.6)	U (0.18)
Trichloroethene	5.0	U (1.2)	U (0.25)	30.2 (1.2)	18.1 (1.2)	3.9 (0.25)	55.7 (0.25)	3.7 (0.25)	12.7 J (5.0)	27.6 (0.25)
Vinyl Chloride	2.0	U (1.2)	U (0.25)	U (1.2)	U (1.2)	U (0.25)	0.31 J (0.25)	0.99 J (0.25)	U (5.0)	0.90 J (0.25)
Xylenes (total)	10000	U (2.7)	U (0.54)	U (2.7)	U (2.7)	U (0.54)	U (0.54)	U (0.54)	U (10.8)	U (0.54)
Metals										
Iron		--	--	--	--	--	--	34800 (50.0)	101000 (500)	6150 (50.0)
Monitored Natural Attenuation Parameters (Laboratory)										
Acetic acid		--	--	--	--	--	--	12000 (10000)	15000 (10000)	440 J (500)
Organic Carbon (total)		--	--	--	--	--	--	58700 (50000)	284000 (100000)	940 J (1000)
Organic Carbon (dissolved)		--	--	--	--	--	--	58700 (10000)	195000 (100000)	850 J (1000)
Chloride		--	--	--	--	--	--	196000 (20000)	188000 (20000)	118000 (20000)
Iron, Ferric		--	--	--	--	--	--	32660	100380	(-99990)
Iron, Ferrous		--	--	--	--	--	--	2140	620	7000
Nitrogen		--	--	--	--	--	--	160 (100)	U (100)	U (100)
Nitrogen, Nitrate (As N)		--	--	--	--	--	--	160 (100)	U (100)	U (100)
Propionic Acid		--	--	--	--	--	--	U (10000)	15000 (10000)	67 J (500)
Sulfate		--	--	--	--	--	--	5300 (1000)	14400 (1000)	38700 (5000)
B_Gases										
Methane		--	--	--	--	--	--	16000 (5.0)	14000 (5.0)	6400 (5.0)
Ethane		--	--	--	--	--	--	0.58 J (1.0)	1.1 (1.0)	U (1.0)
Ethene		--	--	--	--	--	--	1.0 (1.0)	2.3 (1.0)	0.48 J (1.0)
Field Parameters										
Specific Conductivity (Field Analysis) [uS/cm]		--	--	--	--	--	--	3227	4290	897
Depth to Water [feet BTOC]		--	--	--	--	--	--	15.45	11.78	10.63
Dissolved Oxygen		--	--	--	--	--	--	70	10	480
Oxidation reduction potential [mV]		--	--	--	--	--	--	-171.9	-223.1	-51.3
pH (Field Analysis) [SU]		--	--	--	--	--	--	7	7.24	6.43
Temperature (Field) [C]		--	--	--	--	--	--	18.5	19	20.1
Turbidity (Field Parameters) [NTU]		--	--	--	--	--	--	22.1	2000	20.4
Geochemical										
Formic acid		--	--	--	--	--	--	90000 (10000)	93000 (10000)	4900 (500)

Notes:

1 All concentrations are presented in µg/L (ppb) except where otherwise
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD
µg/L = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VOC = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses
RADD = Remedial action decision document
ADEQ = Arkansas Department of Energy and Environment Division of Environmenta
µg/L = Micrograms per liter

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TABLE 2
SOUTH PROPERTY ANALYTICAL SUMMARY
HARMON PROPERTY
(JULY, SEPTEMBER, OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Remedial Action Levels per ADEQ RADD Issued Dec 2013	MW-201	MW-201	HM-HP-01	HM-HP-02	HM-HP-03	HM-HP-04	MW-203	TMW-36	TMW-36B
Field Sample ID		HM-HP-05-WG-37	MW-201-202010	HM-HP-01-WG-39.5	HM-HP-02-WG-31	HM-HP-03-WG-37	HM-HP-04-WG-38	MW-203-WG-20200925	TMW-36-202010	TMW-36B-202010
Lab Sample ID		60342800004	60350715028	60342478001	60342478002	60342478003	60342800003	60349514004	60350359004	60350359007
Collection Depth (feet bgs)		37 - 37		39.5 - 39.5	31 - 31	37 - 37	38 - 38			
Sample Date		07/15/2020	10/07/2020	07/13/2020	07/13/2020	07/13/2020	07/15/2020	09/25/2020	10/05/2020	10/05/2020
Sample Method		Peristaltic Pump	Low Flow	Hydropunch	Hydropunch	Hydropunch	Peristaltic Pump	Peristaltic Pump	Low Flow	Low Flow
Comments										
Volatile Organic Compounds										
Acetone	12000	6.6 J (3.3)	U (4.7)	U (3.3)	U (3.3)	5.9 J (3.3)	U (3.3)	4.9 J (4.7)	U (4.7)	U (4.7)
Benzene	5.0	0.30 J (0.079)	U (0.088)	U (0.079)	U (0.079)	U (0.079)	U (0.079)	U (0.088)	U (0.088)	0.18 J (0.088)
2-Butanone	4900	4.0 J (0.70)	U (2.4)	U (0.70)	U (0.70)	U (0.70)	1.4 J (0.70)	U (2.4)	U (2.4)	U (2.4)
Chloroform	80	U (0.10)	U (0.17)	U (0.10)	U (0.10)	U (0.10)	U (0.10)	U (0.17)	0.22 J (0.17)	U (0.17)
1,1-Dichloroethane	2.4	U (0.097)	U (0.098)	U (0.097)	U (0.097)	U (0.097)	U (0.097)	U (0.098)	1.0 (0.098)	U (0.098)
1,1-Dichloroethene	7.0	U (0.22)	U (0.21)	U (0.22)	U (0.22)	U (0.22)	U (0.22)	U (0.21)	1.3 (0.21)	U (0.21)
cis-1,2-Dichloroethene	70	U (0.17)	U (0.15)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	U (0.15)	8.7 (0.15)	U (0.15)
Ethyl Benzene	700	0.53 J (0.12)	U (0.18)	0.26 J (0.12)	0.20 J (0.12)	0.37 J (0.12)	0.24 J (0.12)	U (0.18)	U (0.18)	U (0.18)
Tetrachloroethene	5.0	U (0.22)	U (0.15)	U (0.22)	U (0.22)	U (0.22)	U (0.22)	U (0.15)	0.20 J (0.15)	U (0.15)
Toluene	1000	0.36 J (0.14)	U (0.18)	U (0.14)	U (0.14)	U (0.14)	U (0.14)	0.33 J (0.18)	U (0.18)	U (0.18)
Trichloroethene	5.0	U (0.17)	U (0.25)	U (0.17)	U (0.17)	U (0.17)	U (0.17)	0.57 J (0.25)	299 (2.5)	U (0.25)
Vinyl Chloride	2.0	U (0.11)	U (0.25)	U (0.11)	U (0.11)	U (0.11)	U (0.11)	U (0.25)	0.40 J (0.25)	U (0.25)
Monitored Natural Attenuation Parameters (Laboratory)										
Acetic acid		--	--	--	--	--	--	--	390 J (500)	--
Formic acid		--	--	--	--	--	--	--	4500 (500)	--
Organic Carbon (total)		--	--	--	--	--	--	--	370 J (1000)	--
Organic Carbon (dissolved)		--	--	--	--	--	--	--	460 J (1000)	--
Chloride		--	--	--	--	--	--	--	162000 (10000)	--
Iron, Ferrous		--	110	--	--	--	--	--	20	5000
Nitrogen		--	--	--	--	--	--	--	16700 (500)	--
Nitrogen, Nitrate (As N)		--	--	--	--	--	--	--	16700 (500)	--
Sulfate		--	--	--	--	--	--	--	56800 (10000)	--
Gases										
Methane		--	--	--	--	--	--	--	3300 (5.0)	--
Ethane		--	--	--	--	--	--	--	1.2 (1.0)	--
Field Parameters										
Specific Conductivity (Field Analysis) [uS/cm]		--	422.1	--	--	--	--	--	847	1819
Depth to Water [feet BTOC]		--	20.47	--	--	--	--	--	24.89	25.18
Dissolved Oxygen		--	280	--	--	--	--	--	150	160
Oxidation reduction potential [mV]		--	42	--	--	--	--	--	219	-115.7
pH (Field Analysis) [SU]		--	5.48	--	--	--	--	--	5.74	6.38
Temperature (Field) [C]		--	20.7	--	--	--	--	--	21	20.6
Turbidity (Field Parameters) [NTU]		--	5.52	--	--	--	--	--	0.66	8.74

Notes:

1 All concentrations are presented in µg/L (ppb) except where otherwise
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued Dec 2013 are double underlined.

µg/L = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VOC = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses
RADD = Remedial action decision document
ADEQ = Arkansas Department of Energy and Environment Division of Environmental Quality
µg/L = Micrograms per liter

RAMBOLL

TABLE 3
NORTHEAST INVESTIGATION ANALYTICAL SUMMARY
NORTHEAST PLUME
(JULY, OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-87	MW-91	MW-99	MW-184	MW-200	MW-200	MW-202	MW-202	NE-HP-03
Field Sample ID		MW-87-202010	MW-91-202010	MW-99-202010	MW-184-202010	NE-HP-01	MW-200-202010	NE-HP-02-WG-24.7	MW-202-202010	NE-HP-03-WG-24.3
Lab Sample ID(s)	Remedial Action Levels per ADEQ RADD Issued Dec 2013	60350858011; 60350822026; 029RJ-12	60350519008	60350715001	60350715031	60342626001	60350822020	60342800001	60350822014	60342800002
Collection Depth (feet bgs)								24.7		
Sample Date		10/08/2020	10/06/2020	10/07/2020	10/7/2020	07/14/2020	10/08/2020	07/15/2020	10/08/2020	07/15/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Peristaltic Pump	Low Flow	Peristaltic Pump	Low Flow	Perstaltic Pump
Comments										
Volatile Organic Compounds										
Acetone	12000	U (4.7)	77.5 (4.7)	330 J+ (4.7)	U (4.7)	U (3.3)	U (4.7)	6.6 J (3.3)	U (4.7)	5.8 J (3.3)
Benzene	5.0	U (0.088)	0.19 J (0.088)	0.16 J (0.088)	U (0.088)	U (0.079)	U (0.088)	0.16 J (0.079)	U (0.088)	U (0.079)
2-Butanone	4900	U (2.4)	131 (2.4)	1360 (24.0)	U (2.4)	U (0.70)	U (2.4)	1.8 J (0.70)	U (2.4)	3.2 J (0.70)
Carbon Disulfide	720	U (0.24)	1.3 J (0.24)	1.1 J (0.24)	U (0.24)	U (0.16)	U (0.24)	U (0.16)	U (0.24)	U (0.16)
1,1-Dichloroethane	2.4	1.1 (0.098)	0.21 J (0.098)	U (0.098)	U (0.098)	U (0.097)	U (0.098)	U (0.097)	U (0.098)	U (0.097)
1,1-Dichloroethene	7.0	3.2 (0.21)	0.76 J (0.21)	U (0.21)	U (0.21)	U (0.22)	U (0.21)	U (0.22)	U (0.21)	U (0.22)
cis-1,2-Dichloroethene	70	22.3 (0.15)	136 (0.15)	5.0 (0.15)	U (0.15)	U (0.17)	U (0.15)	0.36 J (0.17)	1.1 (0.15)	U (0.17)
trans-1,2-Dichloroethene	100	0.45 J (0.15)	0.41 J (0.15)	U (0.15)	U (0.15)	U (0.17)	U (0.15)	U (0.17)	U (0.15)	U (0.17)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.18)	U (0.18)	U (0.12)	U (0.18)	0.18 J (0.12)	U (0.18)	0.35 J (0.12)
2-Hexanone	34	U (1.5)	U (1.5)	32.5 (1.5)	U (1.5)	U (1.0)	U (1.5)	U (1.0)	U (1.5)	U (1.0)
4-Methyl-2-pentanone	1000	U (1.4)	8.5 J (1.4)	1.6 J (1.4)	U (1.4)	U (0.56)	U (1.4)	U (0.56)	U (1.4)	U (0.56)
Tetrachloroethene	5.0	3.4 (0.15)	0.37 J (0.15)	U (0.15)	U (0.15)	U (0.22)	U (0.15)	U (0.22)	U (0.15)	U (0.22)
Toluene	1000	U (0.18)	2.2 (0.18)	U (0.18)	U (0.18)	U (0.14)	U (0.18)	0.30 J (0.14)	U (0.18)	U (0.14)
Trichloroethene	5.0	320 (2.5)	51.9 (0.25)	0.85 J (0.25)	0.40 J (0.25)	U (0.17)	0.25 J (0.25)	1.5 (0.17)	9.3 (0.25)	0.17 J (0.17)
Vinyl Chloride	2.0	U (0.25)	0.67 J (0.25)	U (0.25)	U (0.25)	U (0.11)	U (0.25)	U (0.11)	U (0.25)	U (0.11)
Metals										
Iron		1140 (50.0)	24200 (50.0)	130000 M1 (500)	--	--	--	--	--	--
Monitored Natural Attenuation Parameters (Laboratory)										
Acetic acid		--	24000 (5000)	940000 (50000)	--	--	--	--	--	--
Butyric acid		--	1800 J (5000)	450000 (50000)	--	--	--	--	--	--
Formic acid		--	45000 (5000)	110000 (50000)	--	--	--	--	--	--
1-Butanecarboxylic Acid		--	870 J (5000)	250000 (50000)	--	--	--	--	--	--
3-methyl-Butanoic acid		--	U (5000)	23000 (10000)	--	--	--	--	--	--
n-Hexanoic acid		--	U (5000)	37000 (10000)	--	--	--	--	--	--
Organic Carbon (total)		380 J (1000)	68500 (10000)	2850000 J (500000)	--	--	--	--	--	--
Organic Carbon (dissolved)		--	52900 (5000)	2920000 J (500000)	--	--	--	--	--	--
Chloride		--	127000 (20000)	137000 (20000)	--	--	--	--	--	--
Iron, Ferric		1010	21500	121800	--	--	--	--	--	--
Iron, Ferrous		130	2700	8200	140	--	220	--	170	--
Nitrogen		1900 (100)	U (100)	U (100)	--	--	--	--	--	--
Nitrogen, Nitrate (As N)		1900 (100)	U (100)	U (100)	--	--	--	--	--	--
Propionic Acid		--	32000 (5000)	3300000 (250000)	--	--	--	--	--	--
Pyruvic Acid		--	U (5000)	21000 (10000)	--	--	--	--	--	--
Sulfate		11800 (1000)	1300 (1000)	24700 (2000)	--	--	--	--	--	--
Gases										
Methane		43 (5.0)	6900 (5.0)	12000 (5.0)	--	--	--	--	--	--
Ethane		0.64 J (1.0)	0.80 J (1.0)	1.2 (1.0)	--	--	--	--	--	--
Ethene		U (1.0)	2.6 (1.0)	2.5 (1.0)	--	--	--	--	--	--
Hydrogen (H2) [nM]		0.98 J (1.9)	--	--	--	--	--	--	--	--
Field Parameters										
Specific Conductivity (Field Analysis) [uS/cm]		545	2236	8328	134.4	--	234.3	--	419.9	--
Depth to Water [feet BTOC]		12.31	12.2	10	9.3	--	10.41	--	9.79	--
Dissolved Oxygen		90	100	120	900	--	330	--	510	--
Oxidation reduction potential [mV]		92.7	-136.3	-164.3	141	--	34.1	--	152.5	--
pH (Field Analysis) [SU]		5.63	6.85	7.05	5.57	--	6.25	--	6.24	--
Temperature (Field) [C]		25.1	24.4	20.9	20.9	--	22.2	--	21.1	--
Turbidity (Field Parameters) [NTU]		13.9	28.3	19	8.6	--	134	--	191	--

Notes:

1 All concentrations are presented in µg/L (ppb) except where otherwise
2 Only compounds with at least one detection are shown.
3 The detection limit for other VOCs is the sample quantitation limit.
4 Concentrations that exceed the Remedial Action Levels per ADEQ RADD
µg/L = Micrograms per liter
ppb = Parts per billion
bgs = Below ground surface
VOC = Volatile organic compound
U = Not detected
J = Estimated concentration
( ) = Method detection limit for VOCs; reporting detection limit for other analyses
RADD = Remedial action decision document
ADEQ = Arkansas Department of Energy and Environment Division of Environmental Quality
µg/L = Micrograms per liter

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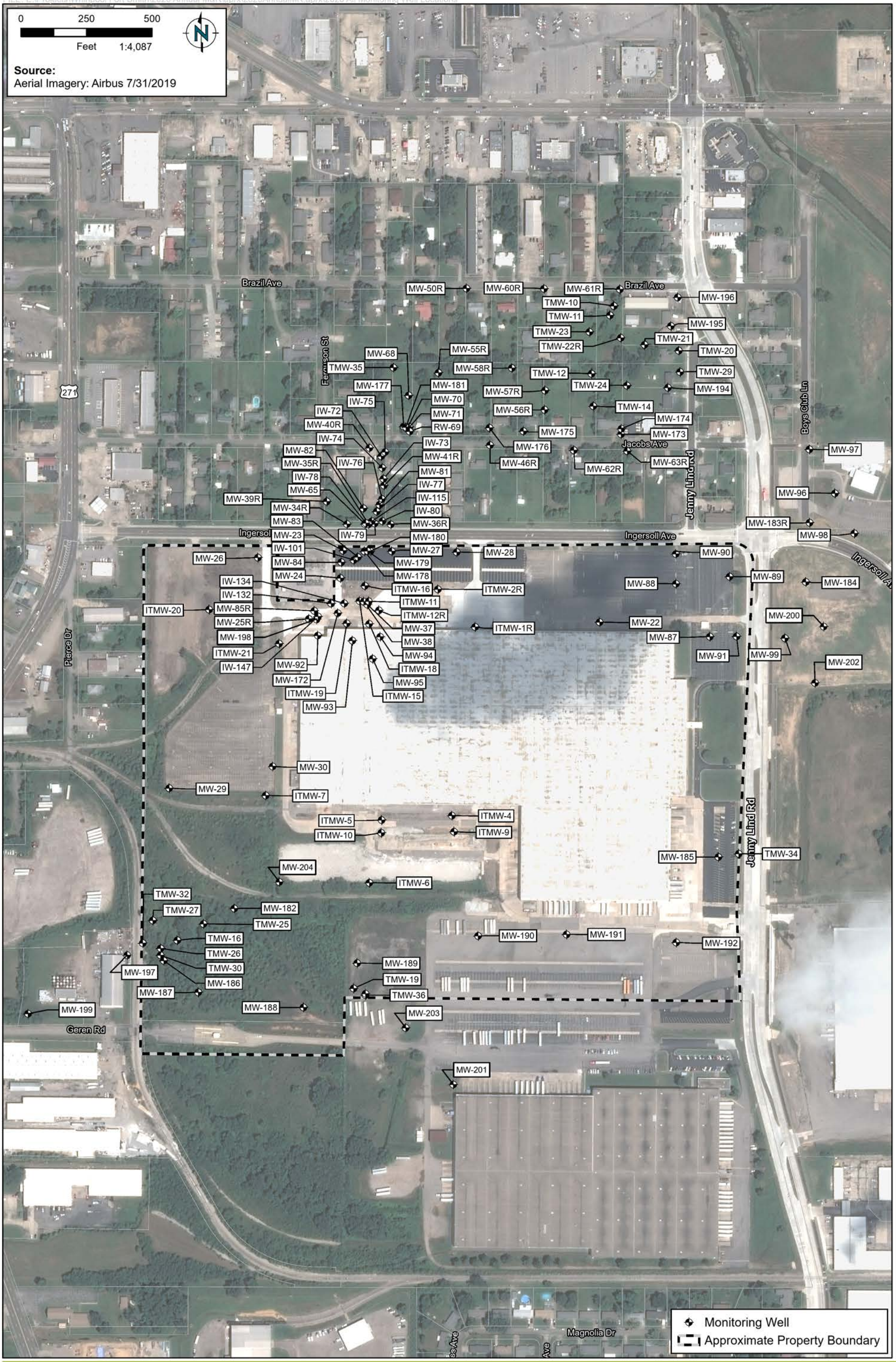
Figures

FILE: E:\Projects\Whirlpool Fort Smith\2020 Annual M&R\aprx\2020AnnualMR.aprx\2020 All Monitoring Well Locations



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DRAFTED BY: FK/KNB | DATE: 12/22/2020

2020 MONITORING WELL LOCATIONS

Whirlpool Facility - Fort Smith, Arkansas

Figure 1

PROJECT: 1690016820

FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&P\appx\2020AnnualMR.aprx\Figure 1 SW Investigation



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DRAFTED BY: KNB | DATE: 01/11/2021

SOUTHWEST INVESTIGATION TCE CONCENTRATION MAP

Whirlpool Facility - Fort Smith, Arkansas

Figure 2

PROJECT: 1690016820

FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual MR\appx\2020AnnualMR.aprx\Figure 2 S Investigation



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SOUTH PROPERTY INVESTIGATION TCE CONCENTRATION MAP

Whirlpool Facility - Fort Smith, Arkansas

Figure 3

PROJECT: 1690016820



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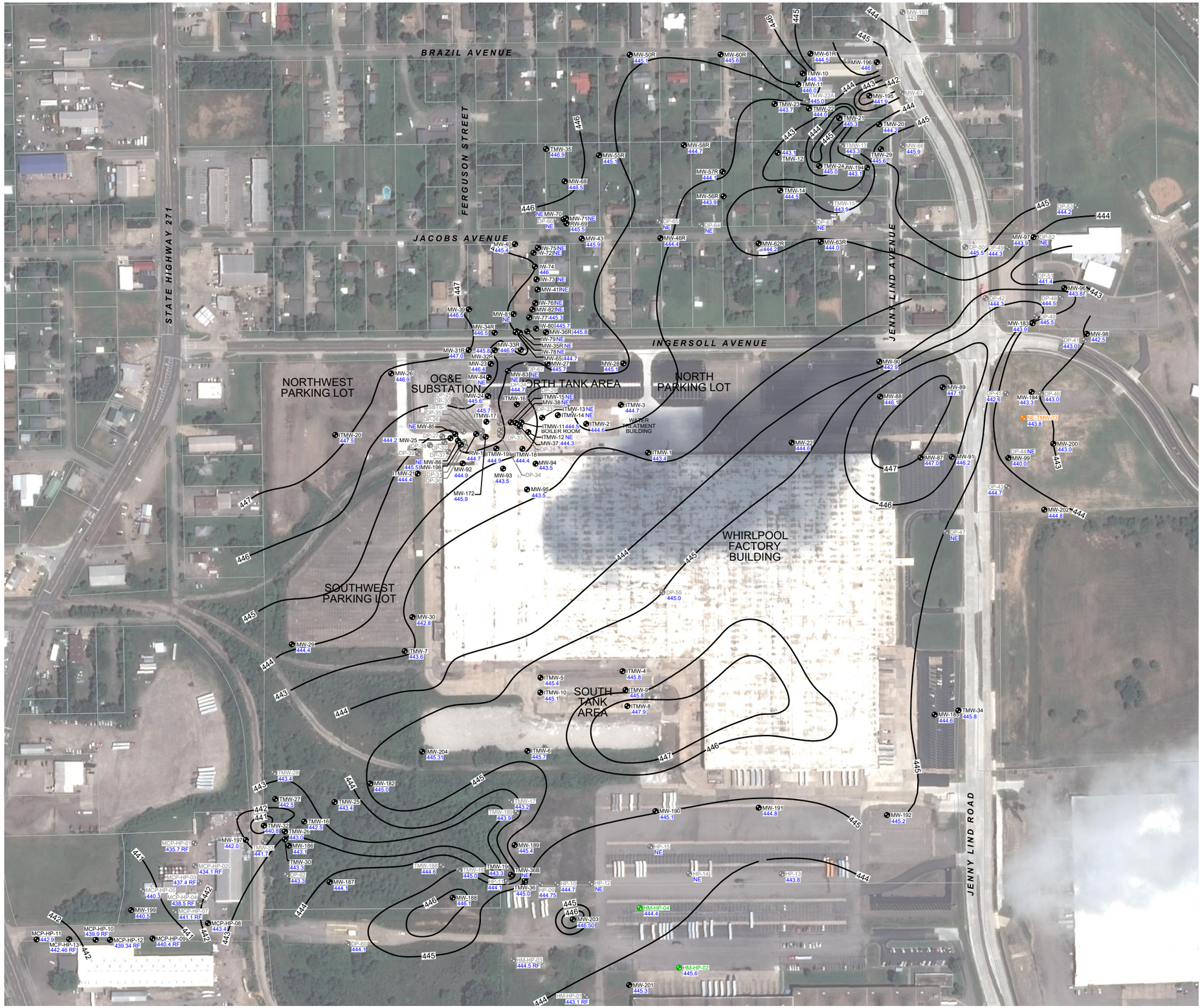
NORTHEAST INVESTIGATION TCE CONCENTRATION MAP

Whirlpool Facility - Fort Smith, Arkansas

Figure 4

DRAFTED BY: KNB | DATE: 01/11/2021 | PROJECT: 1690016820

FILE: D:\GIS\PROJECT\202\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&R\aprx\2020AnnualMR.aprx\Figure 3 NE Investigation



AERIAL PHOTOGRAPH OBTAINED FROM AIRBUS IMAGERY DATED 7/31/2019.

LEGEND

- MONITORING WELL
- SOIL BORING
- TEMPORARY MONITORING WELL
- ABANDONED MONITORING WELL AND HYDROPUNCH
- 444 — TOP OF SHALE CONTOUR (1 FT INTERVAL)
- 443.8 TOP OF SHALE (ELEVATION ABOVE MEAN SEA LEVEL FT)
- NE NOT ENCOUNTERED
- RF REFUSAL

0 320
SCALE IN FEET

TOP OF COMPETENT SHALE

WHIRLPOOL FACILITY
FORT SMITH, ARKANSAS

RAMBOLL

FIGURE 5

DRAFTED BY: CKL | DATE: 1/12/2021 | 1690016820

L:\Loop Project Files_CAD\1690016820_Whirlpool Ft Smith, AR_PHII\05_Top of Competent Shale (2021-01).dwg

FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&R\aprx\2020AnnualMR.aprx\Oct 2020 Potentiometric Surface Map_1ft_2020

0 200 400 600
Feet
1:3,927

Notes
- Water levels measured October 5th, 2020.
- Water levels in ft.
- Only measured wells shown.
- * indicates wells not used in contouring.

Brazil Ave
Ingersoll Ave
Geren Rd
Pierce Dr
Ferguson St
Jacobs Ave
Jenny Lind Rd
Boys Club
271

MW-55R: 464.18
MW-68: 464.23
TMW-35: 464.4
MW-71: 463.95
MW-70: 464.34
IW-75: 464.14
IW-72: 463.96
MW-40R: 464.07
IW-74: 464.04
IW-73: 464.12
MW-41R: 464.42
MW-82: 464.04
IW-115: 463.93
MW-35R: 464.89
IW-78: 464.06
MW-39R: 464.19
MW-65R: 464.15
MW-23: 463.08
MW-178*: 471.08
IW-101: 463.92
MW-26: 464.68
MW-84: 463.92
MW-24: 464.09
ITMW-20: 464.37
IW-132: 463.96
MW-85R: 463.92
MW-25R: 463.95
IW-147: 463.95
ITMW-21: 464.17
MW-198: 464.13
MW-92: 464.05
MW-172: 464.03
IW-134: 464.03
ITMW-19: 463.88
MW-93: 463.88
MW-38: 464.04
MW-95: 463.71
MW-94: 463.6
ITMW-18: 463.69
ITMW-12R: 463.78
ITMW-11: 464.11
MW-37: 464.08
ITMW-16: 463.97
ITMW-15: 464.1
MW-83: 463.99
MW-27: 464.03
MW-28: 463.72
MW-180*: 470.48
MW-179*: 466.64
MW-36R: 464
IW-80: 463.94
IW-79: 464.09
IW-77: 464.07
MW-81: 464.05
RW-69: 463.77
IW-76: 463.93
MW-58R: 463.79
MW-57R: 461.94
MW-56R: 462.05
MW-46R: 463.91
MW-62R: 460.8
MW-50R: 459.29
MW-60R: 459.24
TMW-23: 459.25
TMW-10: 458.29
TMW-11: 458.43
MW-61R: 454.87
TMW-12: 460.98
TMW-24: 460.29
TMW-14: 460.83
MW-63R: 461.06
MW-196: 454.92
MW-195: 458.53
TMW-22R: 459.7
TMW-21: 458.99
TMW-20: 458.77
TMW-29: 452.25
MW-194: 459.62
MW-97: 451.19
MW-183R: 449.95
MW-96: 449.72
MW-98: 450.31
MW-90: 462.23
MW-88: 460.7
MW-184: 451.2
MW-200: 457.08
MW-89: 456.76
MW-99: 456.76
MW-91: 457.3
MW-202: 458.26
MW-87: 458.36
MW-22: 462.04
ITMW-1R: 461.86
MW-30: 463.23
MW-29: 463.68
ITMW-7: 462.38
ITMW-5: 460.55
ITMW-10: 460.56
ITMW-4: 460.42
ITMW-9: 460.3
MW-204: 460.87
ITMW-6: 460.57
MW-182: 460.55
TMW-34: 459.11
MW-185: 460.95
TMW-27: 457.63
TMW-25: 459.05
MW-197: 455.62
TMW-16: 458.58
TMW-26: 457.28
TMW-30: 456.74
TMW-32: 456.32
MW-186: 451.25
MW-189: 460.41
TMW-19: 460.37
MW-188: 460.3
TMW-36: 460.34
MW-190: 460.27
MW-191: 460.19
MW-192: 459.89
MW-199: 453.98
MW-187: 458.87
TMW-36B: 460.17
MW-203: 453.88*
MW-201: 460.36

459 460 461 462 463 464 451 452 453 454 455 456 457 458

Monitoring Well Location
Groundwater Contour (1-ft Interval)
Groundwater Contour (Inferred)
Approximate Property Boundary

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2020 ANNUAL SAMPLING POTENTIOMETRIC SURFACE

Whirlpool Facility - Fort Smith, Arkansas

Figure 6

DRAFTED BY: KB | DATE: 01/04/2021 | PROJECT: 1690016820

Appendix A
Waste Disposal Manifests

Quarry Landfill

Liquids

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
		918 832 8888	107166 OK 1

5. Generator's Name and Mailing Address

Whirlpool corp

Generator's Site Address (if different than mailing address)

6400 Jerry Lynn Road Ft Smith Ark

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

ERS (Environmental Remediation Specialists

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Waste Management (Quarry Landfill) RDF

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Purgewater from Drilling (WM025E)	15	Drums	55	Gals
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

n/a

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name — Signature — Month — Day — Year

Ken Duckworth c/o Whirlpool corp

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month — Day — Year

Jim Alvarado 7 27 20

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month — Day — Year

Steve Perez 7 28 20

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Liquids

Quarry Land Fill

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
		918 832 8888	107166 ok 2

GENERATOR

5. Generator's Name and Mailing Address: Whirlpool Corp

Generator's Site Address (if different than mailing address): 6400 Jenny Lynn Rd Ft Smith AR

Generator's Phone:

6. Transporter 1 Company Name: ERS — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Waste Management (quarry land Fill) RDF — U.S. EPA ID Number:

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Purge water from Drilling (WM025-F)	01	TOTE	17	300	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Ken Duckworth OBO Whirlpool — Signature — Month — Day — Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jim Alvarado — Signature — Month 7 — Day 27 — Year 20

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Steve Pruitt — Signature — Month 7 — Day 28 — Year 20

Quarry Land Fill

Liquids

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
			918 832 8888	107166 OK 3

5. Generator's Name and Mailing Address: Whirlpool corp

Generator's Site Address (if different than mailing address): 6400 Jenny Lynn Rd

Generator's Phone:

6. Transporter 1 Company Name: ERS — U.S. EPA ID Number:

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Waste Management (Quarry Land Fill) RDF — U.S. EPA ID Number:

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Purge water from Drilling (WM025E)	01	8 Tes	4	275
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Kevin Duckworth 020 Whirlpool corp — Signature: [signature] — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David Pyeatt — Signature: [signature] — Month Day Year: 7 27 20

Transporter 2 Printed/Typed Name: [signature] — Signature: Jim Alvarado — Month Day Year: 7 28 20

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Steve Peralo — Signature: [signature] — Month Day Year: 7 28 20

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

American Environmental Landfill, Inc.

Leading the Industry in Environmental Compliance

1 of 2

Non-Hazardous Waste Manifest

Generator

Generator's Name: Whirlpool Ft Smith

Mailing Address: 6400 Jenny Lane Rd

Fort Smith (City) Ark (State) 7850 (Zip)

Point of Generation Address: same

(City) (State) (Zip)

Contact: Tamara (Name) 501 240 0435 (Phone)

Manifest Job No. MW233WPC01

Bill to Name: ERS

Address: 1105 North Peoria

Tulsa (City) OK (State) 74106 (Zip)

Contact: Ken Duckworth (Name) 918-832-8888 (Phone)

Common Name of Waste Material	Container No.	Container Type	Total Quantity	Unit
Soil Boring Excavated Soils	15	Drums	15	55 Gal

I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Ken Duckworth obo Whirlpool (Generator Authorized Agent Name) (Signature) 7-27-20 (Shipment Date)

Transporter

Transporter Name: ERS

Address: 1105 North Peoria

City, State Zip: Tulsa OK 74106

Driver Name (Print): Danny Waldrop

Tag No. State: OK

USDOT No. 875510

I hereby certify that the above material was picked up at the generator site listed above.

(Driver Signature) (Ship Date)

I hereby certify that the above named material was delivered without incident to the destination listed below.

Danny Waldrop (Driver Signature) 7-27-20 (Delivery Date)

Destination

American Environmental Landfill, Inc.
212 N. 177th W Ave.
Sand Springs, OK 74063

Phone: (918) 245-7786
Fax: (918) 245-7774
Permit No: 3557021

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is accurate.

(Name of Authorized Agent) (Signature) 7-28-20 (Receipt Date)

White – Destination Retention • Yellow – Return to Bill to • Pink – Transporter Retain • Goldenrod – Generator Retain

American Environmental Landfill, Inc.

Leading the Industry in Environmental Compliance

Non-Hazardous Waste Manifest

153605

C/D Trash

120

Generator

Generator's Name: Whirlpool

Mailing Address: 6400 Jenny Lind rd.

Fort Smith AR 72916

City State Zip

Point of Generation Address: Same

City State Zip

Contact: Tamara 501 240 0435

Name Phone

Manifest Job No. None

Bill to Name: ERS

Address: 1105 North Peoria Ave

Tulsa OK 74106

City State Zip

Contact: Kelly Duckworth 918 832-8888

Name Phone

Common Name of Waste Material	Container No.	Container Type	Total Quantity	Unit
C/D Trash	4	drums	[illegible]	[illegible]

I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kelly Duckworth — Generator Authorized Agent Name

[signature] — Signature

7-27-20 — Shipment Date

Transporter

Transporter Name: ERS

Address: 1105 North Peoria

City, State Zip: Tulsa OK

Driver Name (Print): Danny Walker

Tag No. State: OK

USDOT No. 975510

I hereby certify that the above material was picked up at the generator site listed above.

[signature] — Driver Signature

7/27/20 — Ship Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

[signature] — Driver Signature

7-27-20 — Delivery Date

Destination

American Environmental Landfill, Inc.
212 N. 177th W Ave.
Sand Springs, OK 74063

Phone: (918) 245-7786
Fax: (918) 245-7774
Permit No: 3557021

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is accurate.

[signature] — Name of Authorized Agent

[signature] — Signature

7-28-20 — Receipt Date

White – Destination Retention • Yellow – Return to Bill to • Pink – Transporter Retain • Goldenrod – Generator Retain

Appendix B
Well Construction and Soil Boring Logs

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-197	Date(s): **7/14/2020**
Location: **Fort Smith, Arkansas**	
Logged By: **I. McQuaig**	Checked By: **M. Wilson**
Contractor: **Environmental Works, Inc.**	Purpose: **Monitoring Well**
Drilling Method: **Hollow Stem Auger**	GS Elevation: **467.01 ft amsl** / TOC Elevation: **466.81 ft amsl**
Sampling Method: **Continuous Sampler**	North: **367744.27** / East: **589985.78**
Well Construction:	Borehole Dia.: **7.5 inches** / Total Depth: **26.5 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 15 FT	Project Number: **1690017901**
Screen: Sch. 40 2 Inch 0.010 PVC 15 FT to 25 FT	Project Name: **Whirlpool Corporation**
Annular Fill: Cement Grout 0 FT to 10 FT; Bentonite 10 FT to 13 FT; Sand 13 FT to 25 FT	Remarks:

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
465	0	5		0.5			Topsoil, brown		Flush Mount
				0.4			Silty clay, mottled gray, low plasticity, dry		
	5	4		0.4			Silty clay, moderately plastic, stiff		
460				0.5					
	10	3		0.4			Silty clay, mottled gray, moist		
455				0.4					
	15	3		1.2		CL	Sandy clay, stiff, moderately plastic		
450							Silty clay, mottled gray, stiff moderately plastic		
				2.1		SP	Sand with gravel, course-grained, medium dense		
	20	5				GP	Gravelly sand with clay, medium to course, medium density, subangular		
445				1.5					
	25			1.7			Dark gray shale, dry, hard, laminated		
440									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-199		Date(s): **7/16/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **J. Zellmer**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Monitoring Well**	
Drilling Method: **Hollow Stem Auger**		GS Elevation: **463.47 ft amsl**	TOC Elevation: **463.09 ft amsl**
Sampling Method: **Continuous Sampler**		North: **367542.01**	East: **589596.86**
Well Construction:		Borehole Dia.: **6.5 inches**	Total Depth: **23.0 feet**
Blank Casing: Sch. 40 PVC 2 Inch	0 FT to 12 FT	Project Number: **1690017901**	
Screen: Sch. 40 2 Inch 0.020 PVC	12 FT to 22 FT	Project Name: **Whirlpool Corporation**	
Annular Fill: Cement Grout	0 FT to 7 FT	Remarks:	
Bentonite	7 FT to 10 FT		
Sand	10 FT to 22 FT		

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
							Topsoil, trace organics		Flush Mount
		5		0.0			Brown silty clay, dry, stiff, low plasticity, trace black nodules		
460				0.0					
	5						Tannish brown silty clay, moist, high plasticity		
		5		0.0					
							Reddish brown silty clay, with gray mottling, trace black nodules, moist, stiff, low to medium plasticity		
455				0.0					
	10								
		5		0.0					
450						SP	Reddish brown sand, with clay, poorly sorted, fine-grained, moist		
				0.0			Reddish brown silty clay, with fine-graned sand, moist		
	15						Reddish brown silty clay, with gravel, trace, sand moist, stiff, medium plasticity		
		5		0.0					
445				0.0		GP	Wet gravel with silty clay and sand, poorly sorted		
	20	3							
				0.0			Reddish brown silty clay, dry, stiff, low plasticity		
							Weathered shale, gray		
440									
	25								
435									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MCP-HP-05		Date(s): **7/14/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **I. McQuaig**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Soil Boring/Hydropunch**	
Drilling Method: **GeoProbe**		GS Elevation: **463.686 ft amsl**	TOC Elevation: **Not available**
Sampling Method: **Continuous Sampler**		North: **367604.43**	East: **589636.40**
Well Construction:		Borehole Dia.: **2.25 inches**	Total Depth: **23.5 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 13.5 FT		Project Number: **1690017901**	
Screen: Sch. 40 2 Inch 0.010 PVC 13.5 FT to 23.5 FT		Project Name: **Whirlpool Corporation**	
Annular Fill: No Annulus		Remarks:	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
				0.0		CH	Brown clay, stiff, very plastic		Flush Mount
		5		0.0			Brown silty clay, low plasticity, non-cohesive, stiff		
460	5								
				0.0			Brown and gray silty clay, highly plastic, cohesive, soft, wet		
		5					Gray silty clay, soft/fatty, saturated		
455				0.0			Silty clay, stiff, hard, moderately plastic, dry		
	10								
				0.0					
		4							
450				0.1		CL	Sandy clay, low plasticity, medium to course grained, dry		
	15					SP-SC	Sand with gravel, trace clay, course grained, subangular, large gravel clasts		
		5		0.1					
445				0.0					
	20								
				0.0		CH	Fatty clay, high plasticity, moist		
440							Shale, dark gray, laminated, hard, dry		
	25								
435									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MCP-HP-08		Date(s): **9/22/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **I. McQuaig**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Soil Boring/Hydropunch**	
Drilling Method: **GeoProbe**		GS Elevation: **465.89 ft amsl**	TOC Elevation: **Not available**
Sampling Method: **Continuous Sampler**		North: **367481.93**	East: **589843.75**
Well Construction:		Borehole Dia.: **2.25 inches**	Total Depth: **23.5 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 13.5		Project Number: **1690017901**	
Screen: Sch. 40 2 Inch 0.010 PVC 13.5 FT to 23.5 FT		Project Name: **Whirlpool Corporation**	
Annular Fill: No Annulus		Remarks:	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
465	0						Asphalt		Flush Mount
						CL	Gray silty clay, moderately plastic, soft, wet		
	5					CL	Brown and gray silty clay, stiff, medium plastic		
460									
	10								
455									
						CL	Reddish brown silty clay, trace sand, fine-grained, stiff, medium plasticity		
	15					SP	Tan/brown fine sand, dense, wet, well-sorted		
450						SP-SC	Tan and gray clayey sand, with gravel, subangular, medium to course		
						SP	Red and brown gravelly sand, dry, dense, fine to course, poorly sorted		
						SP	Wet course sand, with gravel, trace clay		
	20								
445						CL	Silty clay, with sand, course to fine, dry		
							Weathered shale, dry, dark gray and black		
	25								
440									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 10/22/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MCP-HP-11	Date(s): **9/23/2020**
Location: **Fort Smith, Arkansas**	
Logged By: **I. McQuaig**	Checked By:
Contractor: **Environmental Works, Inc.**	Purpose: **Soil Boring/Hydropunch**
Drilling Method: **GeoProbe**	GS Elevation: **Not available** / TOC Elevation: **Not available**
Sampling Method: **Continuous Sampler**	North: **Not available** / East: **Not available**
Well Construction:	Borehole Dia.: **2.25 inches** / Total Depth: **16.0 feet**
Blank Casing: 0.5" Stainless Steel 0 FT to 12	Project Number: **1690017901**
Screen: Stainless Steel 0.010 12 FT to 16 FT	Project Name: **Whirlpool Corporation**
Annular Fill: No Annulus	Remarks:

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
						CL	Topsoil Dark brown and black sandy clay, dry, soft, plastic		Flush Mount
	5					CL	Gray and tan mottled silty clay, fatty, wet		
						CL	Tan and gray mottled silty clay, stiff, low plasticity, dry		
	10					CL	Tan sandy clay, stiff, medium plasticity, course, poorly sorted, dry		
						GP	Sandy gravel, subangular, course, poorly sorted, dry		
	15						Chert fragments Dark gray laminated shale, hard, dry		
	20								
	25								

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 10/1/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: HM-HP-02		Date(s): **7/13/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **D. Meyer**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Soil Boring**	
Drilling Method: **GeoProbe**		GS Elevation: **481.57 ft amsl**	TOC Elevation: **Not available**
Sampling Method: **Continuous Sampler**		North: **367229.61**	East: **591366.35**
Well Construction:		Borehole Dia.: **2.25 inches**	Total Depth: **38.0 feet**
Blank Casing: 0.5" Stainless Steel 0 FT to 34 FT		Project Number: **1690017901**	
Screen: Stainless Steel 0.010 34 FT to 38 FT		Project Name: **Whirlpool Corporation**	
Annular Fill: No Annulus		Remarks:	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
				0.0			Gravel and fill		Flush Mount
480		5		0.0		MH	Reddish brown silty clay, trace organics and black nodules, plastic, stiff		
	5			0.0		MH	Reddish brown silty clay, trace gray and black nodules, plastic, stiff, slightly moist		
475		5		0.0		MH	Reddish brown silty clay, trace sand, course, plastic, stiff		
	10			0.0		MH	Orangeish brown silty clay, trace gray, plastic, stiff, dry		
470		5		0.0					
	15			0.0					
465		5		0.0					
	20			0.0		CH	Orangeish brown silty clay, trace gray, plastic, stiff, dry, increasingly soft with depth		
460		5		0.0		CH	Orangeish brown silty clay, trace gray streaks, plastic, stiff, dry, increasingly soft with depth		
	25			0.0		CH	Brownish yellow silty clay, trace gray, plastic, moist		
455		3		0.0					

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: HM-HP-02

Project Name: **Whirlpool Corporation**

Project Number: **1690017901**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
450				0.0		CH	Brownish yellow silty clay, trace gray, plastic, slightly wet		
						CH	Orangeish brown sandy clay, dry		
				0.0		GC	Light brown sandy gravel with clay/silt, dry		
	35	4							
445				0.0			Weathered shale, dark gray, laminated		
				0.0					
	40								
440									
	45								
435									
	50								
430									
	55								
425									
	60								
420									
	65								
415									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: HM-HP-04		Date(s): **7/15/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **J. Zellmer**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Soil Boring**	
Drilling Method: **GeoProbe**		GS Elevation: **483.36 ft amsl**	TOC Elevation: **Not available**
Sampling Method: **Continuous Sampler**		North: **367433.17**	East: **591252.25**
Well Construction:		Borehole Dia.: **2.25 inches**	Total Depth: **40.0 feet**
Blank Casing: Sch. 40 PVC 1 Inch 0 FT to 30 FT		Project Number: **1690017901**	
Screen: Sch. 40 1 Inch 0.010 PVC 30 FT to 40 FT		Project Name: **Whirlpool Corporation**	
Annular Fill: No Annulus		Remarks:	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
									Flush Mount
				0.0		GP	Asphalt with gravel subgrade		
							Poorly sorted gravel, trace clay, moist		
		4		0.0			Grayish brown silty clay, dry, stiff, low plasticity		
480	5								
		5		0.0			Reddish brown silty clay, moist, medium plasticity, trace gray mottling		
475	10			0.0					
		5		0.0			Reddish brown silty clay, moist, with gray mottling		
							Reddish brown silty clay, moist, stiff, low plasticity		
470	15			0.0					
		5		0.0			Reddish brown silty clay, dry, stiff, low plasticity, trace gray mottling and black nodules		
465	20			0.0			Reddish brown silty clay, moist, stiff, medium to high plasticity, trace gray mottling and black nodules		
		5		0.0			Reddish brown silty clay, moist, soft, high plasticity, trace gray mottling		
460	25			0.0					
		5		0.0			Reddish brown silty clay, trace sand, moist, soft, high plasticity, trace gray mottling		
455				0.0					

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: HM-HP-04

Project Name: **Whirlpool Corporation**

Project Number: **1690017901**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
450	35	5		0.0		SP	Tan sand, fine-grained, poorly sorted, with clay, moist		
				0.0			Reddish brown silty clay, with gravel, trace sand, moist, stiff, low plasticity		
				0.0					
445		5		0.0		GP	Poorly sorted gravel, with reddish brown silty clay		
	40						Reddish brown silty clay, dry, stiff, low plasticity		
							Weathered shale, soft		
440	45								
435	50								
430	55								
425	60								
420	65								
415									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-201		Date(s): **7/17/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **J. Zellmer**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Monitoring Well**	
Drilling Method: **Hollow Stem Auger**		GS Elevation: **481.29 ft amsl**	TOC Elevation: **466.81 ft amsl**
Sampling Method: **Continuous Sampler**		North: **367184.77**	East: **591199.94**
Well Construction:		Borehole Dia.: **6.5 inches**	Total Depth: **37.5 feet**
Blank Casing: Sch 40 PVC 2 Inch	0 FT to 26 FT	Project Number: **1690017901**	
Screen: Sch 40 2 Inch 0.010 PVC	26 FT to 36 FT	Project Name: **Whirlpool Corporation**	
Annular Fill: Cement Grout	0 FT to 21 FT	Remarks:	
Bentonite	21 FT to 24 FT		
Sand	24 FT to 36 FT		

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
480		5		0.0			Topsoil, trace organics		Flush Mount
				0.0			Dark brown silty clay, trace gravel, dry, trace iron nodules		
	5						Reddish brown silty clay, moist, soft, high plasticity, trace black nodules and gray mottling		
475		5		0.0					
				0.0					
	10						Reddish brown silty clay, moist, stiff, high plasticity, trace black nodules and gray mottling		
470		5		0.0					
				0.0			Reddish brown silty clay, moist, stiff, medium plasticity, trace black nodules, trace gray mottling		
	15								
465		5		0.0					
				0.0					
	20						Reddish brown silty clay, trace sand, moist, medium to high plasticity, trace gray mottling		
460		5		0.0			Reddish brown sandy clay, moist, high plasticity, fine-grained, trace gray mottling		
				0.0					
	25						Reddish brown silty clay, trace sand, moist, soft, medium to high plasticity, trace gray mottling		
455		5		0.0		SP	Reddish brown fine-grained sand, with clay, moist, trace black nodules		
				0.0		SP	Reddish brown fine-grained sand, trace clay and gravel, moist		

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-201

Project Name: **Whirlpool Corporation**

Project Number: **1690017901**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
450		5		0.0			Reddish brown silty clay with sand, moist, soft, high plasticity		
				0.0			Reddish brown silty clay, with gravel, trace sand, dry, stiff, low plasticity		
	35	2							
445				0.0			Reddish brown silty clay, trace gravel and sand, dry, stiff, low plasticity		
							Weathered shale, gray		
440	40								
435	45								
430	50								
425	55								
420	60								
415	65								

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-203	Date(s): **9/23/2020**
Location: **Fort Smith, Arkansas**	
Logged By: **I. McQuaig**	Checked By: **M. Wilson**
Contractor: **Environmental Works, Inc.**	Purpose: **Monitoring Well**
Drilling Method: **Hollow Stem Auger**	GS Elevation: **483.51 ft amsl** / TOC Elevation: **483.51 ft amsl**
Sampling Method: **Continuous Sampler**	North: **367410.85** / East: **591031.79**
Borehole Dia.: **6.5 inches**	Total Depth: **37.0 feet**
Project Number: **1690017901**	
Project Name: **Whirlpool Corporation**	
Remarks:	

Well Construction:

Blank Casing:	Sch. 40 PVC 2 Inch	0 FT to 32 FT
Screen:	Sch. 40 2 Inch 0.010 PVC	32 FT to 38 FT
Annular Fill:	Cement Grout	0 FT to 25 FT
	Bentonite	25 FT to 31 FT
	Sand	31 FT to 38 FT

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
							Topsoil, loose, brown		Flush Mount
						CL	Brown silty clay, dry stiff, low plasticity,		
480									
	5					CL	Brown silty clay, trace gray mottling, trace black nodules, soft, plastic moist		
475									
	10					CL	Light brown silty clay, trace gray mottling, stiff, plastic, dry		
470									
	15						Increasingly stiff with depth		
465									
	20					CL	Light brown silty clay, trace gray and black mottling, stiff, plastic, dry		
460						CL	Reddish brown silty clay, with gray mottling, very soft, very plastic, soft		
	25								
						CH	Light brown fatty clay, trace gray mottling, very soft, wet		
455									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 10/22/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-203

Project Name: **Whirlpool Corporation**

Project Number: **1690017901**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
450	35					CL	Light brown silty clay, very soft, plastic, moist,		
						SP	Tan fine to medium sand, dense		
						SP	Brown course sand, trace clay, dense, poorly sorted, moist		
						CL	Dark brown sandy clay, trace gravel, wet		
445	40						Shale		
440	45								
435	50								
430	55								
425	60								
420	65								
415									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 10/22/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: NE-HP-03		Date(s): **7/14/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **D. Meyer**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Soil Boring/Hydropunch**	
Drilling Method: **GeoProbe**		GS Elevation: **466.31 ft amsl**	TOC Elevation: **Not available**
Sampling Method: **Continuous Sampler**		North: **368941.37**	East: **592612.28**
Well Construction:		Borehole Dia.: **2.25 inches**	Total Depth: **24.0 feet**
Blank Casing: Sch. 40 PVC 1 Inch 0 FT to 14 FT		Project Number: **1690017901**	
Screen: Sch. 40 1 Inch 0.010 PVC 14 FTto 24 Ft		Project Name: **Whirlpool Corporation**	
Annular Fill: No Annulus		Remarks:	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
									Flush Mount
465				0.0		CL	Topsoil, trace roots Light brown silty clay, dry		
		5		0.0		CL	Reddish brown silty clay, firm		
	5					CL	Reddish brown silty clay, with traces of gray, trace black nodules, firm, medium plasticity		
460		5		0.0		CL	Reddish brown silty clay, firm, dry, low plasticity		
	10			0.0					
455		3.5		0.0		CL	Gray/reddish brown silty clay, with increasing gray with depth, firm, dry		
	15			0.0					
450				0.0		SC	Light brown clayey sand, wet, soft, medium-grained		
		2.5				CL	Reddish brown silty clay, firm, dry		
				0.0		CL	Reddish brown silty clay, traces of sand and gravel, subrounded, firm, dry		
	20								
445				0.0		CL	Reddish brown clay, slightly silty		
		3.5		0.0			Shale		
	25								
440									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-200		Date(s): **7/15/2020**	
Location: **Fort Smith, Arkansas**			
Logged By: **D. Meyer**		Checked By: **M. Wilson**	
Contractor: **Environmental Works, Inc.**		Purpose: **Monitoring Well**	
Drilling Method: **Hollow Stem Auger**		GS Elevation: **467.97 ft amsl**	TOC Elevation: **467.57 ft amsl**
Sampling Method: **Continuous Sampler**		North: **368849.91**	East: **592704.14**
Well Construction:		Borehole Dia.: **6.5 inches**	Total Depth: **25.2 feet**
Blank Casing: SCH. 40 PVC 2 Inch	0 FT to 15.2 FT	Project Number: **1690017901**	
Screen: Sch. 40 2 Inch 0.010 PVC	15.2 FT to 25.2 FT	Project Name: **Whirlpool Corporation**	
Annular Fill: Cement Grout	0 FT to 8.2 FT	Remarks:	
Bentonite	8.2 FT to 13.2 FT		
Sand	13.2 to 25.2		

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
				0.0			Topsoil		Flush Mount
465		3		0.0		CL	Brown silty clay, slightly moist		
	5			0.0		CL	Reddish brown silty clay, trace gray, fine, stiff, dry		
460		5		0.0		CL	Reddish brown silty clay, with gravel, trace gray, fine, stiff, slightly dry		
				0.0		CL	Reddish brown silty clay, stiff, dry, trace gravel and black nodules		
	10			0.0		CL	Reddish brown clay, with trace gray, silty film, dry		
455		4		0.0		CL	Reddish brown/gray clay, medium stiffness, dry		
	15			0.0					
450		2.5		0.0		GW	Gravel with brown clay, fine to course grained, moist		
	20			0.0					
445		2.5		0.0		GW	Reddish brown gravel with sand, fine to course grained, with silty clay, wet		
	25						Reddish brown silty clay, slightly stiff		
440									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-202	Date(s): **7/14/2020**
Location: **Fort Smith, Arkansas**	
Logged By: **D. Meyer**	Checked By: **M. Wilson**
Contractor: **Environmental Works, Inc.**	Purpose: **Monitoring Well**
Drilling Method: **Hollow Stem Auger**	GS Elevation: **468.34 ft amsl** / TOC Elevation: **468.16 ft amsl**
Sampling Method: **Continuous Sampler**	North: **368637.22** / East: **592659.74**
Borehole Dia.: **6.5 inches**	Total Depth: **25.0 feet**
Project Number: **1690017901**	
Project Name: **Whirlpool Corporation**	
Remarks:	

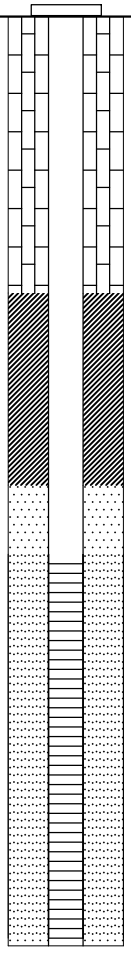
Well Construction:

Blank Casing:	Sch. 40 PVC 2 Inch	0 FT to 14 FT
Screen:	Sch. 40 2 Inch 0.020 PVC	14 FT to 24 FT
Annular Fill:	Cement Grout	0 FT to 7.2 FT
	Bentonite	7.2 FT to 12.2 FT
	Sand	12.2 FT to 24.2

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	USCS Code	Material Description
						Topsoil
		4		0.0	CL	Brown silty clay, slightly moist
465				0.0	CL	Reddish brown silty clay, slightly moist
	5				CL	Reddish brown silty clay, slightly moist, firm
		3.5		0.0	CL	Reddish brown silty clay, trace gray, slightly dry, firm
					CL	Reddish brown clay, trace gray, with black nodules, dry
460				0.0	CL	Reddish brown clay, trace sand and gravel
	10				CL	Gray/brown silty clay, dense, firm, dry
		2.5		0.0		
455				0.0		
	15				CH	Gray/brown silty clay, dense, firm, dry, increasing plasticity with depth
		2.5		0.0	CH	Gray/brown silty clay, soft, very moist
450				0.0	CH	Reddish brown silty clay, with gravel, fine to medium grained, firm, dry
	20				CH	Reddish brown silty clay, with gravel, fine to medium grained, firm, moist
		3		0.0		
445				0.0	CH	Reddish brown silty clay, stiff, dry
	25					Shale, dry
440						

Water Level

Well Construction: Flush Mount



Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-198	Date(s): **7/15/2020**
Location: **Fort Smith, Arkansas**	
Logged By: **D. Meyer**	Checked By: **M. Wilson**
Contractor: **Environmental Works, Inc.**	Purpose: **Monitoring Well**
Drilling Method: **Hollow Stem Auger**	GS Elevation: **473.44 ft amsl** / TOC Elevation: **473.08 ft amsl**
Sampling Method: **Continuous Sampler**	North: **368982.19** / East: **590776.18**
Well Construction:	Borehole Dia.: **6.5 inches** / Total Depth: **29.0 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 19 Ft	Project Number: **1690017901**
Screen: Sch. 40 2 Inch 0.020 PVC 19 FT to 29 FT	Project Name: **Whirlpool Corporation**
Annular Fill: Cement Grout 0 FT to 12 FT; Bentonite 12 FT to 17 FT; Sand 17 FT to 29 FT	Remarks:

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
				2.1			Concrete with gravel subgrade		Flush Mount
				3.8			Reddish brown silty clay mixed with gravel, slightly moist		
470	5			3.6			Reddish brown slity clay, dry, firm, medium plasticity		
465				29.6			Reddish brown slity clay, dry, firm, medium plasticity, plasticity decreasing with depth		
	10			71.4			Reddish brown silty clay, with traces of gray, dry, moderately firm, medium plasticity		
460				63.3			Reddish brown silty clay, dry, moderately stiff, high plasticity		
	15			24.6					
455				3.2			Reddish brown silty clay, sandy, fine, slightly moist		
	20			26.3		GW	Gravel, fine to course, with reddish brown silty clay		
450				9.4		GW	Gravel, subangular, with sand, medium to course, wet		
	25			155.6					
445				250.5		GW	Gravel with sand, dark, trace clay Weathered shale, dark, hard		

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 8/21/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-204	Date(s): **9/24/2020**
Location: **Fort Smith, Arkansas**	
Logged By: **I. McQuaig**	Checked By: **M. Wilson**
Contractor: **Environmental Works, Inc.**	Purpose: **Monitoring Well**
Drilling Method: **Hollow Stem Auger**	GS Elevation: **481.31 ft amsl** / TOC Elevation: **481.31 ft amsl**
Sampling Method: **Continuous Sampler**	North: **367991.31** / East: **590579.94**
Borehole Dia.: **6.5 inches**	Total Depth: **36.0 feet**
Project Number: **1690017901**	
Project Name: **Whirlpool Corporation**	
Remarks:	

Well Construction:

Blank Casing:	Sch. 40 PVC 2 Inch	0 FT to 27 FT
Screen:	Sch. 40 2 Inch 0.010 PVC	27 FT to 37 FT
Annular Fill:	Cement Grout	0 FT to 19 FT
	Bentonite	19 FT to 25 FT
	Sand	25 FT to 37 FT

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
480	0					MH	Topsoil		Flush Mount
						MH	Brown clayey silt, dense, dry		
							Dark brown to black clayey silt, dry, trace gravel		
	5					MH	Light brown clayey silt, trace gray mottling, slightly plastic, dry, stiff, no staining/odor		
475									
	10					MH	Light brown clayey silt, slight/trace gray to black mottling, stiff, low plasticity, dry		
470									
	15						More clayey, slightly plastic		
465						CL	Light brown silty clay, medium soft, plastic, trace gray mottling, dry		
	20					CH	Tan and gray mottled fatty clay, with silt, trace sand, fine, high plasticity, soft, dry		
460									
	25					CL	Brown and gray silty clay with fine sand, fatty, soft, saturated		
455						SW	Light brown and gray sand, fine, dense, with trace gray, well sorted, trace roots, saturated		

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 10/22/20

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-204

Project Name: **Whirlpool Corporation**

Project Number: **1690017901**

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
450						SW	Wet		
						GP-GC	Sandy gravel with clay, subangular, fine and course, poorly sorted, moist		
	35					GP	Brown sandy gravel, course, poorly sorted, subangular, wet		
445							Shale		
	40								
440									
	45								
435									
	50								
430									
	55								
425									
	60								
420									
	65								
415									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS) - COPY.GPJ; 10/22/20

Appendix C
Laboratory Analytical Data

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 14, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342478001	**HM-HP-01-WG-39.5**	Water	07/13/20 11:35	07/14/20 01:20
60342478002	**HM-HP-02-WG-31**	Water	07/13/20 17:32	07/14/20 01:20
60342478003	**HM-HP-03-WG-37**	Water	07/13/20 12:26	07/14/20 01:20
60342478004	**MCP-HP-03-WG-28**	Water	07/13/20 16:35	07/14/20 01:20
60342478005	**MCP-HP-04-WG-27**	Water	07/13/20 17:50	07/14/20 01:20
60342478006	**MCP-HP-02-WG-31**	Water	07/13/20 15:35	07/14/20 01:20
60342478007	**MCP-HP-01-WG-29.5**	Water	07/13/20 14:05	07/14/20 01:20
60342478008	**TB-01-20200713**	Water	07/13/20 18:04	07/14/20 01:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342478001	**HM-HP-01-WG-39.5**	EPA 5030B/8260	PGH	38	PASI-K
60342478002	**HM-HP-02-WG-31**	EPA 5030B/8260	PGH	38	PASI-K
60342478003	**HM-HP-03-WG-37**	EPA 5030B/8260	PGH	38	PASI-K
60342478004	**MCP-HP-03-WG-28**	EPA 5030B/8260	PGH	38	PASI-K
60342478005	**MCP-HP-04-WG-27**	EPA 5030B/8260	PGH	38	PASI-K
60342478006	**MCP-HP-02-WG-31**	EPA 5030B/8260	PGH	38	PASI-K
60342478007	**MCP-HP-01-WG-29.5**	EPA 5030B/8260	PGH	38	PASI-K
60342478008	**TB-01-20200713**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: July 14, 2020

General Information:
8 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 665296

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: 665296

1e: Sample was diluted due to the presence of high levels of sediment in the vials.

- MCP-HP-04-WG-27 (Lab ID: 60342478005)
  - 4-Bromofluorobenzene (S)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: HM-HP-01-WG-39.5 **Lab ID: 60342478001** Collected: 07/13/20 11:35 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/14/20 11:00	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/14/20 11:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 11:00	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 11:00	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 11:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/14/20 11:00	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 11:00	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 11:00	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/14/20 11:00	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 11:00	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/14/20 11:00	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 11:00	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 11:00	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 11:00	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 11:00	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:00	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 11:00	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 11:00	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 11:00	10061-02-6	
Ethylbenzene	**0.26J**	ug/L	1.0	0.12	1		07/14/20 11:00	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 11:00	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 11:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/14/20 11:00	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 11:00	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 11:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:00	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/14/20 11:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 11:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 11:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/14/20 11:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/14/20 11:00	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		07/14/20 11:00	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		07/14/20 11:00	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		07/14/20 11:00	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 11:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: HM-HP-02-WG-31 **Lab ID: 60342478002** Collected: 07/13/20 17:32 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/14/20 11:14	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/14/20 11:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 11:14	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 11:14	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 11:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/14/20 11:14	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 11:14	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 11:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/14/20 11:14	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 11:14	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/14/20 11:14	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 11:14	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 11:14	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 11:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 11:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 11:14	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 11:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 11:14	10061-02-6	
Ethylbenzene	**0.20J**	ug/L	1.0	0.12	1		07/14/20 11:14	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 11:14	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 11:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/14/20 11:14	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 11:14	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 11:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:14	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/14/20 11:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 11:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 11:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/14/20 11:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/14/20 11:14	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		07/14/20 11:14	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		07/14/20 11:14	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/14/20 11:14	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 11:14		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: HM-HP-03-WG-37 **Lab ID: 60342478003** Collected: 07/13/20 12:26 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.9J**	ug/L	10.0	3.3	1		07/14/20 11:28	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/14/20 11:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 11:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 11:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 11:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/14/20 11:28	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 11:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 11:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/14/20 11:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 11:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/14/20 11:28	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 11:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 11:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 11:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 11:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 11:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 11:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 11:28	10061-02-6	
Ethylbenzene	**0.37J**	ug/L	1.0	0.12	1		07/14/20 11:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 11:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 11:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/14/20 11:28	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 11:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 11:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:28	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/14/20 11:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 11:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 11:28	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:28	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/14/20 11:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/14/20 11:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		07/14/20 11:28	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	86-117		1		07/14/20 11:28	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		07/14/20 11:28	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 11:28		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: MCP-HP-03-WG-28 **Lab ID: 60342478004** Collected: 07/13/20 16:35 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**9.6J**	ug/L	10.0	3.3	1		07/14/20 11:43	67-64-1	
Benzene	**0.23J**	ug/L	1.0	0.079	1		07/14/20 11:43	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 11:43	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 11:43	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 11:43	74-83-9	
2-Butanone (MEK)	**2.3J**	ug/L	10.0	0.70	1		07/14/20 11:43	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 11:43	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 11:43	56-23-5	
Chlorobenzene	**0.16J**	ug/L	1.0	0.13	1		07/14/20 11:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 11:43	75-00-3	
Chloroform	**0.38J**	ug/L	1.0	0.10	1		07/14/20 11:43	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 11:43	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 11:43	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 11:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 11:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:43	75-35-4	
cis-1,2-Dichloroethene	**4.4**	ug/L	1.0	0.17	1		07/14/20 11:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 11:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 11:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 11:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 11:43	10061-02-6	
Ethylbenzene	**0.83J**	ug/L	1.0	0.12	1		07/14/20 11:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 11:43	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 11:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.3J**	ug/L	10.0	0.56	1		07/14/20 11:43	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 11:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 11:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 11:43	127-18-4	
Toluene	**0.29J**	ug/L	1.0	0.14	1		07/14/20 11:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 11:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 11:43	79-00-5	
Trichloroethene	**52.8**	ug/L	1.0	0.17	1		07/14/20 11:43	79-01-6	
Vinyl chloride	**0.11J**	ug/L	1.0	0.11	1		07/14/20 11:43	75-01-4	
Xylene (Total)	**4.2**	ug/L	3.0	0.34	1		07/14/20 11:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		07/14/20 11:43	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		07/14/20 11:43	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		07/14/20 11:43	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 11:43		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: MCP-HP-04-WG-27 **Lab ID: 60342478005** Collected: 07/13/20 17:50 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	50.0	16.5	5		07/14/20 11:57	67-64-1	
Benzene	ND	ug/L	5.0	0.40	5		07/14/20 11:57	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	0.85	5		07/14/20 11:57	75-27-4	
Bromoform	ND	ug/L	5.0	1.0	5		07/14/20 11:57	75-25-2	
Bromomethane	ND	ug/L	25.0	1.6	5		07/14/20 11:57	74-83-9	
2-Butanone (MEK)	**11.0J**	ug/L	50.0	3.5	5		07/14/20 11:57	78-93-3	
Carbon disulfide	ND	ug/L	25.0	0.80	5		07/14/20 11:57	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	0.42	5		07/14/20 11:57	56-23-5	
Chlorobenzene	ND	ug/L	5.0	0.65	5		07/14/20 11:57	108-90-7	
Chloroethane	ND	ug/L	5.0	2.1	5		07/14/20 11:57	75-00-3	
Chloroform	**0.51J**	ug/L	5.0	0.50	5		07/14/20 11:57	67-66-3	
Chloromethane	ND	ug/L	5.0	0.80	5		07/14/20 11:57	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	0.75	5		07/14/20 11:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	5.0	0.48	5		07/14/20 11:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	0.70	5		07/14/20 11:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1.1	5		07/14/20 11:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.85	5		07/14/20 11:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.85	5		07/14/20 11:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	0.40	5		07/14/20 11:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	0.44	5		07/14/20 11:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	0.60	5		07/14/20 11:57	10061-02-6	
Ethylbenzene	**1.3J**	ug/L	5.0	0.60	5		07/14/20 11:57	100-41-4	
2-Hexanone	ND	ug/L	50.0	5.0	5		07/14/20 11:57	591-78-6	
Methylene Chloride	**2.2J**	ug/L	5.0	1.4	5		07/14/20 11:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	2.8	5		07/14/20 11:57	108-10-1	
Styrene	ND	ug/L	5.0	0.75	5		07/14/20 11:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1.6	5		07/14/20 11:57	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	1.1	5		07/14/20 11:57	127-18-4	
Toluene	ND	ug/L	5.0	0.70	5		07/14/20 11:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	0.60	5		07/14/20 11:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	0.50	5		07/14/20 11:57	79-00-5	
Trichloroethene	**3.5J**	ug/L	5.0	0.85	5		07/14/20 11:57	79-01-6	
Vinyl chloride	ND	ug/L	5.0	0.55	5		07/14/20 11:57	75-01-4	
Xylene (Total)	ND	ug/L	15.0	1.7	5		07/14/20 11:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		5		07/14/20 11:57	460-00-4	1e
1,2-Dichloroethane-d4 (S)	100	%	86-117		5		07/14/20 11:57	17060-07-0	
Toluene-d8 (S)	98	%	80-120		5		07/14/20 11:57	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	5		07/14/20 11:57		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: MCP-HP-02-WG-31 **Lab ID: 60342478006** Collected: 07/13/20 15:35 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.8J**	ug/L	10.0	3.3	1		07/14/20 12:11	67-64-1	
Benzene	**0.13J**	ug/L	1.0	0.079	1		07/14/20 12:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 12:11	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 12:11	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 12:11	74-83-9	
2-Butanone (MEK)	**5.6J**	ug/L	10.0	0.70	1		07/14/20 12:11	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 12:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 12:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/14/20 12:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 12:11	75-00-3	
Chloroform	**0.10J**	ug/L	1.0	0.10	1		07/14/20 12:11	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 12:11	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 12:11	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 12:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 12:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 12:11	75-35-4	
cis-1,2-Dichloroethene	**0.60J**	ug/L	1.0	0.17	1		07/14/20 12:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 12:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 12:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 12:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 12:11	10061-02-6	
Ethylbenzene	**0.47J**	ug/L	1.0	0.12	1		07/14/20 12:11	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 12:11	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 12:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.2J**	ug/L	10.0	0.56	1		07/14/20 12:11	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 12:11	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 12:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 12:11	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/14/20 12:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 12:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 12:11	79-00-5	
Trichloroethene	**1.2**	ug/L	1.0	0.17	1		07/14/20 12:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/14/20 12:11	75-01-4	
Xylene (Total)	**2.3J**	ug/L	3.0	0.34	1		07/14/20 12:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		07/14/20 12:11	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		07/14/20 12:11	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/14/20 12:11	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 12:11		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: MCP-HP-01-WG-29.5 **Lab ID: 60342478007** Collected: 07/13/20 14:05 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/14/20 12:26	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/14/20 12:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 12:26	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 12:26	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 12:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/14/20 12:26	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 12:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 12:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/14/20 12:26	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 12:26	75-00-3	
Chloroform	**0.13J**	ug/L	1.0	0.10	1		07/14/20 12:26	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 12:26	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 12:26	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 12:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 12:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 12:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 12:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 12:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 12:26	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 12:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 12:26	10061-02-6	
Ethylbenzene	**0.67J**	ug/L	1.0	0.12	1		07/14/20 12:26	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 12:26	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 12:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/14/20 12:26	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 12:26	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 12:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 12:26	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/14/20 12:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 12:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 12:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 12:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/14/20 12:26	75-01-4	
Xylene (Total)	**3.9**	ug/L	3.0	0.34	1		07/14/20 12:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		07/14/20 12:26	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		07/14/20 12:26	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		07/14/20 12:26	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 12:26		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Sample: TB-01-20200713 **Lab ID: 60342478008** Collected: 07/13/20 18:04 Received: 07/14/20 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/14/20 10:46	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/14/20 10:46	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/14/20 10:46	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/14/20 10:46	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/14/20 10:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/14/20 10:46	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/14/20 10:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/14/20 10:46	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/14/20 10:46	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/14/20 10:46	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/14/20 10:46	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/14/20 10:46	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/14/20 10:46	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/14/20 10:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/14/20 10:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/14/20 10:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 10:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 10:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/14/20 10:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/14/20 10:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/14/20 10:46	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/14/20 10:46	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/14/20 10:46	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/14/20 10:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/14/20 10:46	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/14/20 10:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/14/20 10:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/14/20 10:46	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/14/20 10:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/14/20 10:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/14/20 10:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/14/20 10:46	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/14/20 10:46	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/14/20 10:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		07/14/20 10:46	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		07/14/20 10:46	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		07/14/20 10:46	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/14/20 10:46		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

QC Batch: 665296
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342478001, 60342478002, 60342478003, 60342478004, 60342478005, 60342478006, 60342478007, 60342478008

METHOD BLANK: 2695198
Matrix: Water
Associated Lab Samples: 60342478001, 60342478002, 60342478003, 60342478004, 60342478005, 60342478006, 60342478007, 60342478008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/14/20 08:23	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.31	07/14/20 08:23	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/14/20 08:23	
1,1-Dichloroethane	ug/L	ND	1.0	0.097	07/14/20 08:23	
1,1-Dichloroethene	ug/L	ND	1.0	0.22	07/14/20 08:23	
1,2-Dichloroethane	ug/L	ND	1.0	0.14	07/14/20 08:23	
1,2-Dichloropropane	ug/L	ND	1.0	0.080	07/14/20 08:23	
2-Butanone (MEK)	ug/L	ND	10.0	0.70	07/14/20 08:23	
2-Hexanone	ug/L	ND	10.0	1.0	07/14/20 08:23	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.56	07/14/20 08:23	
Acetone	ug/L	ND	10.0	3.3	07/14/20 08:23	
Benzene	ug/L	ND	1.0	0.079	07/14/20 08:23	
Bromodichloromethane	ug/L	ND	1.0	0.17	07/14/20 08:23	
Bromoform	ug/L	ND	1.0	0.21	07/14/20 08:23	
Bromomethane	ug/L	ND	5.0	0.32	07/14/20 08:23	
Carbon disulfide	ug/L	ND	5.0	0.16	07/14/20 08:23	
Carbon tetrachloride	ug/L	ND	1.0	0.084	07/14/20 08:23	
Chlorobenzene	ug/L	ND	1.0	0.13	07/14/20 08:23	
Chloroethane	ug/L	ND	1.0	0.42	07/14/20 08:23	
Chloroform	ug/L	ND	1.0	0.10	07/14/20 08:23	
Chloromethane	ug/L	ND	1.0	0.16	07/14/20 08:23	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/14/20 08:23	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.087	07/14/20 08:23	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/14/20 08:23	
Ethylbenzene	ug/L	ND	1.0	0.12	07/14/20 08:23	
Methylene Chloride	ug/L	ND	1.0	0.27	07/14/20 08:23	
Styrene	ug/L	ND	1.0	0.15	07/14/20 08:23	
Tetrachloroethene	ug/L	ND	1.0	0.22	07/14/20 08:23	
Toluene	ug/L	ND	1.0	0.14	07/14/20 08:23	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/14/20 08:23	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.12	07/14/20 08:23	
Trichloroethene	ug/L	ND	1.0	0.17	07/14/20 08:23	
Vinyl chloride	ug/L	ND	1.0	0.11	07/14/20 08:23	
Xylene (Total)	ug/L	ND	3.0	0.34	07/14/20 08:23	
1,2-Dichloroethane-d4 (S)	%	98	86-117		07/14/20 08:23	
4-Bromofluorobenzene (S)	%	101	80-120		07/14/20 08:23	
Toluene-d8 (S)	%	98	80-120		07/14/20 08:23	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

LABORATORY CONTROL SAMPLE: 2695199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.4	112	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	101	78-118	
1,1,2-Trichloroethane	ug/L	20	21.2	106	82-117	
1,1-Dichloroethane	ug/L	20	21.5	107	85-120	
1,1-Dichloroethene	ug/L	20	22.6	113	81-124	
1,2-Dichloroethane	ug/L	20	21.8	109	79-118	
1,2-Dichloropropane	ug/L	20	21.0	105	85-117	
2-Butanone (MEK)	ug/L	100	114	114	70-125	
2-Hexanone	ug/L	100	105	105	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	73-131	
Acetone	ug/L	100	108	108	59-135	
Benzene	ug/L	20	22.5	112	82-115	
Bromodichloromethane	ug/L	20	21.8	109	82-123	
Bromoform	ug/L	20	18.3	92	66-133	
Bromomethane	ug/L	20	26.7	134	27-179	
Carbon disulfide	ug/L	20	20.0	100	72-134	
Carbon tetrachloride	ug/L	20	21.6	108	80-121	
Chlorobenzene	ug/L	20	21.6	108	80-120	
Chloroethane	ug/L	20	19.7	99	78-145	
Chloroform	ug/L	20	22.2	111	84-116	
Chloromethane	ug/L	20	21.4	107	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.7	108	85-117	
Dibromochloromethane	ug/L	20	18.9	95	82-122	
Ethylbenzene	ug/L	20	22.1	111	79-115	
Methylene Chloride	ug/L	20	20.9	104	80-126	
Styrene	ug/L	20	22.3	111	80-117	
Tetrachloroethene	ug/L	20	21.5	107	83-119	
Toluene	ug/L	20	21.6	108	83-115	
trans-1,2-Dichloroethene	ug/L	20	22.7	113	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.8	99	83-117	
Trichloroethene	ug/L	20	20.9	105	80-118	
Vinyl chloride	ug/L	20	22.9	115	76-144	
Xylene (Total)	ug/L	60	66.8	111	82-120	
1,2-Dichloroethane-d4 (S)	%			102	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			97	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 665296

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1e Sample was diluted due to the presence of high levels of sediment in the vials.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342478

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342478001	**HM-HP-01-WG-39.5**	EPA 5030B/8260	665296		
60342478002	**HM-HP-02-WG-31**	EPA 5030B/8260	665296		
60342478003	**HM-HP-03-WG-37**	EPA 5030B/8260	665296		
60342478004	**MCP-HP-03-WG-28**	EPA 5030B/8260	665296		
60342478005	**MCP-HP-04-WG-27**	EPA 5030B/8260	665296		
60342478006	**MCP-HP-02-WG-31**	EPA 5030B/8260	665296		
60342478007	**MCP-HP-01-WG-29.5**	EPA 5030B/8260	665296		
60342478008	**TB-01-20200713**	EPA 5030B/8260	665296		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix WO# : 60342478 JL Log-in

ALL SH 60342478

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State: AR / County/City: / Time Zone Collected: PT MT CT ET
Phone: / Email:	Site/Facility ID #: / Compliance Monitoring? [ ] Yes [ ] No
Collected by (print): David Meyer	Purchase Order #: / DW PWS ID #:
Collected by (signature):	Quote #: / DW Location Code #:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	Turnaround Date Required: 7-14-20 / RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) / Immediately Packed on Ice? [X] Yes [ ] No / Field Filtered (if applicable): [ ] Yes [X] No / Analysis:

Container Preservative Type **: 3

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager: Jamie Church

Analyses: 8260 VOCs

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

60342478

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
HM-HP-01-WB-39.5	GW	G			07-13-20	1135		3	X	30694
HM-HP-02-WB-31	GW	G			07-13-20	1732		3	X	
HM-HP-03-WB-37	GW	G			07-13-20	1226		3	X	
MCP-HP-03-WB-28	GW	G			07-13-20	1635		3	X	
MCP-HP-04-WB-27	GW	G			07-13-20	1750		3	X	
MCP-HP-02-WB-31	GW	G			07-13-20	1535		3	X	
MCP-HP-01-WB-29.5	GW	G			07-13-20	1405		3	X	
TB-01-20200713	TB	G			07-13-20	1804		2	X	20694

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: Bubble Bag

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ] VIA

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T-299

Cooler Temp Upon Receipt: 2.1 oC

Cooler Therm Corr. Factor: +0.1 oC

Cooler Temp Corrected: 2.2 oC

Comments:

Trip Blank Received: (Y) N N/A

(HCl) MeOH TSP Other

NonConformance(s): YES / NO

Page _____ of _____

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
David Meyer / Ramboll	07132020 1830	Josh Tengue via	7-13-20/1832
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
		UPS	7/14/20 0120
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

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F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

August 24, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

REV-1, 8/24/20: Sample ID changed per client request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342626001	**NE-HP-01**	Water	07/14/20 17:12	07/15/20 06:48
60342626002	**MCP-HP-05**	Water	07/14/20 17:45	07/15/20 06:48
60342626003	**TB-02-20200714**	Water	07/14/20 08:00	07/15/20 06:48

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342626001	**NE-HP-01**	EPA 5030B/8260	PGH	38	PASI-K
60342626002	**MCP-HP-05**	EPA 5030B/8260	PGH	38	PASI-K
60342626003	**TB-02-20200714**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: August 24, 2020

General Information:
3 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 665503

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Sample: NE-HP-01 **Lab ID: 60342626001** Collected: 07/14/20 17:12 Received: 07/15/20 06:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/15/20 11:14	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/15/20 11:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/15/20 11:14	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/15/20 11:14	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/15/20 11:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/15/20 11:14	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/15/20 11:14	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/15/20 11:14	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/15/20 11:14	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/15/20 11:14	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/15/20 11:14	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/15/20 11:14	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/15/20 11:14	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/15/20 11:14	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/15/20 11:14	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/15/20 11:14	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 11:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 11:14	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/15/20 11:14	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/15/20 11:14	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/15/20 11:14	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/15/20 11:14	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/15/20 11:14	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/15/20 11:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/15/20 11:14	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/15/20 11:14	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/15/20 11:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/15/20 11:14	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/15/20 11:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/15/20 11:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/15/20 11:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 11:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/15/20 11:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/15/20 11:14	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		07/15/20 11:14	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	86-117		1		07/15/20 11:14	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		07/15/20 11:14	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/15/20 11:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Sample: MCP-HP-05 **Lab ID: 60342626002** Collected: 07/14/20 17:45 Received: 07/15/20 06:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/15/20 11:28	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/15/20 11:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/15/20 11:28	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/15/20 11:28	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/15/20 11:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/15/20 11:28	78-93-3	
Carbon disulfide	**0.23J**	ug/L	5.0	0.16	1		07/15/20 11:28	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/15/20 11:28	56-23-5	
Chlorobenzene	**0.24J**	ug/L	1.0	0.13	1		07/15/20 11:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/15/20 11:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/15/20 11:28	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/15/20 11:28	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/15/20 11:28	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/15/20 11:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/15/20 11:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/15/20 11:28	75-35-4	
cis-1,2-Dichloroethene	**0.91J**	ug/L	1.0	0.17	1		07/15/20 11:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 11:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/15/20 11:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/15/20 11:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/15/20 11:28	10061-02-6	
Ethylbenzene	**0.14J**	ug/L	1.0	0.12	1		07/15/20 11:28	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/15/20 11:28	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/15/20 11:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/15/20 11:28	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/15/20 11:28	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/15/20 11:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/15/20 11:28	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/15/20 11:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/15/20 11:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/15/20 11:28	79-00-5	
Trichloroethene	**6.4**	ug/L	1.0	0.17	1		07/15/20 11:28	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/15/20 11:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/15/20 11:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		07/15/20 11:28	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		07/15/20 11:28	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		07/15/20 11:28	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/15/20 11:28		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Sample: TB-02-20200714 **Lab ID: 60342626003** Collected: 07/14/20 08:00 Received: 07/15/20 06:48 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/15/20 10:59	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/15/20 10:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/15/20 10:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/15/20 10:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/15/20 10:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/15/20 10:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/15/20 10:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/15/20 10:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/15/20 10:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/15/20 10:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/15/20 10:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/15/20 10:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/15/20 10:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/15/20 10:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/15/20 10:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/15/20 10:59	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 10:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 10:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/15/20 10:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/15/20 10:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/15/20 10:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/15/20 10:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/15/20 10:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/15/20 10:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/15/20 10:59	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/15/20 10:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/15/20 10:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/15/20 10:59	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/15/20 10:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/15/20 10:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/15/20 10:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/15/20 10:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/15/20 10:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/15/20 10:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		07/15/20 10:59	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		07/15/20 10:59	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		07/15/20 10:59	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/15/20 10:59		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

QC Batch: 665503
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342626001, 60342626002, 60342626003

METHOD BLANK: 2695893 Matrix: Water
Associated Lab Samples: 60342626001, 60342626002, 60342626003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/15/20 08:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.31	07/15/20 08:51	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/15/20 08:51	
1,1-Dichloroethane	ug/L	ND	1.0	0.097	07/15/20 08:51	
1,1-Dichloroethene	ug/L	ND	1.0	0.22	07/15/20 08:51	
1,2-Dichloroethane	ug/L	ND	1.0	0.14	07/15/20 08:51	
1,2-Dichloropropane	ug/L	ND	1.0	0.080	07/15/20 08:51	
2-Butanone (MEK)	ug/L	ND	10.0	0.70	07/15/20 08:51	
2-Hexanone	ug/L	ND	10.0	1.0	07/15/20 08:51	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.56	07/15/20 08:51	
Acetone	ug/L	5.3J	10.0	3.3	07/15/20 08:51	
Benzene	ug/L	ND	1.0	0.079	07/15/20 08:51	
Bromodichloromethane	ug/L	ND	1.0	0.17	07/15/20 08:51	
Bromoform	ug/L	ND	1.0	0.21	07/15/20 08:51	
Bromomethane	ug/L	ND	5.0	0.32	07/15/20 08:51	
Carbon disulfide	ug/L	ND	5.0	0.16	07/15/20 08:51	
Carbon tetrachloride	ug/L	ND	1.0	0.084	07/15/20 08:51	
Chlorobenzene	ug/L	ND	1.0	0.13	07/15/20 08:51	
Chloroethane	ug/L	ND	1.0	0.42	07/15/20 08:51	
Chloroform	ug/L	ND	1.0	0.10	07/15/20 08:51	
Chloromethane	ug/L	ND	1.0	0.16	07/15/20 08:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/15/20 08:51	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.087	07/15/20 08:51	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/15/20 08:51	
Ethylbenzene	ug/L	ND	1.0	0.12	07/15/20 08:51	
Methylene Chloride	ug/L	ND	1.0	0.27	07/15/20 08:51	
Styrene	ug/L	ND	1.0	0.15	07/15/20 08:51	
Tetrachloroethene	ug/L	ND	1.0	0.22	07/15/20 08:51	
Toluene	ug/L	ND	1.0	0.14	07/15/20 08:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/15/20 08:51	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.12	07/15/20 08:51	
Trichloroethene	ug/L	ND	1.0	0.17	07/15/20 08:51	
Vinyl chloride	ug/L	ND	1.0	0.11	07/15/20 08:51	
Xylene (Total)	ug/L	ND	3.0	0.34	07/15/20 08:51	
1,2-Dichloroethane-d4 (S)	%	97	86-117		07/15/20 08:51	
4-Bromofluorobenzene (S)	%	98	80-120		07/15/20 08:51	
Toluene-d8 (S)	%	99	80-120		07/15/20 08:51	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

LABORATORY CONTROL SAMPLE: 2695894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.7	104	78-118	
1,1,2-Trichloroethane	ug/L	20	20.8	104	82-117	
1,1-Dichloroethane	ug/L	20	22.3	111	85-120	
1,1-Dichloroethene	ug/L	20	21.7	108	81-124	
1,2-Dichloroethane	ug/L	20	21.0	105	79-118	
1,2-Dichloropropane	ug/L	20	22.2	111	85-117	
2-Butanone (MEK)	ug/L	100	110	110	70-125	
2-Hexanone	ug/L	100	107	107	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	73-131	
Acetone	ug/L	100	108	108	59-135	
Benzene	ug/L	20	22.2	111	82-115	
Bromodichloromethane	ug/L	20	21.4	107	82-123	
Bromoform	ug/L	20	16.7	84	66-133	
Bromomethane	ug/L	20	21.9	109	27-179	
Carbon disulfide	ug/L	20	19.9	100	72-134	
Carbon tetrachloride	ug/L	20	21.3	106	80-121	
Chlorobenzene	ug/L	20	21.6	108	80-120	
Chloroethane	ug/L	20	20.0	100	78-145	
Chloroform	ug/L	20	21.8	109	84-116	
Chloromethane	ug/L	20	21.3	107	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.9	110	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.7	108	85-117	
Dibromochloromethane	ug/L	20	18.0	90	82-122	
Ethylbenzene	ug/L	20	22.7	114	79-115	
Methylene Chloride	ug/L	20	21.7	108	80-126	
Styrene	ug/L	20	22.4	112	80-117	
Tetrachloroethene	ug/L	20	21.0	105	83-119	
Toluene	ug/L	20	22.0	110	83-115	
trans-1,2-Dichloroethene	ug/L	20	22.8	114	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	83-117	
Trichloroethene	ug/L	20	21.0	105	80-118	
Vinyl chloride	ug/L	20	23.1	115	76-144	
Xylene (Total)	ug/L	60	66.5	111	82-120	
1,2-Dichloroethane-d4 (S)	%			98	86-117	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 665503

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342626

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342626001	**NE-HP-01**	EPA 5030B/8260	665503		
60342626002	**MCP-HP-05**	EPA 5030B/8260	665503		
60342626003	**TB-02-20200714**	EPA 5030B/8260	665503		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affi

WO# : 60342626

60342626

MTJL Log-in

ALL S

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type ** 3
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	Lab Project Manager: Jamie Church
Copy To: Haley Ahlers	Site Collection Info/Address:	
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	
Phone: Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [ ] No
Collected by (print):	Purchase Order #	DW PWS ID #:
	Quote #	DW Location Code #:
Collected by (signature):	Turnaround Date Required:	Immediately Packed on Ice? [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: (Same Day) Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:_____

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 8260 VOCs
NE-TMW-01	GW	G	7/14/20	1712				3	X
MCP-HP-05	GW	G	7/14/20	1745				3	X
TB-02-20200714								1	X

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:_____			
Sample pH Acceptable	Y	N	(NA)
pH Strips:_____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:_____			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: (Wet [ ]) Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: Bubble Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client (Courier) [ ] Pace Courier

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Caroline Chavers	7/14/20 1815	[illegible]	7.15.20 0648
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:_____

ACCT #:_____

Template:_____

Prelogin:_____

PM:_____

PB:_____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T99

Cooler Temp Upon Receipt 0.8 oC

Cooler Therm Corr. Factor +0.1 oC

Cooler Temp Corrected 0.9 oC

Comments:_____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

Page _____ of _____

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

July 24, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342654001	**MW-197-SL-20-25**	Solid	07/14/20 12:15	07/15/20 06:48
60342654002	**TB-01-20200714**	Solid	07/14/20 18:03	07/15/20 06:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342654001	**MW-197-SL-20-25**	EPA 8260B	RAD	37	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9060	TJJ	6	PASI-G
60342654002	**TB-01-20200714**	EPA 8260B	RAD	37	PASI-K

PASI-G = Pace Analytical Services - Green Bay
PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Method: **EPA 8260B**
Description: 8260 MSV 5035A VOA
Client: Ramboll_AR
Date: July 24, 2020

General Information:
2 samples were analyzed for EPA 8260B by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035A/5030 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Method: **EPA 9060**
Description: Total Organic Carbon Quad
Client: Ramboll_AR
Date: July 24, 2020

General Information:
1 sample was analyzed for EPA 9060 by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Sample: MW-197-SL-20-25 **Lab ID: 60342654001** Collected: 07/14/20 12:15 Received: 07/15/20 06:48 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030 Pace Analytical Services - Kansas City								
Acetone	ND	ug/kg	16.4	13.3	1	07/17/20 10:27	07/17/20 11:22	67-64-1	
Benzene	ND	ug/kg	4.1	0.40	1	07/17/20 10:27	07/17/20 11:22	71-43-2	
Bromodichloromethane	ND	ug/kg	4.1	0.49	1	07/17/20 10:27	07/17/20 11:22	75-27-4	
Bromoform	ND	ug/kg	4.1	0.47	1	07/17/20 10:27	07/17/20 11:22	75-25-2	
Bromomethane	ND	ug/kg	4.1	2.4	1	07/17/20 10:27	07/17/20 11:22	74-83-9	
2-Butanone (MEK)	ND	ug/kg	8.2	2.8	1	07/17/20 10:27	07/17/20 11:22	78-93-3	
Carbon disulfide	ND	ug/kg	4.1	0.53	1	07/17/20 10:27	07/17/20 11:22	75-15-0	
Carbon tetrachloride	ND	ug/kg	4.1	0.70	1	07/17/20 10:27	07/17/20 11:22	56-23-5	
Chlorobenzene	ND	ug/kg	4.1	0.51	1	07/17/20 10:27	07/17/20 11:22	108-90-7	
Chloroethane	ND	ug/kg	4.1	1.2	1	07/17/20 10:27	07/17/20 11:22	75-00-3	
Chloroform	ND	ug/kg	4.1	0.40	1	07/17/20 10:27	07/17/20 11:22	67-66-3	
Chloromethane	ND	ug/kg	4.1	0.65	1	07/17/20 10:27	07/17/20 11:22	74-87-3	
Dibromochloromethane	ND	ug/kg	4.1	0.53	1	07/17/20 10:27	07/17/20 11:22	124-48-1	
1,1-Dichloroethane	ND	ug/kg	4.1	0.32	1	07/17/20 10:27	07/17/20 11:22	75-34-3	
1,2-Dichloroethane	ND	ug/kg	4.1	0.33	1	07/17/20 10:27	07/17/20 11:22	107-06-2	
1,1-Dichloroethene	ND	ug/kg	4.1	0.52	1	07/17/20 10:27	07/17/20 11:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	4.1	0.35	1	07/17/20 10:27	07/17/20 11:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	4.1	0.56	1	07/17/20 10:27	07/17/20 11:22	156-60-5	
1,2-Dichloropropane	ND	ug/kg	4.1	0.80	1	07/17/20 10:27	07/17/20 11:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/kg	4.1	0.43	1	07/17/20 10:27	07/17/20 11:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	4.1	0.37	1	07/17/20 10:27	07/17/20 11:22	10061-02-6	
Ethylbenzene	ND	ug/kg	4.1	0.38	1	07/17/20 10:27	07/17/20 11:22	100-41-4	
2-Hexanone	ND	ug/kg	16.4	2.0	1	07/17/20 10:27	07/17/20 11:22	591-78-6	
Methylene Chloride	ND	ug/kg	4.1	2.2	1	07/17/20 10:27	07/17/20 11:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	8.2	2.5	1	07/17/20 10:27	07/17/20 11:22	108-10-1	
Styrene	ND	ug/kg	4.1	0.48	1	07/17/20 10:27	07/17/20 11:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.1	0.82	1	07/17/20 10:27	07/17/20 11:22	79-34-5	
Tetrachloroethene	ND	ug/kg	4.1	0.34	1	07/17/20 10:27	07/17/20 11:22	127-18-4	
Toluene	ND	ug/kg	4.1	0.29	1	07/17/20 10:27	07/17/20 11:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/kg	4.1	0.61	1	07/17/20 10:27	07/17/20 11:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	4.1	0.52	1	07/17/20 10:27	07/17/20 11:22	79-00-5	
Trichloroethene	**2.1J**	ug/kg	4.1	0.59	1	07/17/20 10:27	07/17/20 11:22	79-01-6	
Vinyl chloride	ND	ug/kg	4.1	0.55	1	07/17/20 10:27	07/17/20 11:22	75-01-4	
Xylene (Total)	ND	ug/kg	4.1	0.93	1	07/17/20 10:27	07/17/20 11:22	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	80-120		1	07/17/20 10:27	07/17/20 11:22	2037-26-5	
4-Bromofluorobenzene (S)	95	%	85-115		1	07/17/20 10:27	07/17/20 11:22	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	78-118		1	07/17/20 10:27	07/17/20 11:22	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	**8.4**	%	0.50	0.50	1		07/15/20 15:59		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Sample: MW-197-SL-20-25 **Lab ID: 60342654001** Collected: 07/14/20 12:15 Received: 07/15/20 06:48 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**351J**	mg/kg	700	210	1		07/23/20 10:57	7440-44-0	
Total Organic Carbon	**301J**	mg/kg	705	211	1		07/23/20 11:04	7440-44-0	
Total Organic Carbon	**235J**	mg/kg	706	212	1		07/23/20 11:10	7440-44-0	
Total Organic Carbon	**352J**	mg/kg	705	211	1		07/23/20 11:16	7440-44-0	
Mean Total Organic Carbon	**310J**	mg/kg	704	211	1		07/23/20 10:57	7440-44-0	
Surrogates									
RSD%	**17.8**	%			1		07/23/20 10:57		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Sample: TB-01-20200714 **Lab ID: 60342654002** Collected: 07/14/20 18:03 Received: 07/15/20 06:48 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030 Pace Analytical Services - Kansas City								
Acetone	ND	ug/kg	20.0	16.2	1	07/17/20 10:27	07/17/20 11:06	67-64-1	
Benzene	ND	ug/kg	5.0	0.49	1	07/17/20 10:27	07/17/20 11:06	71-43-2	
Bromodichloromethane	ND	ug/kg	5.0	0.60	1	07/17/20 10:27	07/17/20 11:06	75-27-4	
Bromoform	ND	ug/kg	5.0	0.58	1	07/17/20 10:27	07/17/20 11:06	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.9	1	07/17/20 10:27	07/17/20 11:06	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	3.4	1	07/17/20 10:27	07/17/20 11:06	78-93-3	
Carbon disulfide	ND	ug/kg	5.0	0.64	1	07/17/20 10:27	07/17/20 11:06	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	0.86	1	07/17/20 10:27	07/17/20 11:06	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	0.63	1	07/17/20 10:27	07/17/20 11:06	108-90-7	
Chloroethane	ND	ug/kg	5.0	1.5	1	07/17/20 10:27	07/17/20 11:06	75-00-3	
Chloroform	ND	ug/kg	5.0	0.49	1	07/17/20 10:27	07/17/20 11:06	67-66-3	
Chloromethane	ND	ug/kg	5.0	0.80	1	07/17/20 10:27	07/17/20 11:06	74-87-3	
Dibromochloromethane	ND	ug/kg	5.0	0.65	1	07/17/20 10:27	07/17/20 11:06	124-48-1	
1,1-Dichloroethane	ND	ug/kg	5.0	0.39	1	07/17/20 10:27	07/17/20 11:06	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	0.40	1	07/17/20 10:27	07/17/20 11:06	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.0	0.64	1	07/17/20 10:27	07/17/20 11:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	0.43	1	07/17/20 10:27	07/17/20 11:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	0.68	1	07/17/20 10:27	07/17/20 11:06	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	0.98	1	07/17/20 10:27	07/17/20 11:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	0.53	1	07/17/20 10:27	07/17/20 11:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	0.46	1	07/17/20 10:27	07/17/20 11:06	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	0.46	1	07/17/20 10:27	07/17/20 11:06	100-41-4	
2-Hexanone	ND	ug/kg	20.0	2.5	1	07/17/20 10:27	07/17/20 11:06	591-78-6	
Methylene Chloride	ND	ug/kg	5.0	2.7	1	07/17/20 10:27	07/17/20 11:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	3.0	1	07/17/20 10:27	07/17/20 11:06	108-10-1	
Styrene	ND	ug/kg	5.0	0.59	1	07/17/20 10:27	07/17/20 11:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	1.0	1	07/17/20 10:27	07/17/20 11:06	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	0.41	1	07/17/20 10:27	07/17/20 11:06	127-18-4	
Toluene	ND	ug/kg	5.0	0.35	1	07/17/20 10:27	07/17/20 11:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/kg	5.0	0.75	1	07/17/20 10:27	07/17/20 11:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	0.63	1	07/17/20 10:27	07/17/20 11:06	79-00-5	
Trichloroethene	ND	ug/kg	5.0	0.72	1	07/17/20 10:27	07/17/20 11:06	79-01-6	
Vinyl chloride	ND	ug/kg	5.0	0.67	1	07/17/20 10:27	07/17/20 11:06	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	1.1	1	07/17/20 10:27	07/17/20 11:06	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	80-120		1	07/17/20 10:27	07/17/20 11:06	2037-26-5	
4-Bromofluorobenzene (S)	95	%	85-115		1	07/17/20 10:27	07/17/20 11:06	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	78-118		1	07/17/20 10:27	07/17/20 11:06	17060-07-0	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

QC Batch: 666048
QC Batch Method: EPA 5035A/5030
Analysis Method: EPA 8260B
Analysis Description: 8260 MSV 5035A Volatile Organics
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342654001, 60342654002

METHOD BLANK: 2698153 Matrix: Solid
Associated Lab Samples: 60342654001, 60342654002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	ND	5.0	0.75	07/17/20 10:51	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	1.0	07/17/20 10:51	
1,1,2-Trichloroethane	ug/kg	ND	5.0	0.63	07/17/20 10:51	
1,1-Dichloroethane	ug/kg	ND	5.0	0.39	07/17/20 10:51	
1,1-Dichloroethene	ug/kg	ND	5.0	0.64	07/17/20 10:51	
1,2-Dichloroethane	ug/kg	ND	5.0	0.40	07/17/20 10:51	
1,2-Dichloropropane	ug/kg	ND	5.0	0.98	07/17/20 10:51	
2-Butanone (MEK)	ug/kg	ND	10.0	3.4	07/17/20 10:51	
2-Hexanone	ug/kg	ND	20.0	2.5	07/17/20 10:51	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	3.0	07/17/20 10:51	
Acetone	ug/kg	ND	20.0	16.2	07/17/20 10:51	
Benzene	ug/kg	ND	5.0	0.49	07/17/20 10:51	
Bromodichloromethane	ug/kg	ND	5.0	0.60	07/17/20 10:51	
Bromoform	ug/kg	ND	5.0	0.58	07/17/20 10:51	
Bromomethane	ug/kg	ND	5.0	2.9	07/17/20 10:51	
Carbon disulfide	ug/kg	ND	5.0	0.64	07/17/20 10:51	
Carbon tetrachloride	ug/kg	ND	5.0	0.86	07/17/20 10:51	
Chlorobenzene	ug/kg	ND	5.0	0.63	07/17/20 10:51	
Chloroethane	ug/kg	ND	5.0	1.5	07/17/20 10:51	
Chloroform	ug/kg	ND	5.0	0.49	07/17/20 10:51	
Chloromethane	ug/kg	ND	5.0	0.80	07/17/20 10:51	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	0.43	07/17/20 10:51	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	0.53	07/17/20 10:51	
Dibromochloromethane	ug/kg	ND	5.0	0.65	07/17/20 10:51	
Ethylbenzene	ug/kg	ND	5.0	0.46	07/17/20 10:51	
Methylene Chloride	ug/kg	ND	5.0	2.7	07/17/20 10:51	
Styrene	ug/kg	ND	5.0	0.59	07/17/20 10:51	
Tetrachloroethene	ug/kg	ND	5.0	0.41	07/17/20 10:51	
Toluene	ug/kg	ND	5.0	0.35	07/17/20 10:51	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	0.68	07/17/20 10:51	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	0.46	07/17/20 10:51	
Trichloroethene	ug/kg	ND	5.0	0.72	07/17/20 10:51	
Vinyl chloride	ug/kg	ND	5.0	0.67	07/17/20 10:51	
Xylene (Total)	ug/kg	ND	5.0	1.1	07/17/20 10:51	
1,2-Dichloroethane-d4 (S)	%	91	78-118		07/17/20 10:51	
4-Bromofluorobenzene (S)	%	95	85-115		07/17/20 10:51	
Toluene-d8 (S)	%	102	80-120		07/17/20 10:51	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

LABORATORY CONTROL SAMPLE: 2698154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	100	110	110	81-121	
1,1,2,2-Tetrachloroethane	ug/kg	100	100	100	76-121	
1,1,2-Trichloroethane	ug/kg	100	107	107	83-118	
1,1-Dichloroethane	ug/kg	100	103	103	74-120	
1,1-Dichloroethene	ug/kg	100	112	112	71-124	
1,2-Dichloroethane	ug/kg	100	93.4	93	58-128	
1,2-Dichloropropane	ug/kg	100	99.3	99	77-122	
2-Butanone (MEK)	ug/kg	500	445	89	63-122	
2-Hexanone	ug/kg	500	464	93	68-122	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	447	89	63-128	
Acetone	ug/kg	500	455	91	55-124	
Benzene	ug/kg	100	105	105	67-126	
Bromodichloromethane	ug/kg	100	106	106	82-120	
Bromoform	ug/kg	100	119	119	77-133	
Bromomethane	ug/kg	100	110	110	20-168	
Carbon disulfide	ug/kg	100	109	109	60-133	
Carbon tetrachloride	ug/kg	100	114	114	79-128	
Chlorobenzene	ug/kg	100	111	111	84-118	
Chloroethane	ug/kg	100	97.3	97	53-139	
Chloroform	ug/kg	100	106	106	82-120	
Chloromethane	ug/kg	100	92.0	92	33-143	
cis-1,2-Dichloroethene	ug/kg	100	110	110	83-117	
cis-1,3-Dichloropropene	ug/kg	100	106	106	80-122	
Dibromochloromethane	ug/kg	100	116	116	82-128	
Ethylbenzene	ug/kg	100	112	112	69-127	
Methylene Chloride	ug/kg	100	107	107	68-125	
Styrene	ug/kg	100	110	110	84-121	
Tetrachloroethene	ug/kg	100	121	121	78-130	
Toluene	ug/kg	100	107	107	80-118	
trans-1,2-Dichloroethene	ug/kg	100	110	110	78-118	
trans-1,3-Dichloropropene	ug/kg	100	107	107	81-123	
Trichloroethene	ug/kg	100	111	111	78-127	
Vinyl chloride	ug/kg	100	98.8	99	45-139	
Xylene (Total)	ug/kg	300	328	109	69-130	
1,2-Dichloroethane-d4 (S)	%			94	78-118	
4-Bromofluorobenzene (S)	%			98	85-115	
Toluene-d8 (S)	%			103	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

QC Batch: 665637
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342654001

METHOD BLANK: 2696529 Matrix: Solid
Associated Lab Samples: 60342654001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	07/15/20 15:58	

SAMPLE DUPLICATE: 2696530

Parameter	Units	60342651001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	19.7	19.9	1	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

QC Batch: 361002
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 60342654001

METHOD BLANK: 2087077 Matrix: Solid
Associated Lab Samples: 60342654001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	647	194	07/23/20 08:33	

LABORATORY CONTROL SAMPLE: 2087078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	107000	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087079 2087080

Parameter	Units	60342853001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	ND	7050	7050	5370	5280	73	72	50-150	2	30	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342654

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342654001	**MW-197-SL-20-25**	EPA 5035A/5030	666048	EPA 8260B	666056
60342654002	**TB-01-20200714**	EPA 5035A/5030	666048	EPA 8260B	666056
60342654001	**MW-197-SL-20-25**	ASTM D2974	665637		
60342654001	**MW-197-SL-20-25**	EPA 9060	361002		
60342654001	**MW-197-SL-20-25**	EPA 9060	361007		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix W... L Log-in

WO# : 60342654

60342654

ALL SH...

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Container Preservative Type **

Lab Project Manager: Jamie Church

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State: AR County/City: Fort Smith Time Zone Collected: PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [X] No

Collected by (print): Ian McQuaig

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required:

Immediately Packed on Ice? [X] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH:
Same Day Next Day 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓
Lab Sample # / Comments

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260 VOCs DM	8260 Mini B. Sulfate SO3 Slit	TOC	Trip Blank
MW-197-SL-20-25	SL	G			7-14-20	1215		3		X	X	
TB-01-20200714	TB	-			7-14-20	1803		1				X

DM

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: 2plc, foam

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____
ACCT #: _____
Template: _____
Prelogin: _____
PM: _____
PB: _____

LAB Sample Temperature Info:
Temp Blank received: Y N NA
Therm ID #: T299
Cooler Temp Upon Receipt 0.8 oC
Cooler Therm Corr. Factor 10.1 oC
Cooler Temp Corrected 0.9 oC
Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page _____ of _____

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Ian McQuaig/Ramboll	7/14/20 1815	[signature]	7-15-20 0648
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

LL-C-010-rev 00, 05Jul2018

Pace Analytical

Sample Receiving Non-Conformance Form (NCF)

Date: 7.15.20	Evaluated by:
Client: Ramboll	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

☐ Collection date/time missing or incorrect	☐ Analyses or analytes: missing or clarification needed	☐ Samples listed on COC do not match samples received (missing, additional, etc.)
☐ Sample IDs on COC do not match sample labels	☐ Required trip blanks were not received	☐ Required signatures are missing

Comments/Details/Other Issues not listed above:

3. Sample integrity issues: check applicable issues below and add details where appropriate:

☐ Samples: Past holding time	☐ Samples: Condition needs to be brought to lab personnel's attention (details below)	☐ Preservation: Improper
☐ Samples: Not field filtered	☐ Containers: Broken or compromised	☐ Temperature: not within acceptance criteria (typically 0-6C)
☐ Samples: Insufficient volume received	☐ Containers: Incorrect	☐ Temperature: Samples arrived frozen
☐ Samples: Cooler damaged or compromised	☐ Custody Seals: Missing or compromised on samples, trip blanks or coolers	☐ Vials received with improper headspace
☐ Samples: contain chlorine or sulfides	☐ Packing Material: Insufficient/Improper	☐ Other: extra label

Comments/Details:
VOA vial for trip blank has extra label

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

August 24, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

REV-1, 8/24/20: Sample ID corrections per client request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342800001	**NE-HP-02-WG-24.7**	Water	07/15/20 08:53	07/16/20 02:45
60342800002	**NE-HP-03-WG-24.3**	Water	07/15/20 09:26	07/16/20 02:45
60342800003	**HM-HP-04-WG-38**	Water	07/15/20 12:06	07/16/20 02:45
60342800004	**HM-HP-05-WG-37**	Water	07/15/20 13:45	07/16/20 02:45
60342800005	**MCP-HP-06-WG-22**	Water	07/15/20 15:54	07/16/20 02:45
60342800006	**TB-05-20200715**	Water	07/15/20 08:00	07/16/20 02:45

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342800001	**NE-HP-02-WG-24.7**	EPA 5030B/8260	PGH	38	PASI-K
60342800002	**NE-HP-03-WG-24.3**	EPA 5030B/8260	PGH	38	PASI-K
60342800003	**HM-HP-04-WG-38**	EPA 5030B/8260	PGH	38	PASI-K
60342800004	**HM-HP-05-WG-37**	EPA 5030B/8260	PGH	38	PASI-K
60342800005	**MCP-HP-06-WG-22**	EPA 5030B/8260	PGH	38	PASI-K
60342800006	**TB-05-20200715**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: August 24, 2020

General Information:
6 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- MCP-HP-06-WG-22 (Lab ID: 60342800005)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 665754

B: Analyte was detected in the associated method blank.
- BLANK for HBN 665754 [MSV/1075 (Lab ID: 2697068)
  - Carbon disulfide

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 665754

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Sample: NE-HP-02-WG-24.7 **Lab ID: 60342800001** Collected: 07/15/20 08:53 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**6.6J**	ug/L	10.0	3.3	1		07/16/20 10:57	67-64-1	
Benzene	**0.16J**	ug/L	1.0	0.079	1		07/16/20 10:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/16/20 10:57	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/16/20 10:57	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/16/20 10:57	74-83-9	
2-Butanone (MEK)	**1.8J**	ug/L	10.0	0.70	1		07/16/20 10:57	78-93-3	
Carbon disulfide	**0.18J**	ug/L	5.0	0.16	1		07/16/20 10:57	75-15-0	B
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/16/20 10:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/16/20 10:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/16/20 10:57	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/16/20 10:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/16/20 10:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/16/20 10:57	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/16/20 10:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/16/20 10:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/16/20 10:57	75-35-4	
cis-1,2-Dichloroethene	**0.36J**	ug/L	1.0	0.17	1		07/16/20 10:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 10:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/16/20 10:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/16/20 10:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/16/20 10:57	10061-02-6	
Ethylbenzene	**0.18J**	ug/L	1.0	0.12	1		07/16/20 10:57	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/16/20 10:57	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/16/20 10:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/16/20 10:57	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/16/20 10:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/16/20 10:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/16/20 10:57	127-18-4	
Toluene	**0.30J**	ug/L	1.0	0.14	1		07/16/20 10:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/16/20 10:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/16/20 10:57	79-00-5	
Trichloroethene	**1.5**	ug/L	1.0	0.17	1		07/16/20 10:57	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/16/20 10:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/16/20 10:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		07/16/20 10:57	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		07/16/20 10:57	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		07/16/20 10:57	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/16/20 10:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Sample: NE-HP-03-WG-24.3 **Lab ID: 60342800002** Collected: 07/15/20 09:26 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**5.8J**	ug/L	10.0	3.3	1		07/16/20 11:12	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/16/20 11:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/16/20 11:12	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/16/20 11:12	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/16/20 11:12	74-83-9	
2-Butanone (MEK)	**3.2J**	ug/L	10.0	0.70	1		07/16/20 11:12	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/16/20 11:12	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/16/20 11:12	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/16/20 11:12	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/16/20 11:12	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/16/20 11:12	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/16/20 11:12	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/16/20 11:12	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/16/20 11:12	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/16/20 11:12	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:12	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/16/20 11:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/16/20 11:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/16/20 11:12	10061-02-6	
Ethylbenzene	**0.35J**	ug/L	1.0	0.12	1		07/16/20 11:12	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/16/20 11:12	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/16/20 11:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/16/20 11:12	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/16/20 11:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/16/20 11:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:12	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/16/20 11:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/16/20 11:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/16/20 11:12	79-00-5	
Trichloroethene	**0.17J**	ug/L	1.0	0.17	1		07/16/20 11:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/16/20 11:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/16/20 11:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		07/16/20 11:12	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		07/16/20 11:12	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		07/16/20 11:12	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/16/20 11:12		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Sample: HM-HP-04-WG-38 **Lab ID: 60342800003** Collected: 07/15/20 12:06 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/16/20 11:26	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/16/20 11:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/16/20 11:26	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/16/20 11:26	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/16/20 11:26	74-83-9	
2-Butanone (MEK)	**1.4J**	ug/L	10.0	0.70	1		07/16/20 11:26	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/16/20 11:26	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/16/20 11:26	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/16/20 11:26	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/16/20 11:26	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/16/20 11:26	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/16/20 11:26	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/16/20 11:26	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/16/20 11:26	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/16/20 11:26	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:26	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:26	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/16/20 11:26	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/16/20 11:26	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/16/20 11:26	10061-02-6	
Ethylbenzene	**0.24J**	ug/L	1.0	0.12	1		07/16/20 11:26	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/16/20 11:26	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/16/20 11:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/16/20 11:26	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/16/20 11:26	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/16/20 11:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:26	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/16/20 11:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/16/20 11:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/16/20 11:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/16/20 11:26	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/16/20 11:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		07/16/20 11:26	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		07/16/20 11:26	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		07/16/20 11:26	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/16/20 11:26		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Sample: HM-HP-05-WG-37 **Lab ID: 60342800004** Collected: 07/15/20 13:45 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**6.6J**	ug/L	10.0	3.3	1		07/16/20 11:40	67-64-1	
Benzene	**0.30J**	ug/L	1.0	0.079	1		07/16/20 11:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/16/20 11:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/16/20 11:40	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/16/20 11:40	74-83-9	
2-Butanone (MEK)	**4.0J**	ug/L	10.0	0.70	1		07/16/20 11:40	78-93-3	
Carbon disulfide	**0.34J**	ug/L	5.0	0.16	1		07/16/20 11:40	75-15-0	B
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/16/20 11:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/16/20 11:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/16/20 11:40	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/16/20 11:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/16/20 11:40	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/16/20 11:40	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/16/20 11:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/16/20 11:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/16/20 11:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/16/20 11:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/16/20 11:40	10061-02-6	
Ethylbenzene	**0.53J**	ug/L	1.0	0.12	1		07/16/20 11:40	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/16/20 11:40	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/16/20 11:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/16/20 11:40	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/16/20 11:40	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/16/20 11:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:40	127-18-4	
Toluene	**0.36J**	ug/L	1.0	0.14	1		07/16/20 11:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/16/20 11:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/16/20 11:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/16/20 11:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/16/20 11:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		07/16/20 11:40	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		07/16/20 11:40	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/16/20 11:40	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/16/20 11:40		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Sample: MCP-HP-06-WG-22 **Lab ID: 60342800005** Collected: 07/15/20 15:54 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.9J**	ug/L	10.0	3.3	1		07/16/20 11:55	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/16/20 11:55	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/16/20 11:55	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/16/20 11:55	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/16/20 11:55	74-83-9	
2-Butanone (MEK)	**11.1**	ug/L	10.0	0.70	1		07/16/20 11:55	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/16/20 11:55	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/16/20 11:55	56-23-5	
Chlorobenzene	**0.14J**	ug/L	1.0	0.13	1		07/16/20 11:55	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/16/20 11:55	75-00-3	
Chloroform	**0.24J**	ug/L	1.0	0.10	1		07/16/20 11:55	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/16/20 11:55	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/16/20 11:55	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/16/20 11:55	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/16/20 11:55	107-06-2	
1,1-Dichloroethene	**0.30J**	ug/L	1.0	0.22	1		07/16/20 11:55	75-35-4	
cis-1,2-Dichloroethene	**4.7**	ug/L	1.0	0.17	1		07/16/20 11:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 11:55	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/16/20 11:55	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/16/20 11:55	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/16/20 11:55	10061-02-6	
Ethylbenzene	**0.29J**	ug/L	1.0	0.12	1		07/16/20 11:55	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/16/20 11:55	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/16/20 11:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/16/20 11:55	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/16/20 11:55	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/16/20 11:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/16/20 11:55	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/16/20 11:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/16/20 11:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/16/20 11:55	79-00-5	
Trichloroethene	**41.8**	ug/L	1.0	0.17	1		07/16/20 11:55	79-01-6	
Vinyl chloride	**0.40J**	ug/L	1.0	0.11	1		07/16/20 11:55	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/16/20 11:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		07/16/20 11:55	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		07/16/20 11:55	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		07/16/20 11:55	2037-26-5	
Preservation pH	**5.0**		0.10	0.10	1		07/16/20 11:55		pH

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Sample: TB-05-20200715 **Lab ID: 60342800006** Collected: 07/15/20 08:00 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/16/20 10:43	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/16/20 10:43	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/16/20 10:43	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/16/20 10:43	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/16/20 10:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/16/20 10:43	78-93-3	
Carbon disulfide	**0.17J**	ug/L	5.0	0.16	1		07/16/20 10:43	75-15-0	B
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/16/20 10:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/16/20 10:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/16/20 10:43	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/16/20 10:43	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/16/20 10:43	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/16/20 10:43	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/16/20 10:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/16/20 10:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/16/20 10:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 10:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 10:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/16/20 10:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/16/20 10:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/16/20 10:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/16/20 10:43	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/16/20 10:43	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/16/20 10:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/16/20 10:43	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/16/20 10:43	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/16/20 10:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/16/20 10:43	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/16/20 10:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/16/20 10:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/16/20 10:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/16/20 10:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/16/20 10:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/16/20 10:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		07/16/20 10:43	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		07/16/20 10:43	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/16/20 10:43	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/16/20 10:43		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

QC Batch: 665754
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342800001, 60342800002, 60342800003, 60342800004, 60342800005, 60342800006

METHOD BLANK: 2697068 Matrix: Water
Associated Lab Samples: 60342800001, 60342800002, 60342800003, 60342800004, 60342800005, 60342800006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/16/20 10:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.31	07/16/20 10:29	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/16/20 10:29	
1,1-Dichloroethane	ug/L	ND	1.0	0.097	07/16/20 10:29	
1,1-Dichloroethene	ug/L	ND	1.0	0.22	07/16/20 10:29	
1,2-Dichloroethane	ug/L	ND	1.0	0.14	07/16/20 10:29	
1,2-Dichloropropane	ug/L	ND	1.0	0.080	07/16/20 10:29	
2-Butanone (MEK)	ug/L	ND	10.0	0.70	07/16/20 10:29	
2-Hexanone	ug/L	ND	10.0	1.0	07/16/20 10:29	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.56	07/16/20 10:29	
Acetone	ug/L	ND	10.0	3.3	07/16/20 10:29	
Benzene	ug/L	ND	1.0	0.079	07/16/20 10:29	
Bromodichloromethane	ug/L	ND	1.0	0.17	07/16/20 10:29	
Bromoform	ug/L	ND	1.0	0.21	07/16/20 10:29	
Bromomethane	ug/L	ND	5.0	0.32	07/16/20 10:29	
Carbon disulfide	ug/L	0.19J	5.0	0.16	07/16/20 10:29	
Carbon tetrachloride	ug/L	ND	1.0	0.084	07/16/20 10:29	
Chlorobenzene	ug/L	ND	1.0	0.13	07/16/20 10:29	
Chloroethane	ug/L	ND	1.0	0.42	07/16/20 10:29	
Chloroform	ug/L	ND	1.0	0.10	07/16/20 10:29	
Chloromethane	ug/L	ND	1.0	0.16	07/16/20 10:29	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/16/20 10:29	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.087	07/16/20 10:29	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/16/20 10:29	
Ethylbenzene	ug/L	ND	1.0	0.12	07/16/20 10:29	
Methylene Chloride	ug/L	ND	1.0	0.27	07/16/20 10:29	
Styrene	ug/L	ND	1.0	0.15	07/16/20 10:29	
Tetrachloroethene	ug/L	ND	1.0	0.22	07/16/20 10:29	
Toluene	ug/L	ND	1.0	0.14	07/16/20 10:29	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/16/20 10:29	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.12	07/16/20 10:29	
Trichloroethene	ug/L	ND	1.0	0.17	07/16/20 10:29	
Vinyl chloride	ug/L	ND	1.0	0.11	07/16/20 10:29	
Xylene (Total)	ug/L	ND	3.0	0.34	07/16/20 10:29	
1,2-Dichloroethane-d4 (S)	%	99	86-117		07/16/20 10:29	
4-Bromofluorobenzene (S)	%	97	80-120		07/16/20 10:29	
Toluene-d8 (S)	%	101	80-120		07/16/20 10:29	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

LABORATORY CONTROL SAMPLE: 2697069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	98	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	78-118	
1,1,2-Trichloroethane	ug/L	20	19.7	98	82-117	
1,1-Dichloroethane	ug/L	20	20.8	104	85-120	
1,1-Dichloroethene	ug/L	20	19.6	98	81-124	
1,2-Dichloroethane	ug/L	20	19.2	96	79-118	
1,2-Dichloropropane	ug/L	20	20.7	104	85-117	
2-Butanone (MEK)	ug/L	100	101	101	70-125	
2-Hexanone	ug/L	100	96.9	97	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	73-131	
Acetone	ug/L	100	100	100	59-135	
Benzene	ug/L	20	20.0	100	82-115	
Bromodichloromethane	ug/L	20	20.7	103	82-123	
Bromoform	ug/L	20	18.3	91	66-133	
Bromomethane	ug/L	20	24.5	122	27-179	
Carbon disulfide	ug/L	20	23.8	119	72-134	
Carbon tetrachloride	ug/L	20	20.2	101	80-121	
Chlorobenzene	ug/L	20	20.4	102	80-120	
Chloroethane	ug/L	20	19.2	96	78-145	
Chloroform	ug/L	20	19.5	97	84-116	
Chloromethane	ug/L	20	14.2	71	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.4	102	85-117	
Dibromochloromethane	ug/L	20	20.7	104	82-122	
Ethylbenzene	ug/L	20	19.6	98	79-115	
Methylene Chloride	ug/L	20	19.9	100	80-126	
Styrene	ug/L	20	21.0	105	80-117	
Tetrachloroethene	ug/L	20	20.3	101	83-119	
Toluene	ug/L	20	20.0	100	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	21.2	106	83-117	
Trichloroethene	ug/L	20	20.8	104	80-118	
Vinyl chloride	ug/L	20	18.3	91	76-144	
Xylene (Total)	ug/L	60	60.4	101	82-120	
1,2-Dichloroethane-d4 (S)	%			102	86-117	
4-Bromofluorobenzene (S)	%			95	80-120	
Toluene-d8 (S)	%			101	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 665754

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342800

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342800001	**NE-HP-02-WG-24.7**	EPA 5030B/8260	665754		
60342800002	**NE-HP-03-WG-24.3**	EPA 5030B/8260	665754		
60342800003	**HM-HP-04-WG-38**	EPA 5030B/8260	665754		
60342800004	**HM-HP-05-WG-37**	EPA 5030B/8260	665754		
60342800005	**MCP-HP-06-WG-22**	EPA 5030B/8260	665754		
60342800006	**TB-05-20200715**	EPA 5030B/8260	665754		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Aff

WO# : 60342800

60342800

MTJL Log-in

ALL S

Company: Ramboll	Billing Information: Tamara House-Knight	
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210		Container Preservative Type ** 3
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com	Lab Project Manager: Jamie Church
Copy To: Haley Ahlers	Site Collection Info/Address:	** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET	Analyses
Phone: Email:	Site/Facility ID #	Compliance Monitoring? [ ] Yes [X] No
Collected by (print):	Purchase Order #	DW PWS ID #:
	Quote #	DW Location Code #:
Collected by (signature):	Turnaround Date Required:	Immediately Packed on Ice? [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: (Same Day) Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [X] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260 VOCs	trip blank
NE-TMW-02-WG-24.7	GW	G	7/15/20	0653				3	X	
NE-TMW-03-WG-24.3	GW	G	7/15/20	0926				3	X	
HM-HP-04-WG-38	GW	G	7/15/20	1206				3	X	
HM-HP-05-WG-37	GW	G	7/15/20	1345				3	X	
MCP-HP-06-WG-22	GW	G	7/15/20	1554				3	X	
TB-05-20200715										X

CRC

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	Y	N	(NA)
pH Strips: _____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: bubble bag

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ] VIA

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Caroline Crace	7/15/20 1815	EBrockett/Pace	7-16-20 0245
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T-299

Cooler Temp Upon Receipt 4.4 oC

Cooler Therm Corr. Factor +0.1 oC

Cooler Temp Corrected 4.5 oC

Comments: _____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s) YES / (NO)

Page _____ of _____

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July 23, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342851001	**TMW-36B-202007**	Water	07/15/20 15:55	07/16/20 02:45
60342851002	**TB-04-20200715**	Water	07/15/20 08:00	07/16/20 02:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342851001	**TMW-36B-202007**	EPA 5030B/8260	PGH	38	PASI-K
60342851002	**TB-04-20200715**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: July 23, 2020

General Information:
2 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 666295

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 666308

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Sample: TMW-36B-202007 **Lab ID: 60342851001** Collected: 07/15/20 15:55 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/22/20 22:15	67-64-1	
Benzene	**0.26J**	ug/L	1.0	0.079	1		07/22/20 22:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/22/20 22:15	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/22/20 22:15	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/22/20 22:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/22/20 22:15	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/22/20 22:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/22/20 22:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/22/20 22:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/22/20 22:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/22/20 22:15	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/22/20 22:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/22/20 22:15	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/22/20 22:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/22/20 22:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/22/20 22:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/22/20 22:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/22/20 22:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/22/20 22:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/22/20 22:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/22/20 22:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/22/20 22:15	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/22/20 22:15	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/22/20 22:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.1J**	ug/L	10.0	0.56	1		07/22/20 22:15	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/22/20 22:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/22/20 22:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/22/20 22:15	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/22/20 22:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/22/20 22:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/22/20 22:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/22/20 22:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/22/20 22:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/22/20 22:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		07/22/20 22:15	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		07/22/20 22:15	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/22/20 22:15	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/22/20 22:15		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Sample: TB-04-20200715 **Lab ID: 60342851002** Collected: 07/15/20 08:00 Received: 07/16/20 02:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/21/20 12:54	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/21/20 12:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/21/20 12:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/21/20 12:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/21/20 12:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/21/20 12:54	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/21/20 12:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/21/20 12:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/21/20 12:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/21/20 12:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/21/20 12:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/21/20 12:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/21/20 12:54	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/21/20 12:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/21/20 12:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/21/20 12:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 12:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 12:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/21/20 12:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/21/20 12:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/21/20 12:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/21/20 12:54	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/21/20 12:54	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/21/20 12:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/21/20 12:54	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/21/20 12:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/21/20 12:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/21/20 12:54	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/21/20 12:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/21/20 12:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/21/20 12:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 12:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/21/20 12:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/21/20 12:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		07/21/20 12:54	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	86-117		1		07/21/20 12:54	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/21/20 12:54	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/21/20 12:54		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

QC Batch: 666295
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60342851002

METHOD BLANK: 2699344 Matrix: Water
Associated Lab Samples: 60342851002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/21/20 12:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.31	07/21/20 12:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/21/20 12:11	
1,1-Dichloroethane	ug/L	ND	1.0	0.097	07/21/20 12:11	
1,1-Dichloroethene	ug/L	ND	1.0	0.22	07/21/20 12:11	
1,2-Dichloroethane	ug/L	ND	1.0	0.14	07/21/20 12:11	
1,2-Dichloropropane	ug/L	ND	1.0	0.080	07/21/20 12:11	
2-Butanone (MEK)	ug/L	ND	10.0	0.70	07/21/20 12:11	
2-Hexanone	ug/L	ND	10.0	1.0	07/21/20 12:11	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.56	07/21/20 12:11	
Acetone	ug/L	ND	10.0	3.3	07/21/20 12:11	
Benzene	ug/L	ND	1.0	0.079	07/21/20 12:11	
Bromodichloromethane	ug/L	ND	1.0	0.17	07/21/20 12:11	
Bromoform	ug/L	ND	1.0	0.21	07/21/20 12:11	
Bromomethane	ug/L	ND	5.0	0.32	07/21/20 12:11	
Carbon disulfide	ug/L	0.18J	5.0	0.16	07/21/20 12:11	
Carbon tetrachloride	ug/L	ND	1.0	0.084	07/21/20 12:11	
Chlorobenzene	ug/L	ND	1.0	0.13	07/21/20 12:11	
Chloroethane	ug/L	ND	1.0	0.42	07/21/20 12:11	
Chloroform	ug/L	ND	1.0	0.10	07/21/20 12:11	
Chloromethane	ug/L	ND	1.0	0.16	07/21/20 12:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/21/20 12:11	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.087	07/21/20 12:11	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/21/20 12:11	
Ethylbenzene	ug/L	ND	1.0	0.12	07/21/20 12:11	
Methylene Chloride	ug/L	ND	1.0	0.27	07/21/20 12:11	
Styrene	ug/L	ND	1.0	0.15	07/21/20 12:11	
Tetrachloroethene	ug/L	ND	1.0	0.22	07/21/20 12:11	
Toluene	ug/L	ND	1.0	0.14	07/21/20 12:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/21/20 12:11	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.12	07/21/20 12:11	
Trichloroethene	ug/L	ND	1.0	0.17	07/21/20 12:11	
Vinyl chloride	ug/L	ND	1.0	0.11	07/21/20 12:11	
Xylene (Total)	ug/L	ND	3.0	0.34	07/21/20 12:11	
1,2-Dichloroethane-d4 (S)	%	100	86-117		07/21/20 12:11	
4-Bromofluorobenzene (S)	%	101	80-120		07/21/20 12:11	
Toluene-d8 (S)	%	100	80-120		07/21/20 12:11	

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REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

LABORATORY CONTROL SAMPLE: 2699345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.5	88	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	93	78-118	
1,1,2-Trichloroethane	ug/L	20	18.9	94	82-117	
1,1-Dichloroethane	ug/L	20	18.0	90	85-120	
1,1-Dichloroethene	ug/L	20	17.5	87	81-124	
1,2-Dichloroethane	ug/L	20	17.8	89	79-118	
1,2-Dichloropropane	ug/L	20	18.4	92	85-117	
2-Butanone (MEK)	ug/L	100	90.5	90	70-125	
2-Hexanone	ug/L	100	91.2	91	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.2	90	73-131	
Acetone	ug/L	100	91.4	91	59-135	
Benzene	ug/L	20	17.6	88	82-115	
Bromodichloromethane	ug/L	20	18.8	94	82-123	
Bromoform	ug/L	20	18.3	91	66-133	
Bromomethane	ug/L	20	19.8	99	27-179	
Carbon disulfide	ug/L	20	21.8	109	72-134	
Carbon tetrachloride	ug/L	20	18.5	92	80-121	
Chlorobenzene	ug/L	20	18.7	94	80-120	
Chloroethane	ug/L	20	17.8	89	78-145	
Chloroform	ug/L	20	17.1	86	84-116	
Chloromethane	ug/L	20	14.6	73	48-160	
cis-1,2-Dichloroethene	ug/L	20	17.6	88	85-115	
cis-1,3-Dichloropropene	ug/L	20	18.2	91	85-117	
Dibromochloromethane	ug/L	20	19.0	95	82-122	
Ethylbenzene	ug/L	20	17.7	89	79-115	
Methylene Chloride	ug/L	20	18.9	95	80-126	
Styrene	ug/L	20	18.7	93	80-117	
Tetrachloroethene	ug/L	20	18.5	92	83-119	
Toluene	ug/L	20	19.0	95	83-115	
trans-1,2-Dichloroethene	ug/L	20	18.4	92	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.6	98	83-117	
Trichloroethene	ug/L	20	19.0	95	80-118	
Vinyl chloride	ug/L	20	15.5	77	76-144	
Xylene (Total)	ug/L	60	56.6	94	82-120	
1,2-Dichloroethane-d4 (S)	%			99	86-117	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

QC Batch: 666308
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342851001

METHOD BLANK: 2699395 Matrix: Water
Associated Lab Samples: 60342851001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/22/20 19:38	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.31	07/22/20 19:38	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/22/20 19:38	
1,1-Dichloroethane	ug/L	ND	1.0	0.097	07/22/20 19:38	
1,1-Dichloroethene	ug/L	ND	1.0	0.22	07/22/20 19:38	
1,2-Dichloroethane	ug/L	ND	1.0	0.14	07/22/20 19:38	
1,2-Dichloropropane	ug/L	ND	1.0	0.080	07/22/20 19:38	
2-Butanone (MEK)	ug/L	ND	10.0	0.70	07/22/20 19:38	
2-Hexanone	ug/L	ND	10.0	1.0	07/22/20 19:38	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.56	07/22/20 19:38	
Acetone	ug/L	ND	10.0	3.3	07/22/20 19:38	
Benzene	ug/L	ND	1.0	0.079	07/22/20 19:38	
Bromodichloromethane	ug/L	ND	1.0	0.17	07/22/20 19:38	
Bromoform	ug/L	ND	1.0	0.21	07/22/20 19:38	
Bromomethane	ug/L	ND	5.0	0.32	07/22/20 19:38	
Carbon disulfide	ug/L	ND	5.0	0.16	07/22/20 19:38	
Carbon tetrachloride	ug/L	ND	1.0	0.084	07/22/20 19:38	
Chlorobenzene	ug/L	ND	1.0	0.13	07/22/20 19:38	
Chloroethane	ug/L	ND	1.0	0.42	07/22/20 19:38	
Chloroform	ug/L	ND	1.0	0.10	07/22/20 19:38	
Chloromethane	ug/L	ND	1.0	0.16	07/22/20 19:38	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/22/20 19:38	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.087	07/22/20 19:38	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/22/20 19:38	
Ethylbenzene	ug/L	ND	1.0	0.12	07/22/20 19:38	
Methylene Chloride	ug/L	ND	1.0	0.27	07/22/20 19:38	
Styrene	ug/L	ND	1.0	0.15	07/22/20 19:38	
Tetrachloroethene	ug/L	ND	1.0	0.22	07/22/20 19:38	
Toluene	ug/L	ND	1.0	0.14	07/22/20 19:38	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/22/20 19:38	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.12	07/22/20 19:38	
Trichloroethene	ug/L	ND	1.0	0.17	07/22/20 19:38	
Vinyl chloride	ug/L	ND	1.0	0.11	07/22/20 19:38	
Xylene (Total)	ug/L	ND	3.0	0.34	07/22/20 19:38	
1,2-Dichloroethane-d4 (S)	%	101	86-117		07/22/20 19:38	
4-Bromofluorobenzene (S)	%	99	80-120		07/22/20 19:38	
Toluene-d8 (S)	%	101	80-120		07/22/20 19:38	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

LABORATORY CONTROL SAMPLE: 2699396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	17.3	87	78-118	
1,1,2-Trichloroethane	ug/L	20	19.1	95	82-117	
1,1-Dichloroethane	ug/L	20	20.2	101	85-120	
1,1-Dichloroethene	ug/L	20	19.7	99	81-124	
1,2-Dichloroethane	ug/L	20	18.8	94	79-118	
1,2-Dichloropropane	ug/L	20	18.7	94	85-117	
2-Butanone (MEK)	ug/L	100	99.5	100	70-125	
2-Hexanone	ug/L	100	93.2	93	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.4	93	73-131	
Acetone	ug/L	100	106	106	59-135	
Benzene	ug/L	20	19.0	95	82-115	
Bromodichloromethane	ug/L	20	19.7	99	82-123	
Bromoform	ug/L	20	17.8	89	66-133	
Bromomethane	ug/L	20	24.2	121	27-179	
Carbon disulfide	ug/L	20	24.9	125	72-134	
Carbon tetrachloride	ug/L	20	20.2	101	80-121	
Chlorobenzene	ug/L	20	19.4	97	80-120	
Chloroethane	ug/L	20	19.0	95	78-145	
Chloroform	ug/L	20	19.4	97	84-116	
Chloromethane	ug/L	20	17.7	88	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.1	100	85-117	
Dibromochloromethane	ug/L	20	20.4	102	82-122	
Ethylbenzene	ug/L	20	18.7	93	79-115	
Methylene Chloride	ug/L	20	20.6	103	80-126	
Styrene	ug/L	20	20.4	102	80-117	
Tetrachloroethene	ug/L	20	19.1	96	83-119	
Toluene	ug/L	20	18.8	94	83-115	
trans-1,2-Dichloroethene	ug/L	20	19.7	98	80-124	
trans-1,3-Dichloropropene	ug/L	20	20.3	102	83-117	
Trichloroethene	ug/L	20	19.3	97	80-118	
Vinyl chloride	ug/L	20	18.9	95	76-144	
Xylene (Total)	ug/L	60	58.8	98	82-120	
1,2-Dichloroethane-d4 (S)	%			100	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 666295

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 666308

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342851

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342851001	**TMW-36B-202007**	EPA 5030B/8260	666308		
60342851002	**TB-04-20200715**	EPA 5030B/8260	666295		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix W

WO# : 60342851

60342851

ALL SH

MTJL Log-in

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID #
Collected by (print):	Purchase Order #
	Quote #
Collected by (signature):	Turnaround Date Required:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)

Compliance Monitoring? [ ] Yes [X] No

DW PWS ID #:

DW Location Code #:

Immediately Packed on Ice? [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [X] No

Analysis:_____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 8260 VOCs	Analyses: trip blank
TMW-3LB-202007	GW	G	7/15/20	1555				3	X	
TB-04-202007 15										X

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips:_____			
Sample pH Acceptable	Y	N	(NA)
pH Strips:_____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips:_____			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: bubble bag

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Caroline Chavers	7/15/20 1815	EBrockett IPace	7.16.20 0745
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:_____

ACCT #:_____

Template:_____

Prelogin:_____

PM:_____

PB:_____

LAB Sample Temperature Info:

Temp Blank received: (Y) N NA

Therm ID #: T-299

Cooler Temp Upon Receipt 4.4 oC

Cooler Therm Corr. Factor +0.1 oC

Cooler Temp Corrected 4.5 oC

Comments:_____

Trip Blank Received: (Y) N N/A

(HCL) MeOH TSP Other

NonConformance(s) YES / (NO)

Page _____ of _____

Page 14 of 14

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 24, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay
- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342853001	**MCP-HP-06-SL-19-21**	Solid	07/15/20 15:45	07/16/20 02:45
60342853002	**TB-03-20200715**	Solid	07/15/20 08:00	07/16/20 02:45

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342853001	**MCP-HP-06-SL-19-21**	EPA 8260B	RAD	37	PASI-K
		ASTM D2974	DWC	1	PASI-K
		EPA 9060	TJJ	6	PASI-G
60342853002	**TB-03-20200715**	EPA 8260B	RAD	37	PASI-K

PASI-G = Pace Analytical Services - Green Bay
PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Method: **EPA 8260B**
Description: 8260 MSV 5035A VOA
Client: Ramboll_AR
Date: July 24, 2020

General Information:
2 samples were analyzed for EPA 8260B by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 5035A/5030 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 666283

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60343094002

R1: RPD value was outside control limits.

- MSD (Lab ID: 2699324)
  - Chloromethane

Additional Comments:

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Method: **EPA 9060**
Description: Total Organic Carbon Quad
Client: Ramboll_AR
Date: July 24, 2020

General Information:
1 sample was analyzed for EPA 9060 by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Sample: MCP-HP-06-SL-19-21 **Lab ID: 60342853001** Collected: 07/15/20 15:45 Received: 07/16/20 02:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/kg	21.7	17.5	1	07/20/20 10:33	07/20/20 11:46	67-64-1	
Benzene	ND	ug/kg	5.4	0.53	1	07/20/20 10:33	07/20/20 11:46	71-43-2	
Bromodichloromethane	ND	ug/kg	5.4	0.65	1	07/20/20 10:33	07/20/20 11:46	75-27-4	
Bromoform	ND	ug/kg	5.4	0.62	1	07/20/20 10:33	07/20/20 11:46	75-25-2	
Bromomethane	ND	ug/kg	5.4	3.2	1	07/20/20 10:33	07/20/20 11:46	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.8	3.7	1	07/20/20 10:33	07/20/20 11:46	78-93-3	
Carbon disulfide	ND	ug/kg	5.4	0.70	1	07/20/20 10:33	07/20/20 11:46	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.4	0.93	1	07/20/20 10:33	07/20/20 11:46	56-23-5	
Chlorobenzene	ND	ug/kg	5.4	0.68	1	07/20/20 10:33	07/20/20 11:46	108-90-7	
Chloroethane	ND	ug/kg	5.4	1.6	1	07/20/20 10:33	07/20/20 11:46	75-00-3	
Chloroform	ND	ug/kg	5.4	0.53	1	07/20/20 10:33	07/20/20 11:46	67-66-3	
Chloromethane	ND	ug/kg	5.4	0.86	1	07/20/20 10:33	07/20/20 11:46	74-87-3	
Dibromochloromethane	ND	ug/kg	5.4	0.70	1	07/20/20 10:33	07/20/20 11:46	124-48-1	
1,1-Dichloroethane	ND	ug/kg	5.4	0.42	1	07/20/20 10:33	07/20/20 11:46	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.4	0.43	1	07/20/20 10:33	07/20/20 11:46	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.4	0.69	1	07/20/20 10:33	07/20/20 11:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.4	0.47	1	07/20/20 10:33	07/20/20 11:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.4	0.74	1	07/20/20 10:33	07/20/20 11:46	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.4	1.1	1	07/20/20 10:33	07/20/20 11:46	78-87-5	
cis-1,3-Dichloropropene	ND	ug/kg	5.4	0.58	1	07/20/20 10:33	07/20/20 11:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.4	0.49	1	07/20/20 10:33	07/20/20 11:46	10061-02-6	
Ethylbenzene	ND	ug/kg	5.4	0.50	1	07/20/20 10:33	07/20/20 11:46	100-41-4	
2-Hexanone	ND	ug/kg	21.7	2.7	1	07/20/20 10:33	07/20/20 11:46	591-78-6	
Methylene Chloride	ND	ug/kg	5.4	3.0	1	07/20/20 10:33	07/20/20 11:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.8	3.3	1	07/20/20 10:33	07/20/20 11:46	108-10-1	
Styrene	ND	ug/kg	5.4	0.64	1	07/20/20 10:33	07/20/20 11:46	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.4	1.1	1	07/20/20 10:33	07/20/20 11:46	79-34-5	
Tetrachloroethene	ND	ug/kg	5.4	0.45	1	07/20/20 10:33	07/20/20 11:46	127-18-4	
Toluene	ND	ug/kg	5.4	0.38	1	07/20/20 10:33	07/20/20 11:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/kg	5.4	0.81	1	07/20/20 10:33	07/20/20 11:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.4	0.68	1	07/20/20 10:33	07/20/20 11:46	79-00-5	
Trichloroethene	**1.6J**	ug/kg	5.4	0.79	1	07/20/20 10:33	07/20/20 11:46	79-01-6	
Vinyl chloride	ND	ug/kg	5.4	0.72	1	07/20/20 10:33	07/20/20 11:46	75-01-4	
Xylene (Total)	ND	ug/kg	5.4	1.2	1	07/20/20 10:33	07/20/20 11:46	1330-20-7	
Surrogates									
Toluene-d8 (S)	101	%	80-120		1	07/20/20 10:33	07/20/20 11:46	2037-26-5	
4-Bromofluorobenzene (S)	95	%	85-115		1	07/20/20 10:33	07/20/20 11:46	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	78-118		1	07/20/20 10:33	07/20/20 11:46	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**14.7**	%	0.50	0.50	1		07/17/20 11:43		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Sample: MCP-HP-06-SL-19-21 **Lab ID: 60342853001** Collected: 07/15/20 15:45 Received: 07/16/20 02:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	ND	mg/kg	765	229	1		07/23/20 09:26	7440-44-0	
Total Organic Carbon	ND	mg/kg	762	228	1		07/23/20 09:32	7440-44-0	
Total Organic Carbon	ND	mg/kg	759	228	1		07/23/20 09:37	7440-44-0	
Total Organic Carbon	ND	mg/kg	763	229	1		07/23/20 09:46	7440-44-0	
Mean Total Organic Carbon	ND	mg/kg	762	229	1		07/23/20 09:26	7440-44-0	
Surrogates									
RSD%	**16.0**	%			1		07/23/20 09:26		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Sample: TB-03-20200715 **Lab ID: 60342853002** Collected: 07/15/20 08:00 Received: 07/16/20 02:45 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030 Pace Analytical Services - Kansas City								
Acetone	ND	ug/kg	20.0	16.2	1	07/20/20 10:33	07/20/20 11:30	67-64-1	
Benzene	ND	ug/kg	5.0	0.49	1	07/20/20 10:33	07/20/20 11:30	71-43-2	
Bromodichloromethane	ND	ug/kg	5.0	0.60	1	07/20/20 10:33	07/20/20 11:30	75-27-4	
Bromoform	ND	ug/kg	5.0	0.58	1	07/20/20 10:33	07/20/20 11:30	75-25-2	
Bromomethane	ND	ug/kg	5.0	2.9	1	07/20/20 10:33	07/20/20 11:30	74-83-9	
2-Butanone (MEK)	ND	ug/kg	10.0	3.4	1	07/20/20 10:33	07/20/20 11:30	78-93-3	
Carbon disulfide	ND	ug/kg	5.0	0.64	1	07/20/20 10:33	07/20/20 11:30	75-15-0	
Carbon tetrachloride	ND	ug/kg	5.0	0.86	1	07/20/20 10:33	07/20/20 11:30	56-23-5	
Chlorobenzene	ND	ug/kg	5.0	0.63	1	07/20/20 10:33	07/20/20 11:30	108-90-7	
Chloroethane	ND	ug/kg	5.0	1.5	1	07/20/20 10:33	07/20/20 11:30	75-00-3	
Chloroform	ND	ug/kg	5.0	0.49	1	07/20/20 10:33	07/20/20 11:30	67-66-3	
Chloromethane	ND	ug/kg	5.0	0.80	1	07/20/20 10:33	07/20/20 11:30	74-87-3	
Dibromochloromethane	ND	ug/kg	5.0	0.65	1	07/20/20 10:33	07/20/20 11:30	124-48-1	
1,1-Dichloroethane	ND	ug/kg	5.0	0.39	1	07/20/20 10:33	07/20/20 11:30	75-34-3	
1,2-Dichloroethane	ND	ug/kg	5.0	0.40	1	07/20/20 10:33	07/20/20 11:30	107-06-2	
1,1-Dichloroethene	ND	ug/kg	5.0	0.64	1	07/20/20 10:33	07/20/20 11:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/kg	5.0	0.43	1	07/20/20 10:33	07/20/20 11:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/kg	5.0	0.68	1	07/20/20 10:33	07/20/20 11:30	156-60-5	
1,2-Dichloropropane	ND	ug/kg	5.0	0.98	1	07/20/20 10:33	07/20/20 11:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	0.53	1	07/20/20 10:33	07/20/20 11:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	0.46	1	07/20/20 10:33	07/20/20 11:30	10061-02-6	
Ethylbenzene	ND	ug/kg	5.0	0.46	1	07/20/20 10:33	07/20/20 11:30	100-41-4	
2-Hexanone	ND	ug/kg	20.0	2.5	1	07/20/20 10:33	07/20/20 11:30	591-78-6	
Methylene Chloride	ND	ug/kg	5.0	2.7	1	07/20/20 10:33	07/20/20 11:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.0	3.0	1	07/20/20 10:33	07/20/20 11:30	108-10-1	
Styrene	ND	ug/kg	5.0	0.59	1	07/20/20 10:33	07/20/20 11:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	1.0	1	07/20/20 10:33	07/20/20 11:30	79-34-5	
Tetrachloroethene	ND	ug/kg	5.0	0.41	1	07/20/20 10:33	07/20/20 11:30	127-18-4	
Toluene	ND	ug/kg	5.0	0.35	1	07/20/20 10:33	07/20/20 11:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/kg	5.0	0.75	1	07/20/20 10:33	07/20/20 11:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/kg	5.0	0.63	1	07/20/20 10:33	07/20/20 11:30	79-00-5	
Trichloroethene	ND	ug/kg	5.0	0.72	1	07/20/20 10:33	07/20/20 11:30	79-01-6	
Vinyl chloride	ND	ug/kg	5.0	0.67	1	07/20/20 10:33	07/20/20 11:30	75-01-4	
Xylene (Total)	ND	ug/kg	5.0	1.1	1	07/20/20 10:33	07/20/20 11:30	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	80-120		1	07/20/20 10:33	07/20/20 11:30	2037-26-5	
4-Bromofluorobenzene (S)	96	%	85-115		1	07/20/20 10:33	07/20/20 11:30	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	78-118		1	07/20/20 10:33	07/20/20 11:30	17060-07-0	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

QC Batch: 666283
QC Batch Method: EPA 5035A/5030
Analysis Method: EPA 8260B
Analysis Description: 8260 MSV 5035A Volatile Organics
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342853001, 60342853002

METHOD BLANK: 2699321 Matrix: Solid
Associated Lab Samples: 60342853001, 60342853002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	ND	5.0	0.75	07/20/20 09:26	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5.0	1.0	07/20/20 09:26	
1,1,2-Trichloroethane	ug/kg	ND	5.0	0.63	07/20/20 09:26	
1,1-Dichloroethane	ug/kg	ND	5.0	0.39	07/20/20 09:26	
1,1-Dichloroethene	ug/kg	ND	5.0	0.64	07/20/20 09:26	
1,2-Dichloroethane	ug/kg	ND	5.0	0.40	07/20/20 09:26	
1,2-Dichloropropane	ug/kg	ND	5.0	0.98	07/20/20 09:26	
2-Butanone (MEK)	ug/kg	ND	10.0	3.4	07/20/20 09:26	
2-Hexanone	ug/kg	ND	20.0	2.5	07/20/20 09:26	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10.0	3.0	07/20/20 09:26	
Acetone	ug/kg	ND	20.0	16.2	07/20/20 09:26	
Benzene	ug/kg	ND	5.0	0.49	07/20/20 09:26	
Bromodichloromethane	ug/kg	ND	5.0	0.60	07/20/20 09:26	
Bromoform	ug/kg	ND	5.0	0.58	07/20/20 09:26	
Bromomethane	ug/kg	ND	5.0	2.9	07/20/20 09:26	
Carbon disulfide	ug/kg	ND	5.0	0.64	07/20/20 09:26	
Carbon tetrachloride	ug/kg	ND	5.0	0.86	07/20/20 09:26	
Chlorobenzene	ug/kg	ND	5.0	0.63	07/20/20 09:26	
Chloroethane	ug/kg	ND	5.0	1.5	07/20/20 09:26	
Chloroform	ug/kg	ND	5.0	0.49	07/20/20 09:26	
Chloromethane	ug/kg	ND	5.0	0.80	07/20/20 09:26	
cis-1,2-Dichloroethene	ug/kg	ND	5.0	0.43	07/20/20 09:26	
cis-1,3-Dichloropropene	ug/kg	ND	5.0	0.53	07/20/20 09:26	
Dibromochloromethane	ug/kg	ND	5.0	0.65	07/20/20 09:26	
Ethylbenzene	ug/kg	ND	5.0	0.46	07/20/20 09:26	
Methylene Chloride	ug/kg	ND	5.0	2.7	07/20/20 09:26	
Styrene	ug/kg	ND	5.0	0.59	07/20/20 09:26	
Tetrachloroethene	ug/kg	ND	5.0	0.41	07/20/20 09:26	
Toluene	ug/kg	ND	5.0	0.35	07/20/20 09:26	
trans-1,2-Dichloroethene	ug/kg	ND	5.0	0.68	07/20/20 09:26	
trans-1,3-Dichloropropene	ug/kg	ND	5.0	0.46	07/20/20 09:26	
Trichloroethene	ug/kg	ND	5.0	0.72	07/20/20 09:26	
Vinyl chloride	ug/kg	ND	5.0	0.67	07/20/20 09:26	
Xylene (Total)	ug/kg	ND	5.0	1.1	07/20/20 09:26	
1,2-Dichloroethane-d4 (S)	%	90	78-118		07/20/20 09:26	
4-Bromofluorobenzene (S)	%	94	85-115		07/20/20 09:26	
Toluene-d8 (S)	%	102	80-120		07/20/20 09:26	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

LABORATORY CONTROL SAMPLE: 2699322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	100	96.9	97	81-121	
1,1,2,2-Tetrachloroethane	ug/kg	100	85.1	85	76-121	
1,1,2-Trichloroethane	ug/kg	100	92.6	93	83-118	
1,1-Dichloroethane	ug/kg	100	89.5	89	74-120	
1,1-Dichloroethene	ug/kg	100	93.6	94	71-124	
1,2-Dichloroethane	ug/kg	100	80.6	81	58-128	
1,2-Dichloropropane	ug/kg	100	86.3	86	77-122	
2-Butanone (MEK)	ug/kg	500	381	76	63-122	
2-Hexanone	ug/kg	500	400	80	68-122	
4-Methyl-2-pentanone (MIBK)	ug/kg	500	381	76	63-128	
Acetone	ug/kg	500	393	79	55-124	
Benzene	ug/kg	100	90.2	90	67-126	
Bromodichloromethane	ug/kg	100	93.3	93	82-120	
Bromoform	ug/kg	100	108	108	77-133	
Bromomethane	ug/kg	100	81.8	82	20-168	
Carbon disulfide	ug/kg	100	89.2	89	60-133	
Carbon tetrachloride	ug/kg	100	102	102	79-128	
Chlorobenzene	ug/kg	100	98.7	99	84-118	
Chloroethane	ug/kg	100	74.5	74	53-139	
Chloroform	ug/kg	100	91.2	91	82-120	
Chloromethane	ug/kg	100	60.3	60	33-143	
cis-1,2-Dichloroethene	ug/kg	100	94.2	94	83-117	
cis-1,3-Dichloropropene	ug/kg	100	92.8	93	80-122	
Dibromochloromethane	ug/kg	100	103	103	82-128	
Ethylbenzene	ug/kg	100	99.3	99	69-127	
Methylene Chloride	ug/kg	100	88.5	89	68-125	
Styrene	ug/kg	100	96.8	97	84-121	
Tetrachloroethene	ug/kg	100	108	108	78-130	
Toluene	ug/kg	100	94.0	94	80-118	
trans-1,2-Dichloroethene	ug/kg	100	92.7	93	78-118	
trans-1,3-Dichloropropene	ug/kg	100	94.2	94	81-123	
Trichloroethene	ug/kg	100	97.1	97	78-127	
Vinyl chloride	ug/kg	100	69.8	70	45-139	
Xylene (Total)	ug/kg	300	290	97	69-130	
1,2-Dichloroethane-d4 (S)	%			91	78-118	
4-Bromofluorobenzene (S)	%			97	85-115	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2699323 2699324

Parameter	Units	60343094002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/kg	ND	112	112	100	110	89	98	30-131	9	28	
1,1,2,2-Tetrachloroethane	ug/kg	ND	112	112	73.1	83.1	65	74	10-139	13	49	
1,1,2-Trichloroethane	ug/kg	ND	112	112	97.7	108	87	96	10-145	10	41	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2699323 2699324

Parameter	Units	60343094002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethane	ug/kg	ND	112	112	92.3	102	82	90	24-125	10	31	
1,1-Dichloroethene	ug/kg	ND	112	112	96.2	106	86	95	34-118	10	30	
1,2-Dichloroethane	ug/kg	ND	112	112	92.1	103	82	92	23-140	12	29	
1,2-Dichloropropane	ug/kg	ND	112	112	93.6	106	83	94	13-132	12	33	
2-Butanone (MEK)	ug/kg	ND	561	562	427	477	76	84	12-127	11	37	
2-Hexanone	ug/kg	ND	561	562	445	502	79	89	10-135	12	37	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	561	562	450	509	80	91	10-129	12	36	
Acetone	ug/kg	ND	561	562	409	460	71	79	10-143	12	34	
Benzene	ug/kg	ND	112	112	94.4	106	84	94	37-135	11	24	
Bromodichloromethane	ug/kg	ND	112	112	98.7	111	88	99	12-130	12	33	
Bromoform	ug/kg	ND	112	112	102	117	91	104	10-135	14	39	
Bromomethane	ug/kg	ND	112	112	86.4	112	77	100	10-124	26	41	
Carbon disulfide	ug/kg	ND	112	112	85.8	96.3	76	86	17-116	12	28	
Carbon tetrachloride	ug/kg	ND	112	112	101	112	90	99	29-127	10	35	
Chlorobenzene	ug/kg	ND	112	112	98.5	110	88	98	10-133	11	33	
Chloroethane	ug/kg	ND	112	112	87.5	99.3	78	88	25-116	13	33	
Chloroform	ug/kg	ND	112	112	97.3	109	87	97	20-130	12	30	
Chloromethane	ug/kg	ND	112	112	52.2	72.9	46	65	10-113	33	31	R1
cis-1,2-Dichloroethene	ug/kg	ND	112	112	98.5	110	88	98	22-126	11	31	
cis-1,3-Dichloropropene	ug/kg	ND	112	112	96.6	108	86	96	10-125	11	34	
Dibromochloromethane	ug/kg	ND	112	112	101	115	90	102	10-138	12	38	
Ethylbenzene	ug/kg	ND	112	112	98.7	109	88	97	31-142	10	25	
Methylene Chloride	ug/kg	ND	112	112	104	116	89	99	24-121	11	33	
Styrene	ug/kg	ND	112	112	99.4	112	89	99	10-124	12	37	
Tetrachloroethene	ug/kg	ND	112	112	101	111	90	99	15-133	10	36	
Toluene	ug/kg	ND	112	112	96.3	107	86	95	40-137	10	25	
trans-1,2-Dichloroethene	ug/kg	ND	112	112	99.6	110	89	98	22-129	10	34	
trans-1,3-Dichloropropene	ug/kg	ND	112	112	97.0	109	86	97	10-130	12	35	
Trichloroethene	ug/kg	ND	112	112	107	117	96	104	19-135	9	34	
Vinyl chloride	ug/kg	ND	112	112	72.1	79.5	64	71	14-116	10	28	
Xylene (Total)	ug/kg	ND	337	337	295	326	88	97	19-153	10	27	
1,2-Dichloroethane-d4 (S)	%						99	98	78-118			
4-Bromofluorobenzene (S)	%						96	95	85-115			
Toluene-d8 (S)	%						102	102	80-120			

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

QC Batch: 666075
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342853001

METHOD BLANK: 2698259 Matrix: Solid
Associated Lab Samples: 60342853001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	07/17/20 11:43	

SAMPLE DUPLICATE: 2698260

Parameter	Units	60342872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.2	26.8	14	20	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

QC Batch: 361002
QC Batch Method: EPA 9060
Analysis Method: EPA 9060
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 60342853001

METHOD BLANK: 2087077 Matrix: Solid
Associated Lab Samples: 60342853001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	647	194	07/23/20 08:33	

LABORATORY CONTROL SAMPLE: 2087078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	107000	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2087079 2087080

Parameter	Units	60342853001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	ND	7050	7050	5370	5280	73	72	50-150	2	30	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342853

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342853001	**MCP-HP-06-SL-19-21**	EPA 5035A/5030	666283	EPA 8260B	666319
60342853002	**TB-03-20200715**	EPA 5035A/5030	666283	EPA 8260B	666319
60342853001	**MCP-HP-06-SL-19-21**	ASTM D2974	666075		
60342853001	**MCP-HP-06-SL-19-21**	EPA 9060	361002		
60342853001	**MCP-HP-06-SL-19-21**	EPA 9060	361007		

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Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- A ... or MTJL Log-in

WO# : 60342853

60342853

ALL ... Y

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID #
Collected by (print):	Purchase Order #
	Quote #
Collected by (signature):	Turnaround Date Required:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive [ ] Hold	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)

Compliance Monitoring? [ ] Yes [X] No

DW PWS ID #:

DW Location Code #:

Immediately Packed on Ice? [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [X] No

Analysis:

Container Preservative Type **: 7 7 U

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260 VOCs	8260 mini bisulfate 5035 Kit	total organic carbon	trip blank
~~MCP-HP-06-19-21~~	~~SL~~	~~G~~	~~7/15/20~~	~~1545~~				~~3~~		~~2~~	~~1~~	CAC
MCP-HP-06-SL-19-21	SL	G	7/15/20	1545				3		~~2~~	~~1~~ CAC	
TB-03-20200715												X

CAC

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: foam

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] N/A

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: T-299

Cooler Temp Upon Receipt 4.4 oC

Cooler Therm Corr. Factor +0.1 oC

Cooler Temp Corrected 4.5 oC

Comments:

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s) YES / NO

Page ___ of ___

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Caroline Chavers	7/15/20 1815	E Brockett /Pace	7.16.20 0245
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

F-ALL-C-010-rev.00, 05Jul2018

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July 17, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 17, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342972001	**MCP-HP-07-WG-23**	Water	07/16/20 16:14	07/17/20 02:10
60342972002	**TB-02-20200716**	Water	07/16/20 18:30	07/17/20 06:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342972001	**MCP-HP-07-WG-23**	EPA 5030B/8260	CJC	38	PASI-K
60342972002	**TB-02-20200716**	EPA 5030B/8260	CJC	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: July 17, 2020

General Information:
2 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Sample: MCP-HP-07-WG-23 **Lab ID: 60342972001** Collected: 07/16/20 16:14 Received: 07/17/20 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	7.4	1		07/17/20 11:35	67-64-1	
Benzene	**0.26J**	ug/L	1.0	0.13	1		07/17/20 11:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.14	1		07/17/20 11:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.28	1		07/17/20 11:35	75-25-2	
Bromomethane	ND	ug/L	5.0	2.8	1		07/17/20 11:35	74-83-9	
2-Butanone (MEK)	**8.2J**	ug/L	10.0	1.8	1		07/17/20 11:35	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.086	1		07/17/20 11:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.070	1		07/17/20 11:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.17	1		07/17/20 11:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.83	1		07/17/20 11:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.25	1		07/17/20 11:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.51	1		07/17/20 11:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/17/20 11:35	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.12	1		07/17/20 11:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.33	1		07/17/20 11:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.14	1		07/17/20 11:35	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	1.0	0.18	1		07/17/20 11:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.082	1		07/17/20 11:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.14	1		07/17/20 11:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.18	1		07/17/20 11:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.18	1		07/17/20 11:35	10061-02-6	
Ethylbenzene	**0.40J**	ug/L	1.0	0.20	1		07/17/20 11:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.6	1		07/17/20 11:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.35	1		07/17/20 11:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.3	1		07/17/20 11:35	108-10-1	
Styrene	ND	ug/L	1.0	0.19	1		07/17/20 11:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.23	1		07/17/20 11:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.14	1		07/17/20 11:35	127-18-4	
Toluene	**0.36J**	ug/L	1.0	0.17	1		07/17/20 11:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/17/20 11:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/17/20 11:35	79-00-5	
Trichloroethene	**14.9**	ug/L	1.0	0.097	1		07/17/20 11:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.17	1		07/17/20 11:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.42	1		07/17/20 11:35	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		07/17/20 11:35	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	86-117		1		07/17/20 11:35	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		07/17/20 11:35	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/17/20 11:35		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Sample: TB-02-20200716 **Lab ID: 60342972002** Collected: 07/16/20 18:30 Received: 07/17/20 06:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	7.4	1		07/17/20 11:20	67-64-1	
Benzene	ND	ug/L	1.0	0.13	1		07/17/20 11:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.14	1		07/17/20 11:20	75-27-4	
Bromoform	ND	ug/L	1.0	0.28	1		07/17/20 11:20	75-25-2	
Bromomethane	ND	ug/L	5.0	2.8	1		07/17/20 11:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1.8	1		07/17/20 11:20	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.086	1		07/17/20 11:20	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.070	1		07/17/20 11:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.17	1		07/17/20 11:20	108-90-7	
Chloroethane	ND	ug/L	1.0	0.83	1		07/17/20 11:20	75-00-3	
Chloroform	ND	ug/L	1.0	0.25	1		07/17/20 11:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.51	1		07/17/20 11:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/17/20 11:20	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.12	1		07/17/20 11:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.33	1		07/17/20 11:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.14	1		07/17/20 11:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.18	1		07/17/20 11:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.082	1		07/17/20 11:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.14	1		07/17/20 11:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.18	1		07/17/20 11:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.18	1		07/17/20 11:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.20	1		07/17/20 11:20	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.6	1		07/17/20 11:20	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.35	1		07/17/20 11:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.3	1		07/17/20 11:20	108-10-1	
Styrene	ND	ug/L	1.0	0.19	1		07/17/20 11:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.23	1		07/17/20 11:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.14	1		07/17/20 11:20	127-18-4	
Toluene	ND	ug/L	1.0	0.17	1		07/17/20 11:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/17/20 11:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/17/20 11:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.097	1		07/17/20 11:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.17	1		07/17/20 11:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.42	1		07/17/20 11:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		07/17/20 11:20	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		07/17/20 11:20	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		07/17/20 11:20	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/17/20 11:20		

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
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(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

QC Batch: 666052
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342972001, 60342972002

METHOD BLANK: 2698171 Matrix: Water
Associated Lab Samples: 60342972001, 60342972002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/17/20 11:05	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.23	07/17/20 11:05	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/17/20 11:05	
1,1-Dichloroethane	ug/L	ND	1.0	0.12	07/17/20 11:05	
1,1-Dichloroethene	ug/L	ND	1.0	0.14	07/17/20 11:05	
1,2-Dichloroethane	ug/L	ND	1.0	0.33	07/17/20 11:05	
1,2-Dichloropropane	ug/L	ND	1.0	0.14	07/17/20 11:05	
2-Butanone (MEK)	ug/L	ND	10.0	1.8	07/17/20 11:05	
2-Hexanone	ug/L	ND	10.0	1.6	07/17/20 11:05	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.3	07/17/20 11:05	
Acetone	ug/L	ND	10.0	7.4	07/17/20 11:05	
Benzene	ug/L	ND	1.0	0.13	07/17/20 11:05	
Bromodichloromethane	ug/L	ND	1.0	0.14	07/17/20 11:05	
Bromoform	ug/L	ND	1.0	0.28	07/17/20 11:05	
Bromomethane	ug/L	ND	5.0	2.8	07/17/20 11:05	
Carbon disulfide	ug/L	0.25J	5.0	0.086	07/17/20 11:05	
Carbon tetrachloride	ug/L	ND	1.0	0.070	07/17/20 11:05	
Chlorobenzene	ug/L	ND	1.0	0.17	07/17/20 11:05	
Chloroethane	ug/L	ND	1.0	0.83	07/17/20 11:05	
Chloroform	ug/L	ND	1.0	0.25	07/17/20 11:05	
Chloromethane	ug/L	ND	1.0	0.51	07/17/20 11:05	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.18	07/17/20 11:05	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.18	07/17/20 11:05	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/17/20 11:05	
Ethylbenzene	ug/L	ND	1.0	0.20	07/17/20 11:05	
Methylene Chloride	ug/L	ND	1.0	0.35	07/17/20 11:05	
Styrene	ug/L	ND	1.0	0.19	07/17/20 11:05	
Tetrachloroethene	ug/L	ND	1.0	0.14	07/17/20 11:05	
Toluene	ug/L	ND	1.0	0.17	07/17/20 11:05	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.082	07/17/20 11:05	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.18	07/17/20 11:05	
Trichloroethene	ug/L	ND	1.0	0.097	07/17/20 11:05	
Vinyl chloride	ug/L	ND	1.0	0.17	07/17/20 11:05	
Xylene (Total)	ug/L	ND	3.0	0.42	07/17/20 11:05	
1,2-Dichloroethane-d4 (S)	%	94	86-117		07/17/20 11:05	
4-Bromofluorobenzene (S)	%	99	80-120		07/17/20 11:05	
Toluene-d8 (S)	%	101	80-120		07/17/20 11:05	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

LABORATORY CONTROL SAMPLE: 2698172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.1	106	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	21.8	109	78-118	
1,1,2-Trichloroethane	ug/L	20	21.6	108	82-117	
1,1-Dichloroethane	ug/L	20	21.1	105	85-120	
1,1-Dichloroethene	ug/L	20	20.9	104	81-124	
1,2-Dichloroethane	ug/L	20	19.6	98	79-118	
1,2-Dichloropropane	ug/L	20	20.9	105	85-117	
2-Butanone (MEK)	ug/L	100	96.9	97	70-125	
2-Hexanone	ug/L	100	104	104	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	73-131	
Acetone	ug/L	100	85.4	85	59-135	
Benzene	ug/L	20	20.0	100	82-115	
Bromodichloromethane	ug/L	20	20.2	101	82-123	
Bromoform	ug/L	20	22.5	113	66-133	
Bromomethane	ug/L	20	22.6	113	27-179	
Carbon disulfide	ug/L	20	23.0	115	72-134	
Carbon tetrachloride	ug/L	20	22.5	113	80-121	
Chlorobenzene	ug/L	20	21.6	108	80-120	
Chloroethane	ug/L	20	21.1	105	78-145	
Chloroform	ug/L	20	20.9	105	84-116	
Chloromethane	ug/L	20	22.3	112	48-160	
cis-1,2-Dichloroethene	ug/L	20	21.8	109	85-115	
cis-1,3-Dichloropropene	ug/L	20	21.9	110	85-117	
Dibromochloromethane	ug/L	20	22.1	111	82-122	
Ethylbenzene	ug/L	20	21.5	108	79-115	
Methylene Chloride	ug/L	20	20.1	101	80-126	
Styrene	ug/L	20	22.0	110	80-117	
Tetrachloroethene	ug/L	20	23.2	116	83-119	
Toluene	ug/L	20	21.7	109	83-115	
trans-1,2-Dichloroethene	ug/L	20	21.1	106	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.6	113	83-117	
Trichloroethene	ug/L	20	19.5	97	80-118	
Vinyl chloride	ug/L	20	20.3	102	76-144	
Xylene (Total)	ug/L	60	65.9	110	82-120	
1,2-Dichloroethane-d4 (S)	%			92	86-117	
4-Bromofluorobenzene (S)	%			96	80-120	
Toluene-d8 (S)	%			102	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342972

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342972001	**MCP-HP-07-WG-23**	EPA 5030B/8260	666052		
60342972002	**TB-02-20200716**	EPA 5030B/8260	666052		

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CHAIN-OF-CUSTODY Analytical Request Document

WO# : 60342972

60342972

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY-

ALL

Company: Ramboll

Billing Information: Tamara House - Knight

Address: 7600 College Blvd, Suite 425 Opks

Report To: Tamara House Knight

Email To: THouseKnight@ramboll.com

Copy To: Haley Ahler

Customer Project Name/Number: Whirlpool Ft. Smith, AR

Site Collection Info/Address:

State: / County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET

Phone:

Email:

Site/Facility ID #:

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Jackie Zellmer

Purchase Order #:

Quote #:

DW PWS ID #:

DW Location Code:

Collected By (signature):

Turnaround Date Required: Same day

Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:

Rush: [X] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [X] No

Analysis:

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Container Preservative Type

Lab Project Manager:

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	VOCs 8260	TripBlank
MCP-HR-07-WG-23	GW	G	7/16/20	1614				3	X	
TB02-(8)										
TB-02-20200716	TB		7/16/20	830				1		X

JZ

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N	NA
Custody Signatures Present	Y N	NA
Collector Signature Present	Y N	NA
Bottles Intact	Y N	NA
Correct Bottles	Y N	NA
Sufficient Volume	Y N	NA
Samples Received on Ice	Y N	NA
VOA - Headspace Acceptable	Y N	NA
USDA Regulated Soils	Y N	NA
Samples in Holding Time	Y N	NA
Residual Chlorine Present	Y N	NA
Cl Strips:		
Sample pH Acceptable	Y N	NA
pH Strips:		
Sulfide Present	Y N	NA
Lead Acetate Strips:		

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Bubble Bags

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client (Courier) Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 1299
Cooler 1 Temp Upon Receipt: 1.8 oC
Cooler 1 Therm Corr. Factor: +0.1 oC
Cooler 1 Corrected Temp: 1.9 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Jackie Zellmer/Ramboll	7/16/20-1835	[illegible]	7.17.20 0210
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:
Acctnum:
Template:
Prelogin:
PM:

Trip Blank Received: Y (N) NA
HCL MeOH TSP Other

Non Conformance(s):

Page:

Pace Analytical

Sample Receiving Non-Conformance Form (NCF)

Date: 7.17.20	Evaluated by: Uzipt (Pas)
Client: Ranboll	

Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels	X	Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:

Did not receive TB-02

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered		Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 22, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on July 17, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60342989001	**RINSATE-01-20200716**	Water	07/16/20 11:30	07/17/20 02:10
60342989002	**TB-01-20200716**	Water	07/16/20 18:25	07/17/20 02:10

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60342989001	**RINSATE-01-20200716**	EPA 5030B/8260	PGH	38	PASI-K
60342989002	**TB-01-20200716**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: July 22, 2020

General Information:
2 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 666295

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Sample: RINSATE-01-20200716 **Lab ID: 60342989001** Collected: 07/16/20 11:30 Received: 07/17/20 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**7.3J**	ug/L	10.0	3.3	1		07/21/20 14:06	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/21/20 14:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/21/20 14:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/21/20 14:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/21/20 14:06	74-83-9	
2-Butanone (MEK)	**2.0J**	ug/L	10.0	0.70	1		07/21/20 14:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/21/20 14:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/21/20 14:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/21/20 14:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/21/20 14:06	75-00-3	
Chloroform	**0.14J**	ug/L	1.0	0.10	1		07/21/20 14:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/21/20 14:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/21/20 14:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/21/20 14:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/21/20 14:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/21/20 14:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 14:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 14:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/21/20 14:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/21/20 14:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/21/20 14:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/21/20 14:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/21/20 14:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/21/20 14:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/21/20 14:06	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/21/20 14:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/21/20 14:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/21/20 14:06	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/21/20 14:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/21/20 14:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/21/20 14:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 14:06	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/21/20 14:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/21/20 14:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		07/21/20 14:06	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		07/21/20 14:06	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		07/21/20 14:06	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/21/20 14:06		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Sample: TB-01-20200716 **Lab ID: 60342989002** Collected: 07/16/20 18:25 Received: 07/17/20 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	3.3	1		07/21/20 12:40	67-64-1	
Benzene	ND	ug/L	1.0	0.079	1		07/21/20 12:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.17	1		07/21/20 12:40	75-27-4	
Bromoform	ND	ug/L	1.0	0.21	1		07/21/20 12:40	75-25-2	
Bromomethane	ND	ug/L	5.0	0.32	1		07/21/20 12:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	0.70	1		07/21/20 12:40	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.16	1		07/21/20 12:40	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.084	1		07/21/20 12:40	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.13	1		07/21/20 12:40	108-90-7	
Chloroethane	ND	ug/L	1.0	0.42	1		07/21/20 12:40	75-00-3	
Chloroform	ND	ug/L	1.0	0.10	1		07/21/20 12:40	67-66-3	
Chloromethane	ND	ug/L	1.0	0.16	1		07/21/20 12:40	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.15	1		07/21/20 12:40	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.097	1		07/21/20 12:40	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.14	1		07/21/20 12:40	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		07/21/20 12:40	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 12:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 12:40	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.080	1		07/21/20 12:40	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.087	1		07/21/20 12:40	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.12	1		07/21/20 12:40	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.12	1		07/21/20 12:40	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.0	1		07/21/20 12:40	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.27	1		07/21/20 12:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	0.56	1		07/21/20 12:40	108-10-1	
Styrene	ND	ug/L	1.0	0.15	1		07/21/20 12:40	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.31	1		07/21/20 12:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.22	1		07/21/20 12:40	127-18-4	
Toluene	ND	ug/L	1.0	0.14	1		07/21/20 12:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.12	1		07/21/20 12:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.10	1		07/21/20 12:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.17	1		07/21/20 12:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.11	1		07/21/20 12:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.34	1		07/21/20 12:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		07/21/20 12:40	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		07/21/20 12:40	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		07/21/20 12:40	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		07/21/20 12:40		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

QC Batch: 666295
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60342989001, 60342989002

METHOD BLANK: 2699344 Matrix: Water
Associated Lab Samples: 60342989001, 60342989002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.12	07/21/20 12:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.31	07/21/20 12:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.10	07/21/20 12:11	
1,1-Dichloroethane	ug/L	ND	1.0	0.097	07/21/20 12:11	
1,1-Dichloroethene	ug/L	ND	1.0	0.22	07/21/20 12:11	
1,2-Dichloroethane	ug/L	ND	1.0	0.14	07/21/20 12:11	
1,2-Dichloropropane	ug/L	ND	1.0	0.080	07/21/20 12:11	
2-Butanone (MEK)	ug/L	ND	10.0	0.70	07/21/20 12:11	
2-Hexanone	ug/L	ND	10.0	1.0	07/21/20 12:11	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	0.56	07/21/20 12:11	
Acetone	ug/L	ND	10.0	3.3	07/21/20 12:11	
Benzene	ug/L	ND	1.0	0.079	07/21/20 12:11	
Bromodichloromethane	ug/L	ND	1.0	0.17	07/21/20 12:11	
Bromoform	ug/L	ND	1.0	0.21	07/21/20 12:11	
Bromomethane	ug/L	ND	5.0	0.32	07/21/20 12:11	
Carbon disulfide	ug/L	0.18J	5.0	0.16	07/21/20 12:11	
Carbon tetrachloride	ug/L	ND	1.0	0.084	07/21/20 12:11	
Chlorobenzene	ug/L	ND	1.0	0.13	07/21/20 12:11	
Chloroethane	ug/L	ND	1.0	0.42	07/21/20 12:11	
Chloroform	ug/L	ND	1.0	0.10	07/21/20 12:11	
Chloromethane	ug/L	ND	1.0	0.16	07/21/20 12:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/21/20 12:11	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.087	07/21/20 12:11	
Dibromochloromethane	ug/L	ND	1.0	0.15	07/21/20 12:11	
Ethylbenzene	ug/L	ND	1.0	0.12	07/21/20 12:11	
Methylene Chloride	ug/L	ND	1.0	0.27	07/21/20 12:11	
Styrene	ug/L	ND	1.0	0.15	07/21/20 12:11	
Tetrachloroethene	ug/L	ND	1.0	0.22	07/21/20 12:11	
Toluene	ug/L	ND	1.0	0.14	07/21/20 12:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.17	07/21/20 12:11	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.12	07/21/20 12:11	
Trichloroethene	ug/L	ND	1.0	0.17	07/21/20 12:11	
Vinyl chloride	ug/L	ND	1.0	0.11	07/21/20 12:11	
Xylene (Total)	ug/L	ND	3.0	0.34	07/21/20 12:11	
1,2-Dichloroethane-d4 (S)	%	100	86-117		07/21/20 12:11	
4-Bromofluorobenzene (S)	%	101	80-120		07/21/20 12:11	
Toluene-d8 (S)	%	100	80-120		07/21/20 12:11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

LABORATORY CONTROL SAMPLE: 2699345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.5	88	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	93	78-118	
1,1,2-Trichloroethane	ug/L	20	18.9	94	82-117	
1,1-Dichloroethane	ug/L	20	18.0	90	85-120	
1,1-Dichloroethene	ug/L	20	17.5	87	81-124	
1,2-Dichloroethane	ug/L	20	17.8	89	79-118	
1,2-Dichloropropane	ug/L	20	18.4	92	85-117	
2-Butanone (MEK)	ug/L	100	90.5	90	70-125	
2-Hexanone	ug/L	100	91.2	91	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.2	90	73-131	
Acetone	ug/L	100	91.4	91	59-135	
Benzene	ug/L	20	17.6	88	82-115	
Bromodichloromethane	ug/L	20	18.8	94	82-123	
Bromoform	ug/L	20	18.3	91	66-133	
Bromomethane	ug/L	20	19.8	99	27-179	
Carbon disulfide	ug/L	20	21.8	109	72-134	
Carbon tetrachloride	ug/L	20	18.5	92	80-121	
Chlorobenzene	ug/L	20	18.7	94	80-120	
Chloroethane	ug/L	20	17.8	89	78-145	
Chloroform	ug/L	20	17.1	86	84-116	
Chloromethane	ug/L	20	14.6	73	48-160	
cis-1,2-Dichloroethene	ug/L	20	17.6	88	85-115	
cis-1,3-Dichloropropene	ug/L	20	18.2	91	85-117	
Dibromochloromethane	ug/L	20	19.0	95	82-122	
Ethylbenzene	ug/L	20	17.7	89	79-115	
Methylene Chloride	ug/L	20	18.9	95	80-126	
Styrene	ug/L	20	18.7	93	80-117	
Tetrachloroethene	ug/L	20	18.5	92	83-119	
Toluene	ug/L	20	19.0	95	83-115	
trans-1,2-Dichloroethene	ug/L	20	18.4	92	80-124	
trans-1,3-Dichloropropene	ug/L	20	19.6	98	83-117	
Trichloroethene	ug/L	20	19.0	95	80-118	
Vinyl chloride	ug/L	20	15.5	77	76-144	
Xylene (Total)	ug/L	60	56.6	94	82-120	
1,2-Dichloroethane-d4 (S)	%			99	86-117	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 666295

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60342989

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60342989001	**RINSATE-01-20200716**	EPA 5030B/8260	666295		
60342989002	**TB-01-20200716**	EPA 5030B/8260	666295		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

WO# : 60342989

60342989

Company: Rambol l

Billing Information: Tamara House Knight

Address: 7500 College Blvd Ste 925 OP, KS

Report To: Tamara House Knight

Email To: thouseknight@rambll.com

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool Ft Smith, AR

State: AR / County/City: Fort Smith / Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET

Phone: / Email:

Site/Facility ID #:

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): David Meyer

Purchase Order #: / Quote #:

DW PWS ID #: / DW Location Code:

Collected By (signature):

Turnaround Date Required:

Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____

Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container P.

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium [illegible]xide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	6260 VOC	Trip Blank
Rinsate-01-20200716	GW	G	07/16/20	1130				3	X	
~~Dup-01-20200716~~ (DW)										
TB-01-20200716	TB	-	07/16/20	1825				1		X

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N	NA
Custody Signatures Present	Y N	NA
Collector Signature Present	Y N	NA
Bottles Intact	Y N	NA
Correct Bottles	Y N	NA
Sufficient Volume	Y N	NA
Samples Received on Ice	Y N	NA
VOA - Headspace Acceptable	Y N	NA
USDA Regulated Soils	Y N	NA
Samples in Holding Time	Y N	NA
Residual Chlorine Present	Y N	NA
Cl Strips: _____		
Sample pH Acceptable	Y N	NA
pH Strips: _____		
Sulfide Present	Y N	NA
Lead Acetate Strips: _____		

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: Bubble Bags

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client (Courier) Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: T294
Cooler 1 Temp Upon Receipt: 1.8 oC
Cooler 1 Therm Corr. Factor: +0.1 oC
Cooler 1 Corrected Temp: 1.9 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
David Meyer/Rambll	07-16-20/1835	[illegible]	7.17.20 0210
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:

Trip Blank Received: (Y) N NA
(HCL) MeOH TSP Other

Non Conformance(s): Page: _____

Pace Analytical Services, LLC
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(913)599-5665

September 23, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on September 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60349069001	**MW-197-WG-2020922**	Water	09/22/20 14:53	09/23/20 06:20
60349069002	**MW-199-WG-2020922**	Water	09/22/20 15:58	09/23/20 06:20
60349069003	**TB-01-2020922**	Water	09/22/20 17:00	09/23/20 06:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60349069001	**MW-197-WG-2020922**	EPA 5030B/8260	PGH	38	PASI-K
60349069002	**MW-199-WG-2020922**	EPA 5030B/8260	PGH	38	PASI-K
60349069003	**TB-01-2020922**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: September 23, 2020

General Information:
3 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 678397

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Sample: MW-197-WG-2020922 **Lab ID: 60349069001** Collected: 09/22/20 14:53 Received: 09/23/20 06:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/23/20 09:59	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		09/23/20 09:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/23/20 09:59	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/23/20 09:59	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/23/20 09:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/23/20 09:59	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/23/20 09:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/23/20 09:59	56-23-5	
Chlorobenzene	**1.7**	ug/L	1.0	0.23	1		09/23/20 09:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/23/20 09:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/23/20 09:59	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/23/20 09:59	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/23/20 09:59	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		09/23/20 09:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/23/20 09:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		09/23/20 09:59	75-35-4	
cis-1,2-Dichloroethene	**7.8**	ug/L	1.0	0.15	1		09/23/20 09:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:59	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/23/20 09:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/23/20 09:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/23/20 09:59	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/23/20 09:59	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/23/20 09:59	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/23/20 09:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/23/20 09:59	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/23/20 09:59	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/23/20 09:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:59	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		09/23/20 09:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/23/20 09:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/23/20 09:59	79-00-5	
Trichloroethene	**17.0**	ug/L	1.0	0.25	1		09/23/20 09:59	79-01-6	
Vinyl chloride	**0.99J**	ug/L	1.0	0.25	1		09/23/20 09:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/23/20 09:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		09/23/20 09:59	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	86-117		1		09/23/20 09:59	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		09/23/20 09:59	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/23/20 09:59		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Sample: MW-199-WG-2020922 **Lab ID: 60349069002** Collected: 09/22/20 15:58 Received: 09/23/20 06:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/23/20 09:44	67-64-1	
Benzene	**0.19J**	ug/L	1.0	0.088	1		09/23/20 09:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/23/20 09:44	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/23/20 09:44	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/23/20 09:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/23/20 09:44	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/23/20 09:44	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/23/20 09:44	56-23-5	
Chlorobenzene	**0.48J**	ug/L	1.0	0.23	1		09/23/20 09:44	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/23/20 09:44	75-00-3	
Chloroform	**0.19J**	ug/L	1.0	0.17	1		09/23/20 09:44	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/23/20 09:44	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/23/20 09:44	124-48-1	
1,1-Dichloroethane	**0.19J**	ug/L	1.0	0.098	1		09/23/20 09:44	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/23/20 09:44	107-06-2	
1,1-Dichloroethene	**0.41J**	ug/L	1.0	0.21	1		09/23/20 09:44	75-35-4	
cis-1,2-Dichloroethene	**5.1**	ug/L	1.0	0.15	1		09/23/20 09:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:44	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/23/20 09:44	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/23/20 09:44	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/23/20 09:44	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/23/20 09:44	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/23/20 09:44	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/23/20 09:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/23/20 09:44	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/23/20 09:44	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/23/20 09:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:44	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		09/23/20 09:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/23/20 09:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/23/20 09:44	79-00-5	
Trichloroethene	**66.7**	ug/L	1.0	0.25	1		09/23/20 09:44	79-01-6	
Vinyl chloride	**0.35J**	ug/L	1.0	0.25	1		09/23/20 09:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/23/20 09:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/23/20 09:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		09/23/20 09:44	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/23/20 09:44	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/23/20 09:44		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Sample: TB-01-2020922 **Lab ID: 60349069003** Collected: 09/22/20 17:00 Received: 09/23/20 06:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/23/20 09:30	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		09/23/20 09:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/23/20 09:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/23/20 09:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/23/20 09:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/23/20 09:30	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/23/20 09:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/23/20 09:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/23/20 09:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/23/20 09:30	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/23/20 09:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/23/20 09:30	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/23/20 09:30	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		09/23/20 09:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/23/20 09:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		09/23/20 09:30	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/23/20 09:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/23/20 09:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/23/20 09:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/23/20 09:30	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/23/20 09:30	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/23/20 09:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/23/20 09:30	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/23/20 09:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/23/20 09:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/23/20 09:30	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		09/23/20 09:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/23/20 09:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/23/20 09:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		09/23/20 09:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		09/23/20 09:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/23/20 09:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	106	%	80-120		1		09/23/20 09:30	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	86-117		1		09/23/20 09:30	17060-07-0	
Toluene-d8 (S)	104	%	80-120		1		09/23/20 09:30	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/23/20 09:30		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

QC Batch: 678397
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60349069001, 60349069002, 60349069003

METHOD BLANK: 2743138 Matrix: Water
Associated Lab Samples: 60349069001, 60349069002, 60349069003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	09/23/20 08:18	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	09/23/20 08:18	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	09/23/20 08:18	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	09/23/20 08:18	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	09/23/20 08:18	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	09/23/20 08:18	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	09/23/20 08:18	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	09/23/20 08:18	
2-Hexanone	ug/L	ND	10.0	1.5	09/23/20 08:18	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	09/23/20 08:18	
Acetone	ug/L	ND	10.0	4.7	09/23/20 08:18	
Benzene	ug/L	ND	1.0	0.088	09/23/20 08:18	
Bromodichloromethane	ug/L	ND	1.0	0.12	09/23/20 08:18	
Bromoform	ug/L	ND	1.0	0.38	09/23/20 08:18	
Bromomethane	ug/L	ND	5.0	0.99	09/23/20 08:18	
Carbon disulfide	ug/L	ND	5.0	0.24	09/23/20 08:18	
Carbon tetrachloride	ug/L	ND	1.0	0.19	09/23/20 08:18	
Chlorobenzene	ug/L	ND	1.0	0.23	09/23/20 08:18	
Chloroethane	ug/L	ND	1.0	0.38	09/23/20 08:18	
Chloroform	ug/L	ND	1.0	0.17	09/23/20 08:18	
Chloromethane	ug/L	ND	1.0	0.44	09/23/20 08:18	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	09/23/20 08:18	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	09/23/20 08:18	
Dibromochloromethane	ug/L	ND	1.0	0.17	09/23/20 08:18	
Ethylbenzene	ug/L	ND	1.0	0.18	09/23/20 08:18	
Methylene Chloride	ug/L	ND	1.0	0.81	09/23/20 08:18	
Styrene	ug/L	ND	1.0	0.17	09/23/20 08:18	
Tetrachloroethene	ug/L	ND	1.0	0.15	09/23/20 08:18	
Toluene	ug/L	ND	1.0	0.18	09/23/20 08:18	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	09/23/20 08:18	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	09/23/20 08:18	
Trichloroethene	ug/L	ND	1.0	0.25	09/23/20 08:18	
Vinyl chloride	ug/L	ND	1.0	0.25	09/23/20 08:18	
Xylene (Total)	ug/L	ND	3.0	0.54	09/23/20 08:18	
1,2-Dichloroethane-d4 (S)	%	102	86-117		09/23/20 08:18	
4-Bromofluorobenzene (S)	%	102	80-120		09/23/20 08:18	
Toluene-d8 (S)	%	104	80-120		09/23/20 08:18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

LABORATORY CONTROL SAMPLE: 2743139

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.1	91	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.7	104	78-118	
1,1,2-Trichloroethane	ug/L	20	19.5	98	82-117	
1,1-Dichloroethane	ug/L	20	18.9	95	85-120	
1,1-Dichloroethene	ug/L	20	20.9	104	81-124	
1,2-Dichloroethane	ug/L	20	19.6	98	79-118	
1,2-Dichloropropane	ug/L	20	18.7	94	85-117	
2-Butanone (MEK)	ug/L	100	105	105	70-125	
2-Hexanone	ug/L	100	103	103	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	73-131	
Acetone	ug/L	100	122	122	59-135	
Benzene	ug/L	20	19.0	95	82-115	
Bromodichloromethane	ug/L	20	17.5	87	82-123	
Bromoform	ug/L	20	15.4	77	66-133	
Bromomethane	ug/L	20	17.6	88	27-179	
Carbon disulfide	ug/L	20	24.8	124	72-134	
Carbon tetrachloride	ug/L	20	17.5	87	80-121	
Chlorobenzene	ug/L	20	19.8	99	80-120	
Chloroethane	ug/L	20	20.6	103	78-145	
Chloroform	ug/L	20	18.1	90	84-116	
Chloromethane	ug/L	20	14.0	70	48-160	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	85-115	
cis-1,3-Dichloropropene	ug/L	20	18.5	93	85-117	
Dibromochloromethane	ug/L	20	17.3	86	82-122	
Ethylbenzene	ug/L	20	18.6	93	79-115	
Methylene Chloride	ug/L	20	22.0	110	80-126	
Styrene	ug/L	20	20.3	101	80-117	
Tetrachloroethene	ug/L	20	18.8	94	83-119	
Toluene	ug/L	20	18.7	94	83-115	
trans-1,2-Dichloroethene	ug/L	20	18.4	92	80-124	
trans-1,3-Dichloropropene	ug/L	20	18.7	94	83-117	
Trichloroethene	ug/L	20	18.4	92	80-118	
Vinyl chloride	ug/L	20	18.3	91	76-144	
Xylene (Total)	ug/L	60	59.8	100	82-120	
1,2-Dichloroethane-d4 (S)	%			104	86-117	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 678397

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349069

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60349069001	**MW-197-WG-2020922**	EPA 5030B/8260	678397		
60349069002	**MW-199-WG-2020922**	EPA 5030B/8260	678397		
60349069003	**TB-01-2020922**	EPA 5030B/8260	678397		

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Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- WO# : 60349069 or MTJL Log-

ALL 60349069

Company: Ramboll

Billing Information: Tamara House-Knight

Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210

Report To: Tamara House-Knight

Email To: thouseknight@ramboll.com

Copy To: Haley Ahlers

Site Collection Info/Address:

Customer Project Name/Number: Whirlpool, Fort Smith AR

State: AR County/City: Ft. Smith / Time Zone Collected: PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [X] No

Collected by (print): Ian McQuaig

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature): [signature]

Turnaround Date Required: 9/23/20

Immediately Packed on Ice? [X] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive _____
[ ] Hold _____

RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260 VOCs	Trip Blank	Lab Sample # / Comments
MW-197-WG-20200922	GW	G	9/22	1453				3	X		
MW-199-WG-20200922	GW	G	9/22	1558				3	X		
TB-01-20200922	TB	G	9/22	1700				2		X	

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: Bubble Wrap Bubble bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____
ACCT #: _____
Template: _____
Prelogin: _____
PM: _____
PB: _____

LAB Sample Temperature Info:
Temp Blank received: Y N NA
Therm ID #: T-299
Cooler Temp Upon Receipt 4.2 oC
Cooler Therm Corr. Factor +.2 oC
Cooler Temp Corrected 4.4 oC
Comments: _____

Trip Blank Received: Y N N/A
HCL MeOH TSP Other

NonConformance(s) YES / NO

Page ____ of ____

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Ian McQuaig	9/22 1700	SPuoadn/Pace	SR 9/23/20 9/22/2020 1880 9.23.20
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time: 9.23.20 0620
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 01, 2020

Tamara House-Knight
Ramboll Environ
3600 Green Court
Suite 750
Ann Arbor, MI 48105

RE: Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Dear Tamara House-Knight:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Kristen Drucquer, Ramboll
M. Wilson

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CERTIFICATIONS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-19-12
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

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SAMPLE SUMMARY

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60349514001	**MCP-HP-11-WG-20200924**	Water	09/24/20 08:45	09/26/20 07:15
60349514002	**MCP-HP-12-WG-20200925**	Water	09/25/20 13:35	09/26/20 07:15
60349514003	**MCP-HP-13-WG-20200925**	Water	09/25/20 15:00	09/26/20 07:15
60349514004	**MW-203-WG-20200925**	Water	09/25/20 16:05	09/26/20 07:15
60349514005	**MW-204-WG-20200925**	Water	09/25/20 16:30	09/26/20 07:15
60349514006	**TB-01-20200925**	Water	09/25/20 16:45	09/26/20 07:15

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SAMPLE ANALYTE COUNT

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60349514001	**MCP-HP-11-WG-20200924**	EPA 5030B/8260	CJC	38	PASI-K
60349514002	**MCP-HP-12-WG-20200925**	EPA 5030B/8260	PGH	38	PASI-K
60349514003	**MCP-HP-13-WG-20200925**	EPA 5030B/8260	PGH	38	PASI-K
60349514004	**MW-203-WG-20200925**	EPA 5030B/8260	PGH	38	PASI-K
60349514005	**MW-204-WG-20200925**	EPA 5030B/8260	PGH	38	PASI-K
60349514006	**TB-01-20200925**	EPA 5030B/8260	PGH	38	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 01, 2020

General Information:
6 samples were analyzed for EPA 5030B/8260 by Pace Analytical Services Kansas City. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 679181

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 2746607)
  - Carbon disulfide

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 679181

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: 679944

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- MCP-HP-11-WG-20200924 (Lab ID: 60349514001)
  - 4-Bromofluorobenzene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: Ramboll_AR
Date: October 01, 2020

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Sample: MCP-HP-11-WG-20200924 **Lab ID: 60349514001** Collected: 09/24/20 08:45 Received: 09/26/20 07:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	50.0	23.5	5		09/30/20 19:45	67-64-1	
Benzene	ND	ug/L	5.0	0.44	5		09/30/20 19:45	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	0.60	5		09/30/20 19:45	75-27-4	
Bromoform	ND	ug/L	5.0	1.9	5		09/30/20 19:45	75-25-2	
Bromomethane	ND	ug/L	25.0	5.0	5		09/30/20 19:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	50.0	12.0	5		09/30/20 19:45	78-93-3	
Carbon disulfide	ND	ug/L	25.0	1.2	5		09/30/20 19:45	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	0.95	5		09/30/20 19:45	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1.2	5		09/30/20 19:45	108-90-7	
Chloroethane	ND	ug/L	5.0	1.9	5		09/30/20 19:45	75-00-3	
Chloroform	ND	ug/L	5.0	0.85	5		09/30/20 19:45	67-66-3	
Chloromethane	ND	ug/L	5.0	2.2	5		09/30/20 19:45	74-87-3	
Dibromochloromethane	ND	ug/L	5.0	0.85	5		09/30/20 19:45	124-48-1	
1,1-Dichloroethane	ND	ug/L	5.0	0.49	5		09/30/20 19:45	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	1.2	5		09/30/20 19:45	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1.0	5		09/30/20 19:45	75-35-4	
cis-1,2-Dichloroethene	**2.9J**	ug/L	5.0	0.75	5		09/30/20 19:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.75	5		09/30/20 19:45	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	0.80	5		09/30/20 19:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	0.65	5		09/30/20 19:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	0.85	5		09/30/20 19:45	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	0.90	5		09/30/20 19:45	100-41-4	
2-Hexanone	ND	ug/L	50.0	7.5	5		09/30/20 19:45	591-78-6	
Methylene Chloride	ND	ug/L	5.0	4.0	5		09/30/20 19:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	7.0	5		09/30/20 19:45	108-10-1	
Styrene	ND	ug/L	5.0	0.85	5		09/30/20 19:45	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1.4	5		09/30/20 19:45	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	0.75	5		09/30/20 19:45	127-18-4	
Toluene	ND	ug/L	5.0	0.90	5		09/30/20 19:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	5.0	0.65	5		09/30/20 19:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1.4	5		09/30/20 19:45	79-00-5	
Trichloroethene	**18.1**	ug/L	5.0	1.2	5		09/30/20 19:45	79-01-6	
Vinyl chloride	ND	ug/L	5.0	1.2	5		09/30/20 19:45	75-01-4	
Xylene (Total)	ND	ug/L	15.0	2.7	5		09/30/20 19:45	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		5		09/30/20 19:45	460-00-4	D3
1,2-Dichloroethane-d4 (S)	103	%	86-117		5		09/30/20 19:45	17060-07-0	
Toluene-d8 (S)	102	%	80-120		5		09/30/20 19:45	2037-26-5	
Preservation pH	**1.0**		0.10		5		09/30/20 19:45		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Sample: MCP-HP-12-WG-20200925 **Lab ID: 60349514002** Collected: 09/25/20 13:35 Received: 09/26/20 07:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/27/20 15:20	67-64-1	
Benzene	**0.18J**	ug/L	1.0	0.088	1		09/27/20 15:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/27/20 15:20	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/27/20 15:20	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/27/20 15:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/27/20 15:20	78-93-3	
Carbon disulfide	**0.30J**	ug/L	5.0	0.24	1		09/27/20 15:20	75-15-0	L1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/27/20 15:20	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/27/20 15:20	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/27/20 15:20	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/27/20 15:20	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/27/20 15:20	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/27/20 15:20	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		09/27/20 15:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/27/20 15:20	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		09/27/20 15:20	75-35-4	
cis-1,2-Dichloroethene	**0.45J**	ug/L	1.0	0.15	1		09/27/20 15:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/27/20 15:20	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/27/20 15:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/27/20 15:20	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/27/20 15:20	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/27/20 15:20	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/27/20 15:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/27/20 15:20	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/27/20 15:20	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:20	127-18-4	
Toluene	**0.21J**	ug/L	1.0	0.18	1		09/27/20 15:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/27/20 15:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:20	79-00-5	
Trichloroethene	**3.9**	ug/L	1.0	0.25	1		09/27/20 15:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		09/27/20 15:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/27/20 15:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		09/27/20 15:20	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		09/27/20 15:20	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/27/20 15:20	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/27/20 15:20		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Sample: MCP-HP-13-WG-20200925 **Lab ID: 60349514003** Collected: 09/25/20 15:00 Received: 09/26/20 07:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/27/20 15:35	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		09/27/20 15:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/27/20 15:35	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/27/20 15:35	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/27/20 15:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/27/20 15:35	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/27/20 15:35	75-15-0	L1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/27/20 15:35	56-23-5	
Chlorobenzene	**0.63J**	ug/L	1.0	0.23	1		09/27/20 15:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/27/20 15:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/27/20 15:35	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/27/20 15:35	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/27/20 15:35	124-48-1	
1,1-Dichloroethane	**0.13J**	ug/L	1.0	0.098	1		09/27/20 15:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/27/20 15:35	107-06-2	
1,1-Dichloroethene	**0.35J**	ug/L	1.0	0.21	1		09/27/20 15:35	75-35-4	
cis-1,2-Dichloroethene	**6.5**	ug/L	1.0	0.15	1		09/27/20 15:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:35	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/27/20 15:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/27/20 15:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/27/20 15:35	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/27/20 15:35	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/27/20 15:35	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/27/20 15:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/27/20 15:35	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/27/20 15:35	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:35	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:35	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		09/27/20 15:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/27/20 15:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:35	79-00-5	
Trichloroethene	**55.7**	ug/L	1.0	0.25	1		09/27/20 15:35	79-01-6	
Vinyl chloride	**0.31J**	ug/L	1.0	0.25	1		09/27/20 15:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/27/20 15:35	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		09/27/20 15:35	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-117		1		09/27/20 15:35	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		09/27/20 15:35	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/27/20 15:35		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Sample: MW-203-WG-20200925 **Lab ID: 60349514004** Collected: 09/25/20 16:05 Received: 09/26/20 07:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	**4.9J**	ug/L	10.0	4.7	1		09/27/20 15:49	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		09/27/20 15:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/27/20 15:49	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/27/20 15:49	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/27/20 15:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/27/20 15:49	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/27/20 15:49	75-15-0	L1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/27/20 15:49	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/27/20 15:49	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/27/20 15:49	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/27/20 15:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/27/20 15:49	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/27/20 15:49	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		09/27/20 15:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/27/20 15:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		09/27/20 15:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/27/20 15:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/27/20 15:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/27/20 15:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/27/20 15:49	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/27/20 15:49	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/27/20 15:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/27/20 15:49	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/27/20 15:49	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:49	127-18-4	
Toluene	**0.33J**	ug/L	1.0	0.18	1		09/27/20 15:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/27/20 15:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:49	79-00-5	
Trichloroethene	**0.57J**	ug/L	1.0	0.25	1		09/27/20 15:49	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		09/27/20 15:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/27/20 15:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/27/20 15:49	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	86-117		1		09/27/20 15:49	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		09/27/20 15:49	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/27/20 15:49		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Sample: MW-204-WG-20200925 **Lab ID: 60349514005** Collected: 09/25/20 16:30 Received: 09/26/20 07:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
	Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/27/20 16:03	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		09/27/20 16:03	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/27/20 16:03	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/27/20 16:03	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/27/20 16:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/27/20 16:03	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/27/20 16:03	75-15-0	L1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/27/20 16:03	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/27/20 16:03	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/27/20 16:03	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/27/20 16:03	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/27/20 16:03	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/27/20 16:03	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		09/27/20 16:03	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/27/20 16:03	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		09/27/20 16:03	75-35-4	
cis-1,2-Dichloroethene	**3.0**	ug/L	1.0	0.15	1		09/27/20 16:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 16:03	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/27/20 16:03	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/27/20 16:03	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/27/20 16:03	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/27/20 16:03	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/27/20 16:03	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/27/20 16:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/27/20 16:03	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/27/20 16:03	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/27/20 16:03	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/27/20 16:03	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		09/27/20 16:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/27/20 16:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/27/20 16:03	79-00-5	
Trichloroethene	**34.8**	ug/L	1.0	0.25	1		09/27/20 16:03	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		09/27/20 16:03	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/27/20 16:03	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/27/20 16:03	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		09/27/20 16:03	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/27/20 16:03	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/27/20 16:03		

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ANALYTICAL RESULTS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Sample: TB-01-20200925 **Lab ID: 60349514006** Collected: 09/25/20 16:45 Received: 09/26/20 07:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Kansas City								
Acetone	ND	ug/L	10.0	4.7	1		09/27/20 15:06	67-64-1	
Benzene	ND	ug/L	1.0	0.088	1		09/27/20 15:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.12	1		09/27/20 15:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.38	1		09/27/20 15:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.99	1		09/27/20 15:06	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	2.4	1		09/27/20 15:06	78-93-3	
Carbon disulfide	ND	ug/L	5.0	0.24	1		09/27/20 15:06	75-15-0	L1
Carbon tetrachloride	ND	ug/L	1.0	0.19	1		09/27/20 15:06	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/27/20 15:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.38	1		09/27/20 15:06	75-00-3	
Chloroform	ND	ug/L	1.0	0.17	1		09/27/20 15:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.44	1		09/27/20 15:06	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	0.17	1		09/27/20 15:06	124-48-1	
1,1-Dichloroethane	ND	ug/L	1.0	0.098	1		09/27/20 15:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.23	1		09/27/20 15:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.21	1		09/27/20 15:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.16	1		09/27/20 15:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		09/27/20 15:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.17	1		09/27/20 15:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/27/20 15:06	100-41-4	
2-Hexanone	ND	ug/L	10.0	1.5	1		09/27/20 15:06	591-78-6	
Methylene Chloride	ND	ug/L	1.0	0.81	1		09/27/20 15:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1.4	1		09/27/20 15:06	108-10-1	
Styrene	ND	ug/L	1.0	0.17	1		09/27/20 15:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.15	1		09/27/20 15:06	127-18-4	
Toluene	ND	ug/L	1.0	0.18	1		09/27/20 15:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.13	1		09/27/20 15:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.28	1		09/27/20 15:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.25	1		09/27/20 15:06	79-01-6	
Vinyl chloride	ND	ug/L	1.0	0.25	1		09/27/20 15:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.54	1		09/27/20 15:06	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		09/27/20 15:06	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	86-117		1		09/27/20 15:06	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		09/27/20 15:06	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/27/20 15:06		

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

QC Batch: 679181
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60349514002, 60349514003, 60349514004, 60349514005, 60349514006

METHOD BLANK: 2746606 Matrix: Water
Associated Lab Samples: 60349514002, 60349514003, 60349514004, 60349514005, 60349514006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	09/27/20 14:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	09/27/20 14:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	09/27/20 14:37	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	09/27/20 14:37	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	09/27/20 14:37	
1,2-Dichloroethane	ug/L	ND	1.0	0.23	09/27/20 14:37	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	09/27/20 14:37	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	09/27/20 14:37	
2-Hexanone	ug/L	ND	10.0	1.5	09/27/20 14:37	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	09/27/20 14:37	
Acetone	ug/L	ND	10.0	4.7	09/27/20 14:37	
Benzene	ug/L	ND	1.0	0.088	09/27/20 14:37	
Bromodichloromethane	ug/L	ND	1.0	0.12	09/27/20 14:37	
Bromoform	ug/L	ND	1.0	0.38	09/27/20 14:37	
Bromomethane	ug/L	ND	5.0	0.99	09/27/20 14:37	
Carbon disulfide	ug/L	ND	5.0	0.24	09/27/20 14:37	
Carbon tetrachloride	ug/L	ND	1.0	0.19	09/27/20 14:37	
Chlorobenzene	ug/L	ND	1.0	0.23	09/27/20 14:37	
Chloroethane	ug/L	ND	1.0	0.38	09/27/20 14:37	
Chloroform	ug/L	ND	1.0	0.17	09/27/20 14:37	
Chloromethane	ug/L	ND	1.0	0.44	09/27/20 14:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	09/27/20 14:37	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	09/27/20 14:37	
Dibromochloromethane	ug/L	ND	1.0	0.17	09/27/20 14:37	
Ethylbenzene	ug/L	ND	1.0	0.18	09/27/20 14:37	
Methylene Chloride	ug/L	ND	1.0	0.81	09/27/20 14:37	
Styrene	ug/L	ND	1.0	0.17	09/27/20 14:37	
Tetrachloroethene	ug/L	ND	1.0	0.15	09/27/20 14:37	
Toluene	ug/L	ND	1.0	0.18	09/27/20 14:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	09/27/20 14:37	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	09/27/20 14:37	
Trichloroethene	ug/L	ND	1.0	0.25	09/27/20 14:37	
Vinyl chloride	ug/L	ND	1.0	0.25	09/27/20 14:37	
Xylene (Total)	ug/L	ND	3.0	0.54	09/27/20 14:37	
1,2-Dichloroethane-d4 (S)	%	97	86-117		09/27/20 14:37	
4-Bromofluorobenzene (S)	%	104	80-120		09/27/20 14:37	
Toluene-d8 (S)	%	101	80-120		09/27/20 14:37	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

LABORATORY CONTROL SAMPLE: 2746607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	104	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	78-118	
1,1,2-Trichloroethane	ug/L	20	18.8	94	82-117	
1,1-Dichloroethane	ug/L	20	20.6	103	85-120	
1,1-Dichloroethene	ug/L	20	20.9	105	81-124	
1,2-Dichloroethane	ug/L	20	18.7	94	79-118	
1,2-Dichloropropane	ug/L	20	20.4	102	85-117	
2-Butanone (MEK)	ug/L	100	91.8	92	70-125	
2-Hexanone	ug/L	100	98.0	98	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.8	98	73-131	
Acetone	ug/L	100	93.9	94	59-135	
Benzene	ug/L	20	20.1	100	82-115	
Bromodichloromethane	ug/L	20	17.2	86	82-123	
Bromoform	ug/L	20	20.5	103	66-133	
Bromomethane	ug/L	20	24.3	122	27-179	
Carbon disulfide	ug/L	20	27.6	138	72-134	L1
Carbon tetrachloride	ug/L	20	17.4	87	80-121	
Chlorobenzene	ug/L	20	20.0	100	80-120	
Chloroethane	ug/L	20	20.8	104	78-145	
Chloroform	ug/L	20	19.7	98	84-116	
Chloromethane	ug/L	20	17.0	85	48-160	
cis-1,2-Dichloroethene	ug/L	20	19.5	98	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.7	104	85-117	
Dibromochloromethane	ug/L	20	22.3	112	82-122	
Ethylbenzene	ug/L	20	19.2	96	79-115	
Methylene Chloride	ug/L	20	21.3	106	80-126	
Styrene	ug/L	20	20.3	102	80-117	
Tetrachloroethene	ug/L	20	20.7	103	83-119	
Toluene	ug/L	20	20.5	102	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.3	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	18.2	91	83-117	
Trichloroethene	ug/L	20	20.7	103	80-118	
Vinyl chloride	ug/L	20	18.1	90	76-144	
Xylene (Total)	ug/L	60	58.5	97	82-120	
1,2-Dichloroethane-d4 (S)	%			98	86-117	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

QC Batch: 679944
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60349514001

METHOD BLANK: 2748797 Matrix: Water
Associated Lab Samples: 60349514001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	0.13	09/30/20 14:42	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	0.28	09/30/20 14:42	
1,1,2-Trichloroethane	ug/L	ND	1.0	0.28	09/30/20 14:42	
1,1-Dichloroethane	ug/L	ND	1.0	0.098	09/30/20 14:42	
1,1-Dichloroethene	ug/L	ND	1.0	0.21	09/30/20 14:42	
1,2-Dichloroethane	ug/L	0.25J	1.0	0.23	09/30/20 14:42	
1,2-Dichloropropane	ug/L	ND	1.0	0.16	09/30/20 14:42	
2-Butanone (MEK)	ug/L	ND	10.0	2.4	09/30/20 14:42	
2-Hexanone	ug/L	ND	10.0	1.5	09/30/20 14:42	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	1.4	09/30/20 14:42	
Acetone	ug/L	ND	10.0	4.7	09/30/20 14:42	
Benzene	ug/L	ND	1.0	0.088	09/30/20 14:42	
Bromodichloromethane	ug/L	ND	1.0	0.12	09/30/20 14:42	
Bromoform	ug/L	ND	1.0	0.38	09/30/20 14:42	
Bromomethane	ug/L	ND	5.0	0.99	09/30/20 14:42	
Carbon disulfide	ug/L	ND	5.0	0.24	09/30/20 14:42	
Carbon tetrachloride	ug/L	ND	1.0	0.19	09/30/20 14:42	
Chlorobenzene	ug/L	ND	1.0	0.23	09/30/20 14:42	
Chloroethane	ug/L	ND	1.0	0.38	09/30/20 14:42	
Chloroform	ug/L	ND	1.0	0.17	09/30/20 14:42	
Chloromethane	ug/L	ND	1.0	0.44	09/30/20 14:42	
cis-1,2-Dichloroethene	ug/L	ND	1.0	0.15	09/30/20 14:42	
cis-1,3-Dichloropropene	ug/L	ND	1.0	0.13	09/30/20 14:42	
Dibromochloromethane	ug/L	ND	1.0	0.17	09/30/20 14:42	
Ethylbenzene	ug/L	ND	1.0	0.18	09/30/20 14:42	
Methylene Chloride	ug/L	ND	1.0	0.81	09/30/20 14:42	
Styrene	ug/L	ND	1.0	0.17	09/30/20 14:42	
Tetrachloroethene	ug/L	ND	1.0	0.15	09/30/20 14:42	
Toluene	ug/L	ND	1.0	0.18	09/30/20 14:42	
trans-1,2-Dichloroethene	ug/L	ND	1.0	0.15	09/30/20 14:42	
trans-1,3-Dichloropropene	ug/L	ND	1.0	0.17	09/30/20 14:42	
Trichloroethene	ug/L	ND	1.0	0.25	09/30/20 14:42	
Vinyl chloride	ug/L	ND	1.0	0.25	09/30/20 14:42	
Xylene (Total)	ug/L	ND	3.0	0.54	09/30/20 14:42	
1,2-Dichloroethane-d4 (S)	%	101	86-117		09/30/20 14:42	
4-Bromofluorobenzene (S)	%	102	80-120		09/30/20 14:42	
Toluene-d8 (S)	%	100	80-120		09/30/20 14:42	

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QUALITY CONTROL DATA

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

LABORATORY CONTROL SAMPLE: 2748798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	85-118	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	101	78-118	
1,1,2-Trichloroethane	ug/L	20	20.5	102	82-117	
1,1-Dichloroethane	ug/L	20	20.8	104	85-120	
1,1-Dichloroethene	ug/L	20	19.2	96	81-124	
1,2-Dichloroethane	ug/L	20	21.8	109	79-118	
1,2-Dichloropropane	ug/L	20	19.8	99	85-117	
2-Butanone (MEK)	ug/L	100	111	111	70-125	
2-Hexanone	ug/L	100	105	105	76-126	
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	73-131	
Acetone	ug/L	100	134	134	59-135	
Benzene	ug/L	20	20.2	101	82-115	
Bromodichloromethane	ug/L	20	21.5	107	82-123	
Bromoform	ug/L	20	21.1	106	66-133	
Bromomethane	ug/L	20	26.5	132	27-179	
Carbon disulfide	ug/L	20	23.0	115	72-134	
Carbon tetrachloride	ug/L	20	20.6	103	80-121	
Chlorobenzene	ug/L	20	20.6	103	80-120	
Chloroethane	ug/L	20	18.8	94	78-145	
Chloroform	ug/L	20	20.8	104	84-116	
Chloromethane	ug/L	20	14.7	74	48-160	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	85-115	
cis-1,3-Dichloropropene	ug/L	20	20.9	104	85-117	
Dibromochloromethane	ug/L	20	21.3	106	82-122	
Ethylbenzene	ug/L	20	20.4	102	79-115	
Methylene Chloride	ug/L	20	19.3	97	80-126	
Styrene	ug/L	20	21.5	107	80-117	
Tetrachloroethene	ug/L	20	20.2	101	83-119	
Toluene	ug/L	20	21.0	105	83-115	
trans-1,2-Dichloroethene	ug/L	20	20.1	101	80-124	
trans-1,3-Dichloropropene	ug/L	20	22.0	110	83-117	
Trichloroethene	ug/L	20	19.9	99	80-118	
Vinyl chloride	ug/L	20	16.9	84	76-144	
Xylene (Total)	ug/L	60	61.1	102	82-120	
1,2-Dichloroethane-d4 (S)	%			101	86-117	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALIFIERS

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 679181

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WHIRLPOOL, FORT SMITH AR
Pace Project No.: 60349514

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60349514001	**MCP-HP-11-WG-20200924**	EPA 5030B/8260	679944		
60349514002	**MCP-HP-12-WG-20200925**	EPA 5030B/8260	679181		
60349514003	**MCP-HP-13-WG-20200925**	EPA 5030B/8260	679181		
60349514004	**MW-203-WG-20200925**	EPA 5030B/8260	679181		
60349514005	**MW-204-WG-20200925**	EPA 5030B/8260	679181		
60349514006	**TB-01-20200925**	EPA 5030B/8260	679181		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY: WO# : 60349514 — AL 60349514 Y — ber or MTJL Log-

Company: Ramboll	Billing Information: Tamara House-Knight
Address: 7500 College Blvd., Ste 925 Overland Park, KS 66210	
Report To: Tamara House-Knight	Email To: thouseknight@ramboll.com
Copy To: Haley Ahlers	Site Collection Info/Address:
Customer Project Name/Number: Whirlpool, Fort Smith AR	State / County/City / Time Zone Collected: PT MT CT ET
Phone: 850-228-8720 Email: imcquaig@ramboll.com	Site/Facility ID #: — Compliance Monitoring? [ ] Yes [X] No
Collected by (print): Ian McQuaig	Purchase Order #: — DW PWS ID #:
Collected by (signature):	Quote #: — DW Location Code #:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____	Turnaround Date Required: See notes — Immediately Packed on Ice? [X] Yes [ ] No
	RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) — Field Filtered (if applicable): [ ] Yes [ ] No — Analysis: ____

Container Preservative Type **

Lab Project Manager: Jamie Church

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

Analyses

LAB Profile/Line: 7444 Line 1

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	(Y)	N	NA
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples received on ice	(Y)	N	NA
VOA - Headspace Acceptable	(Y)	N	NA
USDA Regulated Soils	Y	N	(NA)
Samples in holding time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: ____			
Sample pH Acceptable	Y	N	(NA)
pH Strips: ____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: ____			

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	8260 VOCs	TRIP BLANK	↓ LAB USE ONLY: ↓ Lab Sample # / Comments
MCP-HP-11-WG-20200924	GW	G	9/24/20	0845	—	—		3	X		HOLD
MCP-HP-12-WG-20200925	GW	G	9/25	1335	—	—		3	X		NEXT DAY
MCP-HP-13-WG-20200925	GW	G	9/25	1500	—	—		3	X		NEXT DAY
MW-203-WG-20200925	GW	G	9/25	1605	—	—		3	X		2 DAY TURN.
MW-204-WG-20200925	GW	G	9/25	1630	—	—		3	X		2 DAY TURN.
TB-01-20200925	GW	G	9/25	1645	—	—		2		X	

Customer Remarks/ Special Conditions/ Possible Hazards:
MCP-HP-11 → HOLD
MCP-HP-12 → Next day turn.
MCP-HP-13 → Next day turn.
MW-203 → 2 day turn
MW-204 → 2 day turn

Type of Ice Used: Wet [X] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y (N) N/A

Packing Material Used: Bubble Bags

LAB Tracking #:

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [X] NA

Samples received via: FEDEX [ ] UPS [ ] Client [X] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: ____
ACCT #: ____
Template: ____
Prelogin: ____
PM: ____
PB: ____

LAB Sample Temperature Info:
Temp Blank received: (Y) N NA
Therm ID #: T299
Cooler Temp Upon Receipt 1.0 oC
Cooler Therm Corr. Factor +.2 oC
Cooler Temp Corrected 1.2 oC
Comments: ____

Trip Blank Received: (Y) N N/A
(HCL) MeOH TSP Other

NonConformance(s): YES / (NO)

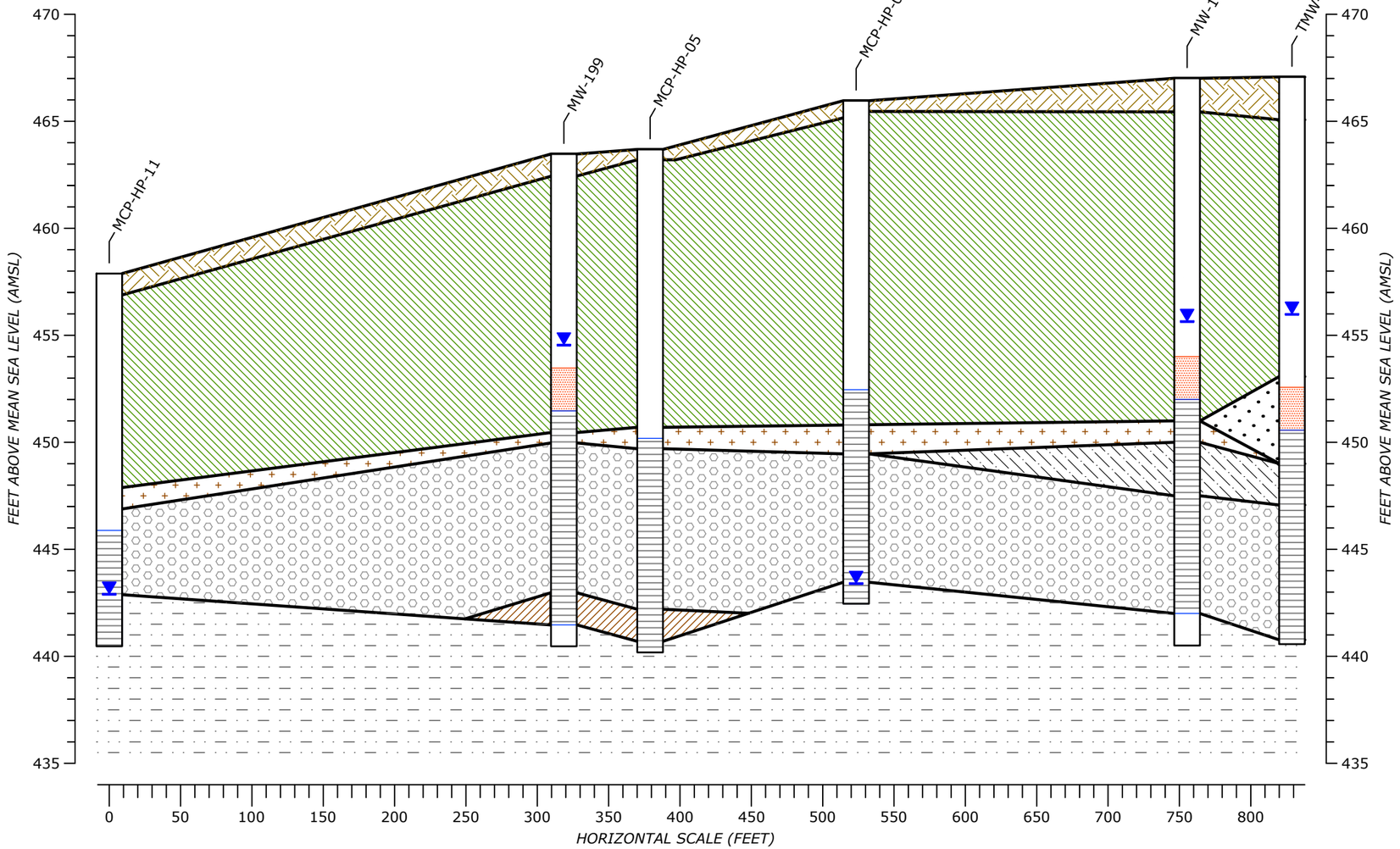
Page ____ of ____

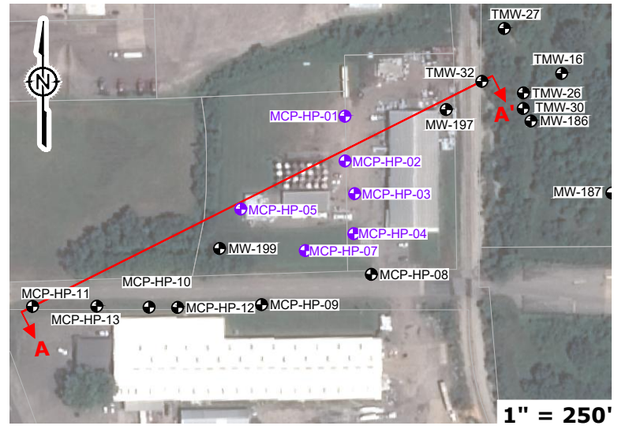
	Date/Time:	Received by/Company : (Signature)	Date/Time:
Relinquished by/Company : (Signature) Ian McQuaig / RAMBOLL	9/25/20 1726		
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature) Edwards / Pace	Date/Time: 9/26/20 0715
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Appendix D
Cross Sections

A
SOUTHWEST

A'
NORTHEAST





SITE OVERVIEW

LITHOLOGY
TOPSOIL/FILL/ASPHALT
SUB-BASE: FILL AND GRAVEL
CLAY
CLAYEY SAND/GRAVEL
CLAYEY SAND/SILTY SAND
SANDY CLAY
SILTY CLAY
SILTY CLAY/ CLAYEY SILT
SHALE
WATER LEVEL (FT. AMSL.)

MONITORING WELL
ID
BORING
SAND PACK
SCREEN

0 — 6
VERTICAL
SCALE IN FEET

0 — 90
HORIZONTAL
SCALE IN FEET

VERTICAL EXAGGERATION = 15x

RAMBOLL

DRAFTED BY: CKL | DATE: 1/11/2021

CROSS SECTION A - A'

McPHERSON SITE
FORMER WHIRLPOOL FACILITY
FORT SMITH, ARKANSAS

FIGURE
1

1690016820

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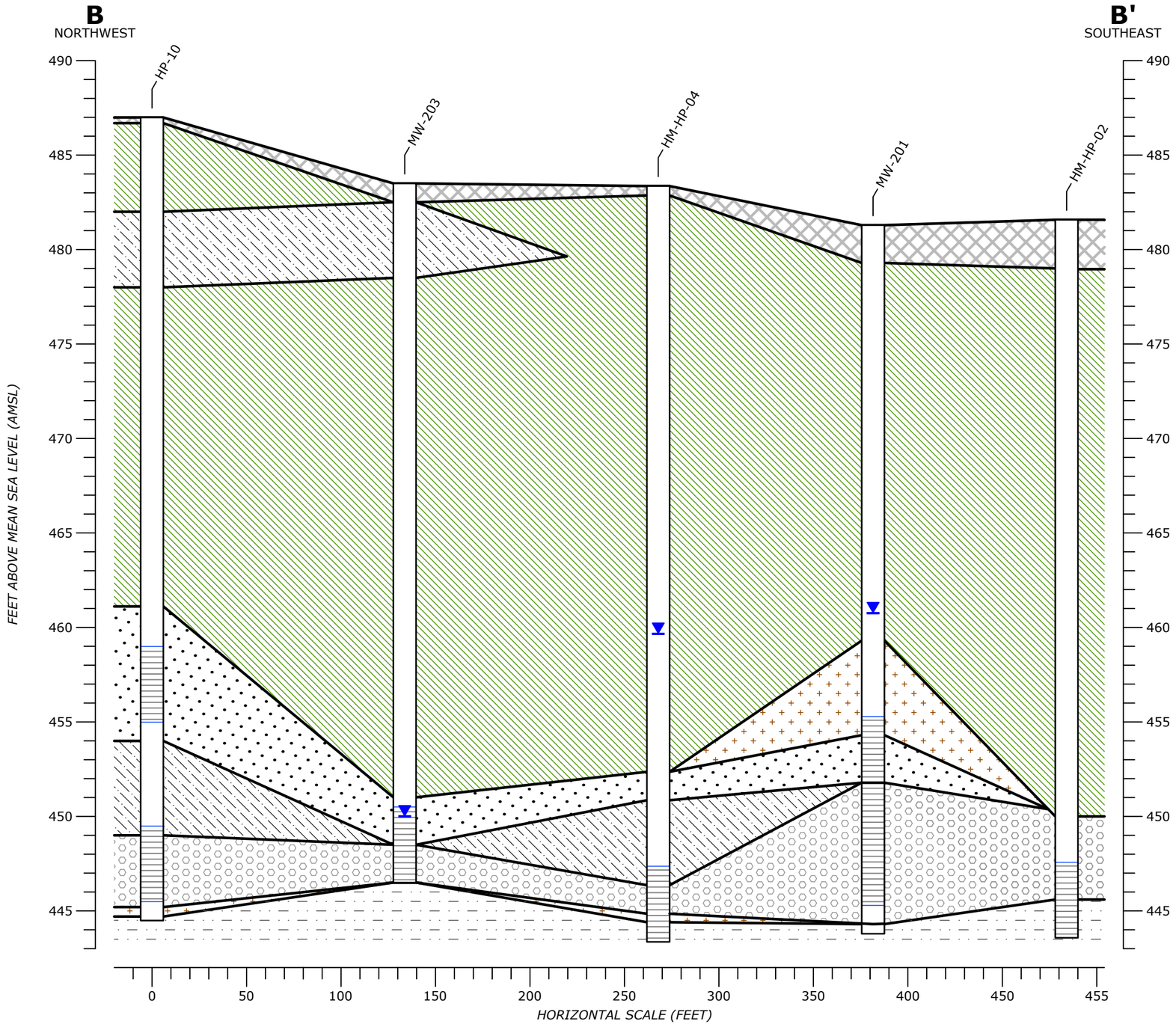

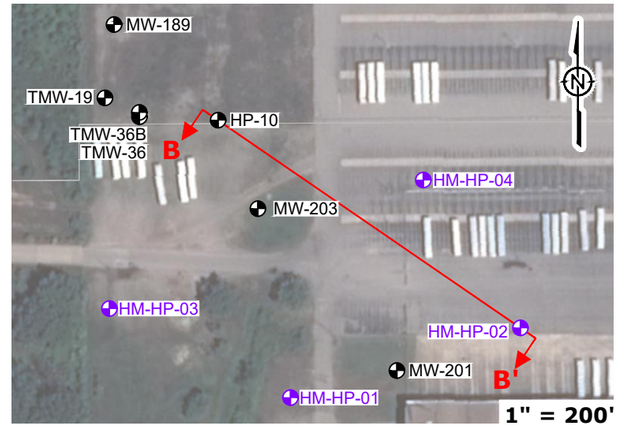

SITE OVERVIEW

LITHOLOGY
TOPSOIL/FILL/ASPHALT
SUB-BASE: FILL AND GRAVEL
CLAY
CLAYEY SAND/GRAVEL
CLAYEY SAND/SILTY SAND
SANDY CLAY
SILTY CLAY
SILTY CLAY/ CLAYEY SILT
SHALE
WATER LEVEL (FT. AMSL.)

MONITORING WELL
BORING
SAND PACK
SCREEN

0 — 6
VERTICAL SCALE IN FEET

0 — 60
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION = 10x

RAMBOLL

DRAFTED BY: CKL | DATE: 1/11/2021

CROSS SECTION B - B'

HARMON PROPERTY
FORMER WHIRLPOOL FACILITY
FORT SMITH, ARKANSAS

FIGURE
2

1690016820

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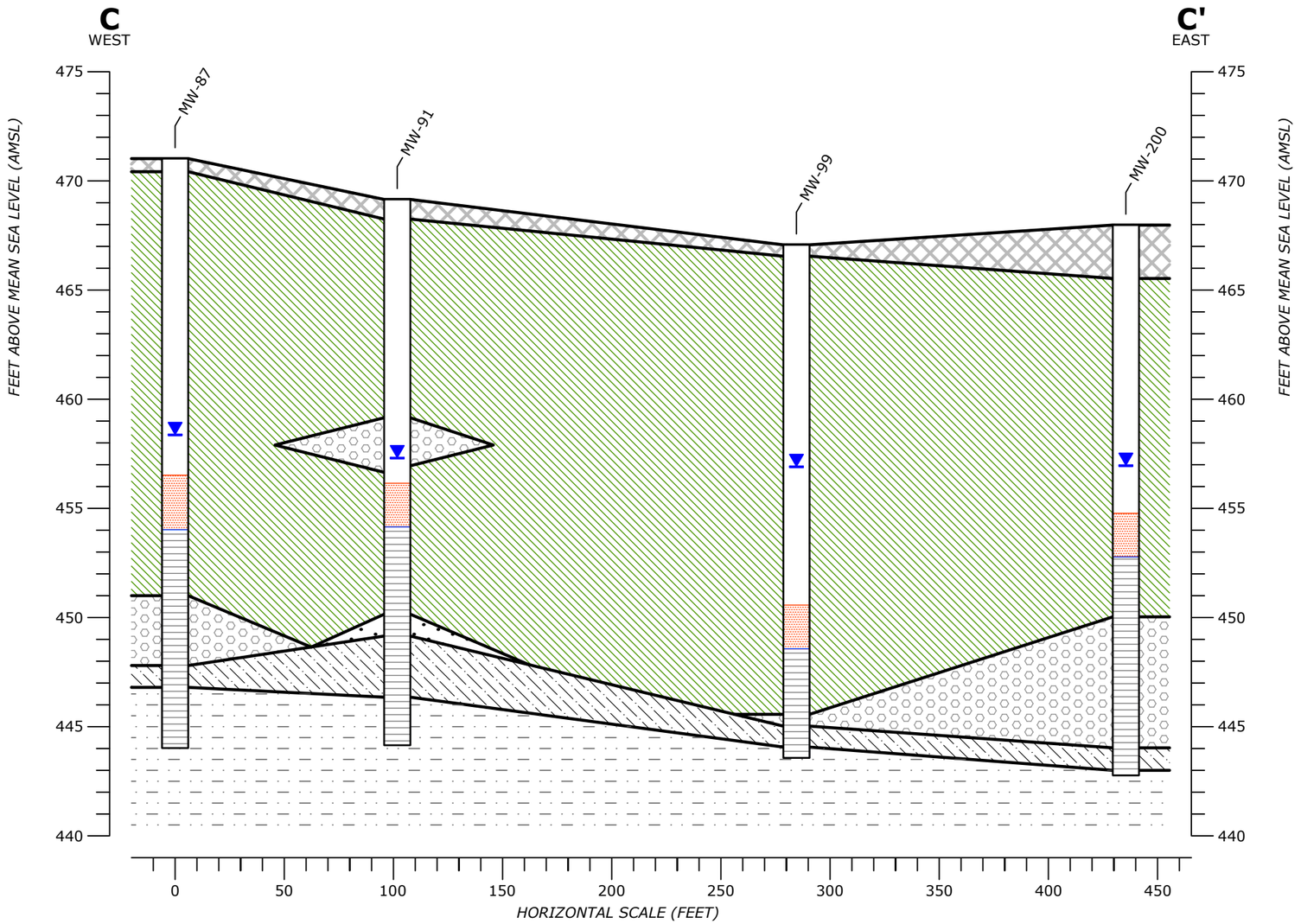

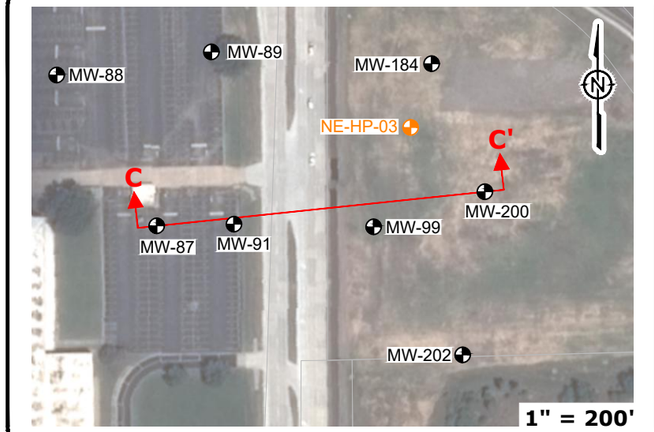

SITE OVERVIEW

LITHOLOGY
TOPSOIL/FILL/ASPHALT
SUB-BASE: FILL AND GRAVEL
CLAY
CLAYEY SAND/GRAVEL
CLAYEY SAND/SILTY SAND
SANDY CLAY
SILTY CLAY
SILTY CLAY/ CLAYEY SILT
SHALE
WATER LEVEL (FT. AMSL.)

MONITORING WELL
BORING
SAND PACK
SCREEN

0 — 6
VERTICAL SCALE IN FEET

0 — 60
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION = 10x

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RAMBOLL

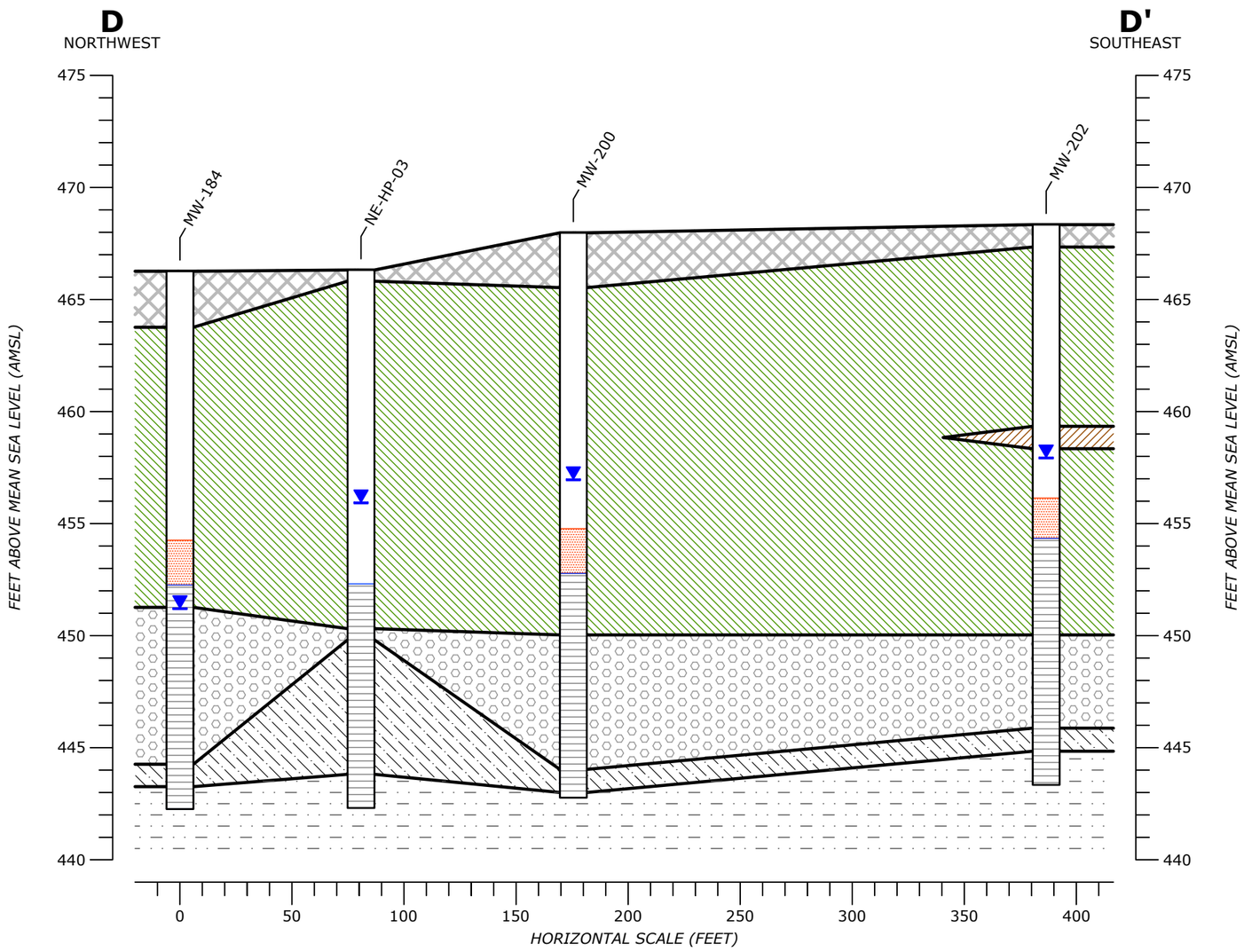
DRAFTED BY: CKL | DATE: 1/11/2021

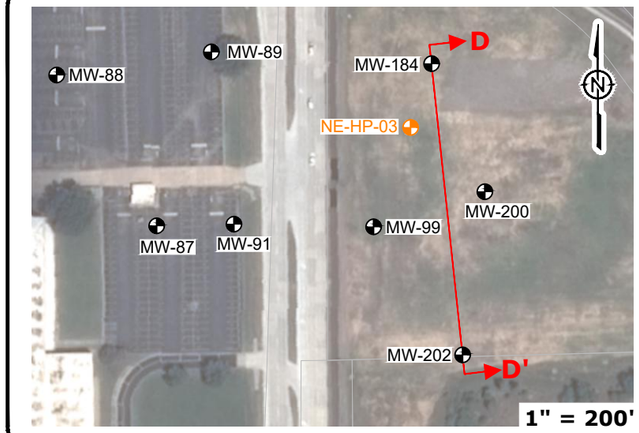
CROSS SECTION C - C'

NORTHEAST SITE
FORMER WHIRLPOOL FACILITY
FORT SMITH, ARKANSAS

FIGURE
3

1690016820





SITE OVERVIEW

LITHOLOGY

- TOPSOIL/FILL/ASPHALT
- SUB-BASE: FILL AND GRAVEL
- CLAY
- CLAYEY SAND/GRAVEL
- CLAYEY SAND/SILTY SAND
- SANDY CLAY
- SILTY CLAY
- SILTY CLAY/ CLAYEY SILT
- SHALE
- WATER LEVEL (FT. AMSL.)

MONITORING WELL

- ID
- BORING
- SAND PACK
- SCREEN

0 — 6
VERTICAL
SCALE IN FEET

0 — 60
HORIZONTAL
SCALE IN FEET

VERTICAL EXAGGERATION = 10x

RAMBOLL

DRAFTED BY: CKL | DATE: 1/11/2021

CROSS SECTION D - D'

NORTHEAST SITE
FORMER WHIRLPOOL FACILITY
FORT SMITH, ARKANSAS

FIGURE
4

1690016820

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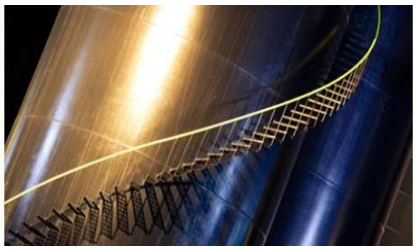
Attachment F

2020 In-Situ Chemical Reduction Report


ATTACHMENT F

2020 Annual In-Situ Chemical Reduction Report

Whirlpool Facility
Fort Smith, Arkansas

Prepared for:
Whirlpool Corporation

Prepared by:
Ramboll US Consulting, Inc

Date:
February 2021

Project Number:
1690016820

RAMBOLL

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Appendix B: ISCR Reagent Safety Data Sheets
Appendix C: Laboratory Analytical Reports

1 Introduction

Four in-situ chemical reduction (ISCR) injection events have been performed at the former Whirlpool site located on Jenny Lind Road in Fort Smith, Arkansas (Site). These ISCR events were conducted in October 2015, August 2018, December 2019 and October 2020. Each ISCR injection event was performed in accordance with the respective action plan or work plan and approvals received from the Arkansas Department of Energy and Environment Division of Environmental Quality (ADEQ) Underground Injection Control (UIC) Program (Inventory Requirements for Authorized By Rule Class V Wells as described in 40 CFR 144.84).

The ISCR technology employed during each of these events combines abiotic chemical reduction and anaerobic bioremediation for the treatment of chlorinated volatile organic compounds (VOCs) in groundwater. These physical, chemical and biological processes combine to produce a reducing environment in the treated saturated zone to stimulate complete dechlorination of trichloroethene (TCE) and daughter products to non-toxic end breakdown products. ISCR reagents are typically effective for a timeframe of multiple years; therefore, the evaluation of data associated with this supplemental injection is anticipated to continue for a similar period of time.

This report summarizes the injection activities for the October 2020 supplemental injections and presents the monitoring and ISCR performance data collected for the previous ISCR treatment events. Locations for the five ISCR treatment areas are included in Figures 1 through 5.

The first ISCR event, completed September 28 through October 2, 2015, was the pilot component of the final remedy defined by the 2013 Remedial Action Decision Document (RADD) for the Site (identified as 2015 ISCR Treatment Zones on Figure 1).[1] A total of 4,844 gallons of ISCR reagents including 7,500 pounds of ProvectIR-40™ [40% by weight 20-30 micron zero valent iron (ZVI)], 660 pounds magnesium oxide (MgO) and 13 liters (L) of dehalococcoides (Dhc) inoculum were injected. These reagents were distributed across three permeable reactive barrier (PRB) treatment zones comprised of a total of 44 temporary direct push injection points. The injection activities for the 2015 pilot are summarized in the Fourth Quarter 2015 ISCR Pilot Study Report and the results discussed in subsequent quarterly and annual reports through the 2018 ISCR Event Report.

The second ISCR injection event was performed at the Site between July 30 and August 22, 2018. This ISCR injection event was performed in accordance with the Work Plan for In-situ Chemical Reduction, Whirlpool Corporation Facility, Fort Smith, Arkansas, May 11, 2018. The injected ISCR reagent mixture was approximately 21,874 gallons and comprised of 18,254 pounds of ZVI; 1,310 pounds of nutrient; 8,266 pounds of hydrolyzed kelp; 25,882 pounds of calcium propionate; 1,310 pounds of sodium sulfite; 34,184 pounds of Provect-IR™; 1,310 pounds of yeast extract; 2,176 grams (g) of Vitamin B1; 15,155 g of Vitamin B2 and 32,250 g of red yeast rice suspended in potable water (municipal source for water). These reagents were injected into the saturated zone at 133 temporary injection points (65 in the north (Figure 1), 64

[1] These voluntary activities were outlined in the document Supplement to February 2014 Final Remedy Work Plan, ISCR Pilot Test, Whirlpool Corporation, Fort Smith, Arkansas, Ramboll Environ US Corporation (Ramboll Environ) August 25, 2015.

points in the southwest (Figure 2) and four points in the southeast (Figure 3)). The injection activities for 2018 are summarized in the 2018 ISCR Report (Attachment H) to the 2018 Annual Report and the results discussed in subsequent annual and semi-annual reports through the 2020 Semi-Annual Report.

The third ISCR injection event performed at the Site was completed at the northeast corner parking lot on the former Whirlpool property and on the down-gradient 6427 Jenny Lind Road property on December 6-8, 2019 (Figure 4). This ISCR injection event was performed in accordance with the Work Plan for In-situ Chemical Reduction, Whirlpool Corporation Facility, Fort Smith, Arkansas, October 23, 2019 (During this injection event, the ISCR reagent mixture was approximately 5,760 gallons and comprised of 4,468 pounds of ZVI; 365 pounds of nutrient; 1,525 pounds of hydrolyzed kelp; 3,625 pounds of calcium propionate; 480 pounds of sodium sulfite; 7,352 pounds of Provect-IR™; 365 pounds of yeast extract; 487 pounds of magnesium hydroxide; 114 gallons of Provectus™ AMR (AMR) compound; 495 g of Vitamin B12 and 3,435 g of Vitamin B2 suspended in potable water (municipal source for water). These reagents were injected into the saturated zone at the northeast portion of the North Plume across 37 temporary injection points (20 in the northeast parking lot and 17 on the property at 6427 Jenny Lind Road).

The fourth ISCR injection event performed at the Site was completed along the south property boundary in the vicinity of TMW-36. This injection was performed on October 6-9, 2020, in accordance with the work plan dated September 18, 2019. The total injected ISCR reagent mixture was approximately 6,300 gallons and comprised of 3,780 pounds of ZVI; 210 pounds of nutrient; 1,386 pounds of hydrolyzed kelp; 210 pounds of sodium sulfate; 6,636 pounds of Provect-IR™; 3,150 pounds of Calcium Propionate; 210 pounds of yeast extract; 210 pounds of magnesium hydroxide; 105 gallons of AMR compound; 453.6 g of Vitamin B12 and 3,160.7 g of Vitamin B2 suspended in potable water (municipal source for water). This volume was injected into the saturated zone at 23 temporary points along the south property boundary in the vicinity of TMW-36.

Innovative Environmental Technologies, Inc (IET) provided materials, equipment and personnel to inject the ISCR reagents and assisted Ramboll personnel in monitoring the progress of each of the four injection events conducted in 2015, 2018, 2019 and 2020.

2 October 2020 Injection Activities

Based upon the results of the 2015 and 2018 ISCR injection events, the ISCR reagent mixture for the 2020 injection event was modified for the south treatment area as follows:

- Magnesium hydroxide was added for additional pH control;
- The particle size of ZVI was increased to enhance abiotic activity and longevity;
- AMR compound was added to enhance methane inhibition; and
- The Propionate dose was decreased to also reduce methane generation.

The reagent mix was also designed considering the total quantity that could likely be injected into the subsurface to minimize daylighting based on past injection experience, groundwater gradient and current VOC concentrations. At each injection location the reagent was generally injected from approximately 34-40 feet below ground surface (bgs) in two injection intervals (approximately 34-36 feet (generally wet silty sand) and 38-40 feet bgs (moist to wet sand with clay to clayey gravel).The injection intervals were selected based on previous observations during drilling indicating water bearing sediments and sampling results indicating the presence of VOCs. The relative quantities of reagent additives were applied as follows:

- The reagent mix at each location included approximately 165 pounds total of ZVI (1-3 micron particle size) distributed in the two injection intervals;
- Approximately 300 pounds total of Provect-IR™ product per injection point distributed in the two injection intervals;
- Approximately 140 pounds of propionate per injection point distributed in the two injection intervals; and
- Approximately 5 gallons of Provectus AMR compound per injection point distributed in the two injection intervals to reduce methane production.

Appendix A contains the IET report with additional details regarding the reagent mix and additional components comprised of vitamins, yeast, sulfite, kelp and magnesium hydroxide included to improve effectiveness of the reagent. The supplemental injection activities performed in October 2020 are described below.

2.1 Temporary Injection Point Installation

The treatment zone established for the October 2020 ISCR injections was located along the southern Whirlpool property boundary, down-gradient of MW-189 in the vicinity of TMW-36/TMW-36B (Figure 5).

The temporary injection points for the treatment zones were installed by IET using direct push (AMS Power Probe 9500-VTR) equipment.

Prior to injection activities, Arkansas One-Call Utility Locating Services were notified and a private utility locator was contracted to identify underground utilities and other potential

obstructions in the injection areas. An Arkansas-licensed surveyor was also contracted to clearly mark the Whirlpool southern property boundary in the area of the injections.

The direct push drill string utilized a specialized stainless steel screen assembly designed to facilitate horizontal injection for bottom up injections. In general, the two foot injection screen was advanced to depths ranging from 34-40 feet bgs, targeting intervals within the lower saturated clayey sand to clayey gravel. The treatment zone consisted of 23 injection points installed in two rows targeting an approximate 10,400 square feet (ft^2) area down-gradient of MW-189. The injection points were spaced approximately 24 feet apart and offset laterally by 12 feet so that the injection points between rows were centered to optimize groundwater contact with the ISCR reagent as it flows through the treatment zone. The radius of influence was assumed to be approximately 12 feet for the October 2020 injections. At some location's multiple attempts, sometimes requiring off-set additional injections, were required to complete the injection due to tight soils. Additional details for each injection point location are described in the IET report provided in Appendix A.

2.2 Mobilization and ISCR Reagent Preparation

The specialized injection equipment systems were contained in custom box trailers and transported to the site by the injection contractor (IET). The ISCR reagent materials were delivered by common carrier. Potable water used during the injection event was obtained from a fire hydrant near the intersection of Jenny Lind Place and Ingersoll Avenue (i.e., municipal water). Supplies were staged in the northeast parking area at the Site. Reagent mixing and preparation took place within the self-contained systems in the box trailers mobilized to the site by IET. Safety data sheets (SDSs) for the reagents are provided in Appendix B. Safety procedures outlined in the site-specific Health and Safety Plan (HASP) were followed during reagent preparation.

2.3 ISCR Reagent Injection

The ISCR reagent was prepared as a slurry (using potable water) and delivered into the subsurface using compressed nitrogen and pneumatic diaphragm pumps. Compressed nitrogen is used for subsurface pathway development and as a carrier for the ISCR reagents as opposed to compressed air to avoid introducing oxygen into the subsurface. During injection, the instantaneous flow rate and pressure at the injection pump was monitored and recorded for each injection point. The monitoring data for each point and a detailed description of the injection process is described in detail in Appendix A.

In total, 6,300 gallons of treatment solution consisting of ISCR reagent and potable water was injected into two separate depth intervals within the saturated zone approximately 34-36 feet bgs and 38-40 feet bgs (see Appendix A for the IET report containing depth intervals for injections at specific locations).

2.4 Injection Monitoring

Baseline water levels at TMW-36 and TMW-36B were measured and recorded prior to ISCR reagent injection. Both wells exhibited a slight rise in groundwater elevations during injections

with TMW-36 experiencing a rise of 0.1 feet and TMW-36B experiencing a rise of 0.76 feet (Table 1). Field water quality parameters were measured and recorded periodically from TMW-36 to assess groundwater geochemistry for the ISCR process. Field water quality parameters measured before, during and after the ISCR reagent injections are presented in Table 1. Notable observations regarding the data collected from TMW-36 are as follows:

- Specific conductivity decreased slightly [from 847 micro-Siemens per centimeter (µS/cm) to 734 µS/cm] during injections compared to the baseline reading. The post-injection specific conductivity reading was 803 µS/cm.
- Oxidation-reduction potential (ORP) decreased slightly [+219 millivolts (mV) pre-injection to +121.7 mV] during injections compared to baseline readings. The post-injection ORP reading was +186.9 mV.

In addition to the field water quality information summarized above, a slight odor of decay was noted during post-injection monitoring of TMW-36.

The next post ISCR sampling event will occur during the semi-annual groundwater sampling event in April or May of 2021.

3 ISCR Monitoring

The annual groundwater sampling event conducted on October 5-9, 2020, included monitoring at the following locations as indicated in the respective ISCR work plans. This monitoring was conducted to assess groundwater redox conditions and treatment progress for the 2018 and 2019 ISCR injection events:

- North Plume (Treatment Zone N1, Treatment Zone N2, Treatment Zone N3 and 61R Ph II): TMW-10, TMW-11, TMW-21, TMW-22R, MW-61R and MW-194;
- South Plume (Treatment Zone S1, Treatment Zone S2, Treatment Zone S3 and TMW-25): TMW-25, TMW-26, TMW-30, TMW-32 and MW-186;
- Southeast Plume (Treatment Zone SE1): MW-185 and TMW-34; and
- Northeast Plume (Treatment Zone NE1 and NE-2): MW-91 and MW-99.

Groundwater monitoring in the designated treatment zones included the following:

- Measuring and recording the depth to water (DTW).
- Conducting low flow sampling while monitoring field parameters including water level, temperature, pH, specific conductivity, dissolved oxygen (DO) and ORP. The field parameters were stabilized prior to collecting a groundwater sample as indicated in the Revised Groundwater Monitoring Plan (RGWMP) approved by ADEQ in September 2016.
- Field measurement of ferrous iron following field parameter stabilization.
- Collecting groundwater samples and submitting the samples to Pace Analytical Laboratory for analysis of VOCs, anions (chloride, sulfate, nitrate), total organic carbon (TOC), dissolved organic carbon (DOC), iron (total and ferric), dissolved gasses (ethene, ethane, methane) and volatile fatty acids (VFAs).

4 Results

The monitoring results for the 2020 Annual Groundwater Sampling Event are summarized below. The field water quality parameter measurements are presented in Table 1. A summary of the groundwater monitoring analytical results is presented in Table 2 and changes in TCE concentrations since the ISCR injections were performed at the various treatment areas are presented in Table 3. Associated laboratory analytical reports are provided in Appendix C.

4.1 December 2019 Injections

The groundwater quality and analytical data from the 2020 Annual Groundwater Sampling Event were used to continue the evaluation of the ISCR process for the 2019 Northeast Plume ISCR Injection Event. These updated water quality and analytical data values are included in Tables 1-3 and in the discussion of the analytical results presented below.

4.1.1 Field Water Quality Parameters

Field water quality parameters were measured and recorded at approximately 300 days post 2019 ISCR Injection Event. Recorded data for ORP, conductivity, DO and iron concentrations are presented below.

- ORP values were negative in both MW-91 and MW-99 (-136.3 mV and -164.3 mV, respectively). The ORP continued a downward trend in these wells post injection.
- Elevated specific conductivity values continue to be observed in MW-91 (2236 µS/cm) and MW-99 (8328 µS/cm), compared to the baseline values of these wells (443 µS/cm at MW-91 and 212 µS/cm at MW-99).
- DO was very low in both wells [0.10 milligrams per liter (mg/L) in MW-91 and 0.12 mg/L in MW-99] compared to baseline values (0.34 mg/L and 0.79 mg/L, respectively).
- Ferrous iron concentrations (2.70 mg/L in MW-91 and 8.2 mg/L in MW-99) continue to exceed baseline values (0.0 mg/L in MW-91 and MW-99).
- The pH increased from 5.7 and 5.9 to 6.9 and 7.1 for MW-91 and MW-99, respectively.

The field water quality parameters indicate geochemical conditions in the groundwater approximately 300 days following the 2019 ISCR Injection Event continue to support reducing conditions appropriate for TCE reduction (e.g., ORP < -100 mV, DO < 0.5 mg/L, ferrous iron > 1 mg/L and pH in the range of 6 to 9 SU).[2] The elevated specific conductivity is indicative of the remaining soluble reagent material that was injected.

4.2 July–August 2018 Injections

The groundwater quality and analytical data from the 2020 Annual Groundwater Sampling Event were used to continue the evaluation of the ISCR process for the 2018 ISCR Injection Event.

[2] Table 7.12, from Natural Attenuation of Fuels and Chlorinated Solvents in the Subsurface by Todd Wiedemeier et al, 1999.

These updated water quality and analytical data values are included in Tables 1-3 and included in the discussion of the analytical results presented below.

4.2.1 Field Water Quality Parameters

Field water quality parameters were measured and recorded on October 5-9, 2020, at approximately 800 days following the 2018 ISCR Injection Event. Recorded data for ORP, conductivity, DO, pH and ferrous iron concentrations are presented below.

MW-61R Treatment Zone

- ORP measured values were negative in all ISCR monitoring wells (e.g., -70 mV at MW-61R, -136 mV at TMW-10 and -65 mV at TMW-11). Elevated specific conductivity values continued to be observed in TMW-10, but at TMW-11 and MW-61R specific conductivity values have decreased to near pre-injection levels. DO measurements in all the wells were very low measuring at or below 0.1 mg/L. Ferrous iron concentrations continue to exceed baseline values at approximately 2-4 mg/L.
- At the MW-61R Treatment Zone, although field water quality parameters indicate ORP has increased at MW-61R, TMW-10 and TMW-11 ORP values remain negative. Negative ORP values in addition to very low DO (< 0.1), ferrous iron is > 2 mg/L and pH is > 6 standard units (SU) indicates geochemical conditions in the groundwater approximately 800 days following the 2018 ISCR Injection Event continue to support a reducing environment.

2018 North Plume Treatment Zone

- ORP measured values continue to be negative in ISCR monitoring wells (e.g., -71 mV at TMW-22R, -134 mV at TMW-21 and -56 at MW-194). Specific conductivity values elevated over baseline measurements continue to be observed. DO measurements continue to be anoxic at < 0.1 mg/L. Ferrous iron concentrations continue to exceed baseline values at 3-5 mg/L.
- North Plume Treatment Zone field water quality parameters indicate the ORP has increased but remains negative, DO is very low (< 0.1), ferrous iron is > 2 mg/L and pH is > 6 SU. These observations indicate geochemical conditions in groundwater approximately 800 days following the 2018 ISCR Injection Event continue to support a reducing environment.

2018 Southwest Plume Treatment Zone

- ORP measured values were negative in all ISCR wells (e.g., -51 mV at TMW-32 to -223 mV at TMW-30) and were < -100 mV in five of the six wells monitored. Specific conductivity readings greater than baseline values continued to be observed in all wells with elevated values ranging from 2,445 µS/cm at MW-186 to 4,290 µS/cm at TMW-30. DO measurements in all the monitoring wells were very low (< 0.5 mg/L). Ferrous iron concentrations continue to exceed baseline values and were > 2 mg/L in five of the six wells monitored. pH ranges from 6.4-7.3.

- Southwest Plume Treatment Zone field water quality parameters indicate ORP generally continues to be < -100 mV, DO is < 0.5 mg/L, ferrous iron is > 2 mg/L in five of six locations and pH is > 6. These observations indicate geochemical conditions in the groundwater approximately 800 days following the 2018 ISCR Injection Event continue to support a reducing environment.

2018 Southeast Plume Treatment Zone

- Groundwater quality at up-gradient well MW-185 is representative of local conditions outside the area of treatment. ORP measured values were +81.9 mV, specific conductivity values were low (316 µS/cm) and DO was low at 0.79 mg/L. TMW-34 was installed on November 5, 2018 and down-gradient of the 2018 ISCR injection points. The groundwater at TMW-34 is reducing with an ORP value of -29.7 mV and a DO of 0.06 mg/L. The specific conductivity remains low (414 µS/cm) and ferrous iron concentrations exceed the baseline value (ND) at 2 mg/L, representing the highest ferrous iron reading at TMW-34 since installation.

4.3 Analytical Results

Table 2 presents the analytical results for VOCs and attenuation parameters for the monitoring wells designated in the 2018 and 2019 ISCR work plans to evaluate the progress for the ISCR reagent injections.

2019 Injections Northeast

The laboratory results in Table 2 are provided for the 2019 injections approximately 160 and 300 days following the 2019 ISCR Injection Event. Post injection data indicates that the ISCR reagent injections provided:

- Increases in total iron, TOC, DOC, chloride, nitrite;
- Reduction in sulfate at MW-91 and increased sulfate at MW-99;
- Increases in methane in both wells; and
- Increases in VFA in both wells (acetate, propionate, butyrate and pyruvate).

The increases in total iron, ferric iron, sulfate and ferrous iron were associated with the ZVI and Provect-IR™ products and the various nutrients and vitamins. Likewise, the ISCR reagent injection also resulted in a significant increase in TOC, which was subsequently utilized by the indigenous microbial populations to produce VFAs.

First time detections of ethene and ethane in October 2020, along with on-going detections of methane and sulfate concentrations generally less than 20 mg/L, are indicative of reducing conditions conducive to complete reductive dechlorination of TCE. This is corroborated by the field collected ORP, DO and ferrous iron measurements (as discussed within Section 4.1) that are also indicative of a reducing subsurface environment.

Further, reduction of TCE and presence of TCE breakdown daughter product cis-1,2-dichloroethane (cis-1,2-DCE) within groundwater sampled from both MW-91 and MW-99 and presence of vinyl chloride (VC) within groundwater from MW-91 indicate that reductive dechlorination via biological processes are occurring within the ISCR treatment zone. However, the observed groundwater concentrations of TCE degradation products (e.g., cis-1,2-DCE, VC and ethene) are stoichiometrically lower than expected if TCE was remediated solely by biological processes. Given the significant increase in iron in groundwater post injection as compared to the baseline sampling event (i.e., ZVI distributed throughout the treatment zone), it is likely that abiotic processes are also responsible for TCE reduction in addition to biotic processes.

Table 3 compares baseline December 2019 TCE concentrations to TCE concentrations approximately 300 days post injection in MW-91 and MW-99. The results indicate significant TCE concentration decreases in both wells of approximately 84% for MW-91 [331 micrograms per liter (µg/L) to 51.9 µg/L] and 99% for MW-99 (59.3 µg/L to 0.9 µg/L). Reduction of TCE within the past year and indications of both biotic and abiotic pathways confirms the efficacy for this remedial strategy within the Northeast Plume.

Continued groundwater monitoring will occur at both wells per the approved work plan.

2018 Injections

The laboratory results in Table 2 are approximately 90, 245, 450, 650 and 800 days post 2018 ISCR Injection Event. The 90, 245, 450 and 800 day post injection data indicate that the ISCR reagent provided a significant increase in total iron, sulfate, TOC, DOC, methane and VFA (acetate, propionate, butyrate and pyruvate) in comparison to the baseline data. The increases in total iron, ferric iron, sulfate and ferrous iron were associated with the ZVI and Provect-IR™ products and the various nutrients and vitamins. Likewise, the ISCR reagent also resulted in a significant increase in TOC, which was subsequently utilized by the indigenous microbial populations to produce VFA. In addition, dissolved gas methane, ethane and ethene were present indicating geochemistry was appropriate for the reductive process to continue.

The results in Table 2 for the 2018 injections approximately 800 days post injection indicate that total iron remains elevated over baseline values in most wells. TOC, DOC and methane remain elevated in comparison to pre-treatment values), though levels decreased in most wells from May 2020. Initial sulfate increases over baseline values (indicative of the ISCR reagent affecting the well) have decreased at many locations with the exception of TMW-11, TMW-32, TMW-34, MW-61R and MW-194. VFA (acetate, propionate, butyrate and pyruvate) remain elevated in comparison to the baseline data in TMW-16, TMW-21, TMW-25, TMW-26 and MW-61R (elevated detection limits in several samples were above previous results). The elevated concentrations in total iron, TOC (utilized by the indigenous microbial populations to produce VFA) and dissolved gas concentrations of methane, ethane and ethene indicate geochemistry is ideal for the reductive process to continue. The reductions in sulfate levels are also indicative of reducing conditions.

Table 3 compares July 2018 TCE concentrations to TCE concentrations approximately 800 days post injection in October 2020. The percent reduction in TCE concentrations was calculated for individual wells where ISCR reagent injections occurred. The following results from Tables 2 and 3 are discussed in relation to the monitoring wells for each treatment area.

MW-61R Treatment Zone

- TMW-10:
  - Table 2: The total iron concentration decreased possibly due to formation of iron sulfate in-situ. TOC/DOC remain elevated but have decreased to below 20 mg/L which is generally more optimum for biodegradation. Chloride was initially elevated to approximately 1.6 times baseline value with initial large decreases in TCE concentration, chloride decreased, but continues to exceed baseline value. Sulfate increased initially but has decreased to less than the baseline value. Dissolved gas methane previously elevated, indicative of anaerobic and reducing conditions, now decreased from elevated levels and ethene detected which is an end product of TCE degradation.
  - Concentrations of Dhc previously detected at TMW-10 following the 2015 Pilot [Non-detect, 158 and 555 cells per milliliter (c/mL)] were non-detect (< 2 c/mL) in TMW-10 approximately 90 days following the 2018 injections (August to November 2018), 20,000 c/mL in October 2019 and 1,120 c/mL in October 2020 (note: TMW-11 was located just outside the estimated area of influence from the 2015 injections (that included bioaugmentation with Dhc) and did not exhibit reducing conditions as observed in MW-61R and TMW-11.
  - Table 3: The TCE concentration at TMW-10 decreased from 91.1 µg/L to 4.8 µg/L, a 95% decrease in concentration. Daughter products Initially increased as TCE decreased but as the TCE has degraded so has the cis-1,2-DCE and VC. The concentration of VC is expected to continue to decrease with the established reducing groundwater conditions and the presence of Dhc (and VC Reductase).
- TMW-11:
  - Located up-gradient from the 2018 ISCR injections and down-gradient from the 2015 treatment area. The 2018 injections had limited effects at TMW-11 but reducing conditions have continued. The data from 2018 to present, Table 2, indicate total iron, TOC, DOC and anions concentrations changed little since May 2020 with exception of the large increase in sulfate which is higher than historic values and exceeds 20,000 µg/L [99,800(J) µg/L coded] where it could compete with the reductive pathway. The methane concentration, elevated shortly after the down-gradient injections, is indicative of anaerobic and reducing conditions, has decreased from elevated levels, ethene and ethane detects (J coded as estimated) are end products of TCE degradation. The TCE concentration has remained < 5 µg/L.
  - Concentrations of Dhc previously detected at TMW-11 following the 2015 Pilot (14.2 to 715 c/mL) had decreased to non-detect (< 2 c/mL) in TMW-11 by

November 2018. Concentrations of Dhc approximately 15 months following the 2018 injections were 638 c/mL in October 2019 and 341 c/mL in October 2020.

- MW-61R:
  - Located down-gradient from the 2018 ISCR injections. The 2018 injections had limited effects at MW-61R but reducing conditions have continued. The data from 2018 to present, Table 2, indicate total iron, TOC, DOC and anions concentrations changed little since May 2020. Acetic acid, a carbon and energy source, was detected at an elevated concentration of 14,000 µg/L. Elevated VFAs confirm that electron donor fermentation is occurring and indirectly indicates that hydrogen generation is likely occurring.
  - The TCE concentration at MW-61R increased slightly from 15.0 µg/L to 15.8 µg/L.[3] MW-61R is the only monitoring well that has had a marginal increase in TCE concentration since the ISCR injections; however, the increased reductive conditions now present up-gradient of MW-61R at TMW-10 could still affect groundwater chemistry over the next several months ultimately resulting in a reduction in TCE concentrations in MW-61R as has occurred in the past.

Ramboll is currently developing additional work plan(s) for this area which will be submitted to ADEQ in 2021.

North Plume Treatment Zone

- TMW-21:
  - Table 2: The total iron concentration is still elevated since injection of the ISCR reagent confirming the initial placement of the reagent and continuing availability for the reductive process. Methane concentrations continue to be elevated indicating reducing conditions to promote TCE breakdown. Detections of ethene and ethane and end products for abiotic and anaerobic degradation of TCE and DCE, confirm treatment continues. Remaining levels of VFAs, acetic and pyruvic acid indicate electron donor fermentation is occurring and indirectly indicates that hydrogen generation, the ultimate electron donor used by most reductive degradation microbes, is likely occurring.
  - Table 3: The TCE concentration at TMW-21 has decreased from 564 µg/L to 7.2 µg/L, a 99% decrease in concentration. Anerobic daughter products, cis-1,2-DCE and VC initially increased as the TCE decreased but as the TCE has degraded so has the cis-1,2-DCE and VC to below the respective remedial action limits (RALs).

[3] Following the pilot injections in 2015, concentrations in this well were maintained at or below 5 µg/L for 6 of 7 monitoring events to April of 2018. The Phase II injections completed in the pilot area were focused on TMW-10 and up-gradient from MW-61R. It was thought that remaining TCE exceeding 5 µg/L was located between MW-61R and TMW-10 and that by injecting reagent in this area concentrations would be reduced at MW-61R.

- TMW-22, 22R:
    - Table 2: The total iron concentration is still elevated since injection of the ISCR reagent confirming the initial placement of the reagent and continuing availability for the reductive process. Methane concentrations continue to be elevated and sulfate concentrations have decreased from baseline and post injection values indicating reducing conditions to promote TCE breakdown. Detections of ethene and ethane, end products for anaerobic and abiotic degradation of TCE and DCE, confirm treatment continues.
    - Table 3: The TCE concentration at MW-22R continues to decrease from 460 µg/L to 56.6 µg/L, an 88% decrease in concentration. Anerobic daughter products, cis-1,2-DCE and VC initially increased as the TCE decreased but as the TCE has degraded so has the cis-1,2-DCE and VC. The concentrations of cis-1,2-DCE and VC are expected to continue to decrease with the established reducing groundwater conditions.
- MW-194:
    - Table 2: The total iron concentration is still elevated since injection of the ISCR reagent confirming the initial placement of the reagent and continuing availability for the reductive process. Methane concentrations continue to be elevated indicating reducing conditions to promote TCE breakdown. Remaining levels of VFAs, acetic and propionic acid indicate electron donor fermentation is occurring and indirectly indicates that hydrogen generation, the ultimate electron donor used by most reductive degradation microbes, is likely occurring.
    - Table 3: The TCE concentration at MW-194 has decreased from 13.3 µg/L to 5.6 µg/L, a 58% decrease in concentration.

In the North Plume Treatment Zone, TCE concentration decreases ranged from 58% at MW-194 to 99% at TMW-21. The sum of TCE concentrations in TMW-21, TMW-22 and MW-194 decreased from an approximate baseline of 1,037 µg/L to approximately 69 µg/L in this zone, which represents an approximate 93% decrease in concentration.

Southwest Plume Treatment Zone

- TMW-32 (S-1):
    - Table 2: The total iron concentration that was elevated post injection of the ISCR reagent has decreased (the ORP in this well is also > -100 mg/L). The initial response to the injection has been less in TMW-32 compared to other wells in this area. However, methane concentrations continue to be elevated indicating reducing conditions to promote TCE breakdown and remaining levels of VFAs, acetic and propionic acid indicate electron donor fermentation is occurring. This well is located adjacent drainage for the railroad bed. There was some daylighting during injection and there may be a higher rate of groundwater recharge or displacement introducing more oxidative conditions.

  - Table 3: The TCE concentration at TMW-32 has decreased from 83.5 µg/L to 27.6 µg/L, a 67% decrease in concentration.

- TMW-26 (S-2):
  - Table 2: The total iron concentration is still elevated since injection of the ISCR reagent confirming the initial placement of the reagent and continuing availability for the reductive process. Methane concentrations continue to be elevated and sulfate concentrations have decreased since injection indicating reducing conditions to promote TCE breakdown. Detections of ethene and ethane, end products for anaerobic and abiotic degradation of TCE and DCE and remaining VFA acetic acid confirm treatment continues.
  - Table 3: The TCE concentration at MW-26 continues to decrease from 96.1 µg/L to 3.7 µg/L, a 96% decrease in concentration. Anerobic daughter products, cis-1,2-DCE and VC initially increased as the TCE decreased but as the TCE has degraded so has the cis-1,2-DCE and VC. The concentrations of cis-1,2-DCE and VC are currently below the respective RALs.
- MW-186 (S-2):
  - Table 2: The total iron concentration is still elevated since injection of the ISCR reagent confirming the initial placement of the reagent and continuing availability for the reductive process. Methane concentrations continue to be elevated and sulfate concentrations have decreased to < 1,000 µg/L (ND) indicating reducing conditions.
  - Table 3: The TCE concentration at MW-186 has decreased from 17.7 µg/L to 0.4 µg/L, a 98% decrease in concentration. Anerobic daughter products, cis-1,2-DCE and VC initially increased as the TCE decreased but as the TCE has degraded so has the cis-1,2-DCE and VC. The concentrations of TCE, cis-1,2-DCE and VC are currently below the respective RALs.
- TMW-16 (S-3):
  - Table 2: The total iron concentration is still elevated but has decreased. Methane concentrations continue to be elevated indicating reducing conditions to promote TCE breakdown. Detections of ethene and ethane, end products for abiotic and anaerobic degradation of TCE and DCE, confirm treatment continues and remaining levels of VFAs, acetic and propionic acid indicate electron donor fermentation is occurring.
  - Table 3: The TCE concentration at TMW-16 has decreased from 988 µg/L to 0.6(J) µg/L, a 99+% decrease in concentration. Anerobic daughter product, cis-1,2-DCE initially increased as the TCE decreased but as the TCE has degraded so has the cis-1,2-DCE to below the RAL.
- TMW-25:
  - Table 2: The total iron concentration is still elevated since injection of the ISCR reagent confirming the initial placement of the reagent and continuing availability for the reductive process. Methane concentrations continue to be elevated and

sulfate concentrations have decreased since injection indicating reducing conditions to promote TCE breakdown. Detections of ethene and ethane, end products for anaerobic and abiotic degradation of TCE and DCE confirm treatment continues.

- Table 3: The TCE concentration at TMW-25 continues to decrease, from 240 µg/L to 3.1 µg/L, a 96% decrease in concentration. Anerobic daughter products, cis-1,2-DCE and VC initially increased as the TCE decreased but as the TCE has degraded so has the cis-1,2-DCE and VC. The concentrations of TCE, cis-1,2-DCE and VC are currently below the respective RALs.

In the Southwest Plume Treatment Zone, decreases in TCE concentrations ranged from 67% in TMW-32 to > 99% in TMW-16. The sum of TCE concentrations in TMW-16, TMW-26, TMW-32 and MW-186 decreased from an approximate baseline of 1,185 µg/L to approximately 32 µg/L in this zone, which represents an approximate 97% decrease in concentration.

Southeast Plume Treatment Zone

- TMW-34:
  - Located down-gradient from the 2018 ISCR injections in the southeast. It was installed in November 2018 after the ISCR injections to provide additional monitoring data. A reasonable comparison for baseline (pre-injection) groundwater conditions is available from MW-185 located up groundwater gradient from the ISCR injections. Groundwater sampling at TMW-34 indicates reducing conditions were established and have continued. The data from 2018 to present, Table 2, indicate total iron had increased by April 2019 following injections, (ferrous iron increased to 2,000 µg/L in October 2020, Table 1), Methane has remained elevated (3,900 µg/L) (in comparison to pre-injection methane levels at MW-185).
  - TCE concentration at TMW-34 has increased from 17.6 µg/L to 84.8 µg/L. Cis-1,2-DCE concentrations have increased from 6.9 µg/L to 46.0 µg/L over the same time frame indicating active breakdown of the TCE. VC has not been detected.

  Ramboll is currently developing additional work plan(s) for this area which will be submitted to ADEQ in 2021.

In the Southeast Treatment Zone, TCE concentrations at MW-185 increased from 11.7 µg/L during baseline to 176 µg/L. Continued groundwater monitoring will occur at the above locations. Whirlpool is assessing a more sustainable and longer lasting remedy or remedies to supplement the remediation efforts performed at the site in 2014, 2015 and 2018 through 2020. The results of bench scale testing of ISCR reagents is provided in the 2020 Annual Report.

5 Summary

Additional remedial measures for plume control were performed along the south property boundary in the vicinity of TMW-36 on October 6-9, 2020, in accordance with the work plan dated September 18, 2019. Approximately 6,300 gallons of ISCR reagent (ZVI, hydrolyzed kelp, sodium sulfate, Provect-IR™, calcium propionate, yeast extract, magnesium hydroxide, AMR compound and trace additives) was injected into the saturated zone in 23 temporary points along the south property boundary in the vicinity of TMW-36.

The ISCR technology combines abiotic chemical reduction and anaerobic bioremediation for the treatment of VOCs in groundwater. These physical, chemical and biological processes combine to produce a reducing environment in the treated saturated zone stimulating chemical and microbiological dechlorination of TCE. ISCR reagents are typically effective for timeframes of years; therefore, the evaluation of data associated with the 2018 through 2020 supplemental injections is anticipated to continue for a similar period of time.

The field and analytical monitoring data can be summarized as follows:

- Field water quality parameters, field observations and analytical data indicate that the ISCR reagent impacted the majority of monitoring wells within the radius of influence of the ISCR reagent injections.
- During both the 2018 and 2019 injection events, the ORP measured values decreased and specific conductivity levels increased at the majority of the wells monitored. Both of these changes indicate the ISCR reagent reached or impacted the groundwater at the respective monitoring wells. Additional time and collection of monitoring data from the specified monitoring wells is necessary to determine post-injection effectiveness of the 2020 ISCR injections.
- At the majority of the wells monitored for the 2018 ISCR event approximately 800 days post injection, the ORP measured values continue to be reducing, the DO measured values remained within the reducing range (anoxic) and specific conductivity levels remained elevated. This indicates the geochemistry is appropriate for the reductive process to continue.
- Concentrations of total iron, sulfate, TOC, DOC, methane and VFA (acetate, propionate, butyrate and pyruvate) continue to be detected in the ISCR monitoring wells (directly affected by the 2018 injections) approximately 800 days following ISCR injections that are elevated compared to the baseline and earlier monitoring data indicating geochemistry is appropriate for the reductive process to continue.
- Cis-1,2-DCE concentrations in the majority of monitoring wells in comparison to baseline levels indicate that the ISCR injection enhanced reductive dechlorination in the groundwater.
- In the MW-61R Treatment Zone, the TCE concentration has decreased from 91.1 µg/L to 4.8 µg/L at TMW-10 (95% decrease in concentration). MW-61R is the only monitoring well in the North Plume that has had a marginal increase in TCE concentration since the ISCR injections; however, reductive conditions present at MW-61R and up-gradient at TMW-10 could still effect groundwater chemistry over the next several months ultimately resulting in a reduction in TCE concentrations.

- TCE concentration reductions in the North Plume Treatment Zone ranged from 58% to 99% 800 days after ISCR reagent injections which is indicative of enhanced reductive dechlorination in the groundwater. The sum of TCE concentrations decreased in the wells monitored by 93%.
- TCE concentration reductions in the Southwest Plume Treatment Zone ranged from 67% to > 99% approximately 800 days after ISCR reagent injections which is indicative of continuing enhanced reductive dechlorination in the groundwater. The sum of TCE concentrations in the ISCR monitoring wells decreased 97% in this area 800 days post injection.
- In the Southeast Treatment Zone, reducing conditions have been established and continue with increases in ferrous and methane. TCE at TMW-34 has increased from 17.6 µg/L to 84.8 µg/L. Cis-1,2-DCE concentrations have increased from 6.9 µg/L to 46.0 µg/L over the same time frame indicating active breakdown of the TCE.
- TCE concentration reductions in the Northeast Plume Treatment Zone were 84% for MW-91 and 99% for MW-99 300 days after ISCR injections, indicating continuing enhanced reductive dechlorination in the groundwater.

As discussed in correspondence in 2019, Whirlpool is evaluating existing data and appropriate remedial actions to supplement the remediation efforts performed at the site in 2014, 2015 and 2018 through 2020.

Tables

TABLE 1
SUMMARY OF WATER QUALITY PARAMETERS (2020 ISCR Event)
Whirlpool Facility - Fort Smith, Arkansas

Well	Time - Time Stamp	TOC Elevation (feet)	Static Depth to Water (feet)	Groundwater Elevation (feet)	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Fe(II) ferrous (mg/L)	Notes
North Plume MW-61R Phase II Treatment Area (Injections in 2015 and 2018)											
MW-61R	9/18/2015 15:07	459.31	4.50	454.81	25.09	687	0.38	6.22	-147.3	ND	2015 Pilot pre-injection baseline
	1/8/2016 8:30	459.31	7.10	452.21	16.18	1,207	0.21	6.82	-117.3	>3.00	90 days post pilot injection
	5/3/2016 12:10	459.31	6.40	452.91	18.18	1,250	0.17	6.79	-124.8	>3.00	2nd Quarter 2016 Event, slightly yellow
	10/23/2017 16:52	459.31	6.53	452.78	23.90	1,204	0.18	6.95	-119.3	>3.00	2017 Annual Event, max Fe(II) reading
	4/17/2018 14:00	459.31	7.05	452.26	17.86	1,077	0.12	6.89	-125.5	>3.00	2018 Semi-Annual Event, max Fe(II) reading
	7/31/2018 11:15	459.31	5.75	453.56	24.30	915	0.07	6.78	-87.4	>3.00	Pre-Injection Baseline, max Fe(II) reading
	11/13/2018 14:20	459.31	6.85	452.46	19.75	951	0.12	6.54	-108.9	1.15	90 days post injection (annual monitoring event)
	4/25/2019 15:40	459.31	6.44	452.87	18.60	907	0.12	6.80	-63.5	1.18	2019 Semi-Annual Monitoring Event
	10/23/2019 9:10	459.31	5.05	454.26	22.26	881	0.29	6.70	-105.8	2.13	2019 Annual Monitoring Event, faint blue, slight ISCR odor
	12/7/2019 12:40	459.31	6.99	452.32	19.60	845	0.10	6.54	-95.2	NM	2019 Re-sample
	5/14/2020 12:06	459.31	4.77	454.54	19.30	750	0.05	6.50	-90.4	7.00	2020 Semi-Annual Monitoring Event, clear, no odor, sheen on purged water
	10/6/2020 9:53	459.31	4.28	456.47	22.70	816	0.06	6.49	-70.2	4.20	2020 Annual Event
TMW-10	9/18/2015 13:40	460.75	4.20	456.55	23.96	932	0.78	6.31	-183.9	ND	2015 Pilot pre-injection baseline
	1/8/2016 8:40	460.75	5.00	455.75	16.94	822	2.17	6.19	209.8	0.14	90 days post pilot injection
	5/4/2016 10:10	460.75	5.70	455.05	17.10	869	1.12	6.40	135.5	0.13	2nd Quarter 2016 Event, light yellow brown
	10/24/2017 14:50	460.75	4.93	455.82	21.59	904	0.18	6.33	55.1	0.08	2017 Annual Event
	4/17/2018 13:10	460.75	7.30	453.45	18.36	864	0.11	6.33	155.8	0.03	2018 Semi-Annual Event
	7/31/2018 17:20	460.75	4.70	456.05	21.75	833	0.03	6.22	32.5	0.05	Pre-Injection Baseline
	8/2/2018 8:37	460.75	0.37	460.38	21.11	1,202	--**	6.03	166.5	--	During injection, issue with DO sensor
	11/13/2018 16:55	460.75	5.69	455.06	16.46	3,499	0.47	6.63	-127.6	>3.00	90 days post injection (annual monitoring event), max Fe (II) reading, light brown/gray, ISCR odor
	4/25/2019 17:30	460.75	6.22	454.53	16.2	2,373	0.38	6.82	-118.9	1.21	2019 Semi-Annual Monitoring Event, light yellow/brown, ISCR odor
	10/22/2019 14:05	460.75	2.89	457.86	20.9	2,122	0.05	6.83	-166.3	>3.00	2019 Annual Monitoring Event, max Fe (II) reading, light yellow/brown, ISCR odor
	5/14/2020 15:14	460.75	4.42	456.33	18.1	1,805	0.06	6.92	-144.1	2.02	2020 Semi Annual Monitoring Event, clear with black tinge, slight ISCR odor
	10/5/2020 17:16	460.75	2.31	458.44	20.8	1,971	0.09	6.85	-136.3	2.03	2020 Annual Event
TMW-11	9/18/2015 10:05	460.20	3.49	456.71	23.93	1,005	3.07	6.52	12.4	ND	2015 Pilot pre-injection baseline
	1/8/2016 8:53	460.20	4.43	455.77	15.83	3,793	0.16	7.19	-128.0	>3.00	90 days post pilot injection
	5/3/2016 15:10	460.20	4.96	455.24	18.93	2,512	0.15	7.17	-153.8	NM	2nd Quarter 2016 Event, light gray brown
	10/23/2017 16:00	460.20	4.00	456.20	22.99	1,510	0.07	7.07	-137.9	>3.00	2017 Annual Event, light gray tint, max Fe(II) reading
	4/17/2018 12:50	460.20	6.58	453.62	19.29	1,332	0.06	7.16	-130.9	>3.00	2018 Semi-Annual Event, clear, slight organic odor, max Fe(II) reading
	8/2/2018 11:00	460.20	1.72	458.48	22.40	5,132	--**	6.39	-138.1	--	During injection, issue with DO sensor
	11/13/2018 16:45	460.20	5.34	454.86	16.96	2,157	0.05	6.98	-162.1	1.91	90 days post injection (annual monitoring event), light yellow/gray, slight odor
	4/25/2019 12:55	460.20	5.59	454.61	16.50	1,404	0.21	6.97	-112.7	1	2019 Semi-Annual Monitoring Event, light yellow/clear, no odor
	10/22/2019 13:45	460.20	2.11	458.09	22.50	1,438	0.07	7.00	-124.4	>3.00	2019 Annual Monitoring Event, max Fe (II) reading, clear w/ black flecks, slight odor
	5/14/2020 11:28	460.20	3.73	456.47	17.60	1,135	0.06	6.96	-137.9	1.6	2020 Semi-Annual Monitoring Event, clear w/ black and brown flecks, slight ISCR odor
	10/5/2020 17:15	460.20	1.64	458.56	21.60	1,369	0.02	6.84	-64.9	3.8	2020 Annual Event
North Plume Permeable Reactive Barrier Treatment Zone (Injections in 2018)											
TMW-21	10/24/2017 14:26	460.01	3.36	456.65	19.93	810	0.60	6.12	22.4	--	2017 Annual Event
	4/19/2018 10:48	460.01	2.84	457.17	14.30	873	0.56	6.15	118.1	0.02	2018 Semi-Annual Event
	7/31/2018 16:00	460.01	3.50	456.51	22.04	774	0.03	5.97	45.3	ND	Pre-Injection Baseline
	8/3/2018 9:13	460.01	3.39	456.62	21.58	772	0.32	6.06	159.0	--	During injection
	8/7/2018 12:55	460.01	6.00	454.01	25.67	11,844	0.34	6.48	-183.0	--	During injection
	11/15/2018 15:15	460.01	2.60	457.41	18.47	6,574	0.05	6.45	-101.8	>3.00	90 days post injection (annual monitoring event), max Fe (II) reading, strong odor, yellow/gray
	4/25/2019 17:55	460.01	2.18	457.83	16.50	5,658	0.08	6.51	-133.9	>3.00	2019 Semi-Annual Monitoring Event, max Fe (II) reading, yellow/gray, strong ISCR odor
	10/22/2019 16:00	460.01	1.00	459.01	20.10	2,005	0.11	6.56	-211.8	>3.00	2019 Annual Monitoring Event, max Fe (II) reading, light gray w/ black flecks, ISCR odor
	5/14/2020 15:17	460.01	1.10	458.91	18.30	2,001	0.04	6.49	-93.2	6.4	2020 Semi-Annual Monitoring Event, pale gray, ISCR odor
	10/6/2020 17:00	460.01	1.00	459.01	21.00	1,350	0.03	6.23	-133.7	5	2020 Annual Event

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TABLE 1
SUMMARY OF WATER QUALITY PARAMETERS (2020 ISCR Event)
Whirlpool Facility - Fort Smith, Arkansas

Well	Time - Time Stamp	TOC Elevation (feet)	Static Depth to Water (feet)	Groundwater Elevation (feet)	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Fe(II) ferrous (mg/L)	Notes
TMW-22	10/24/2017 16:50	460.82	4.35	456.47	19.88	932	1.35	6.33	-62.0	--	2017 Annual Event
	4/18/2018 14:50	460.82	3.34	457.48	18.40	986	0.41	6.59	231.6	ND	2018 Semi-Annual Event
	8/1/2018 10:10	460.82	4.93	455.89	20.52	832	0.28	6.11	130.0	0.38	Pre-Injection Baseline
	8/6/2018 9:15	460.82	--	--	21.43	6,174	0.44	6.34	-487.8	--	During injection, well integrity compromised due to damage during injection event, uppermost PVC riser cracked/bent, unable to take water level readings, bentonite observed on water level meter, replaced during 2018 Annual Event
TMW-22R	11/15/18 16:50	460.71	3.30	457.41	18.55	1,478	0.04	7.08	-105.0	1.20	90 days post injection (annual monitoring event), replacement well for TMW-22, pale yellow, slight odor
	4/25/19 17:45	460.71	2.15	458.56	16.30	1,517	0.24	6.65	-41.0	2.01	2019 Semi-Annual Monitoring Event, clear, slight odor
	10/23/19 12:30	460.71	1.40	459.31	22.40	1,627	0.18	6.61	-112.4	>3.00	2019 Annual Monitoring Event, max Fe (II) reading, tan tinge/turbid, slight ISCR odor
	5/14/20 15:32	460.71	1.55	459.16	19.00	1,544	0.12	6.64	-88.0	>3.00	2020 Semi-Annual Monitoring Event, clear, no odor, sheen on purged water
	10/6/20 12:06	460.71	0.95	459.76	22.30	1,660	0.05	668.00	-70.9	5.00	2020 Annual Event
MW-194	10/23/2017 16:12	462.47	4.41	458.06	23.58	660	0.15	5.90	53.7	--	2017 Annual Event
	4/17/2018 16:00	462.47	5.00	457.47	19.16	721	0.19	5.89	119.6	ND	2018 Semi-Annual Event
	7/31/2018 14:45	462.47	4.45	458.02	24.22	692	0.08	5.67	56.2	0.49	Pre-Injection Baseline
	8/9/2018 12:15	462.47	2.88	459.59	24.00	814	0.14	6.01	67.1	--	During injection, light yellow, inoculant/yeasty odor
	11/14/2018 17:20	462.47	4.50	457.97	19.91	865	0.05	5.76	-61.3	0.61	90 days post injection (annual monitoring event)
	4/25/2019 14:15	462.47	4.78	457.69	16.90	878	0.93	6.29	-130.1	3.00	2019 Semi-Annual Monitoring Event, max Fe (II) reading, light yellow/brown, slight odor
	10/23/2019 10:40	462.47	3.25	459.22	20.60	704	0.14	6.23	-53.5	2.15	2019 Annual Monitoring Event, clear, slight odor
	5/14/2020 17:27	462.47	4.15	458.32	19.00	870	0.06	6.28	-43.8	2.12	2020 Semi-Annual Monitoring Event, green tinge, no odor
	10/7/2020 9:15	462.47	2.73	459.74	20.7	1071	0.07	6.2	-55.6	3.3	2020 Annual Event
Southwest Plume Permeable Reactive Barrier Treatment Zone (Injections in 2018)											
MW-186	10/24/2017 10:40	469.8	14.12	455.68	17.75	777	0.26	6.00	53.8	--	2017 Annual Event
	4/19/2018 10:35	469.8	13.93	455.87	16.00	789	0.26	6.03	149.7	ND	2018 Semi-Annual Event
	8/3/2018 16:10	469.8	14.02	455.78	21.32	807	0.23	5.71	168.0	0.01	Pre-Injection Baseline, pale yellow
	8/13/2018 10:15	469.8	13.42	456.38	20.85	6,841	0.09	6.45	-24.2	--	During injection, light yellow brown, inoculant/yeasty odor
	11/14/2018 10:05	469.8	14.02	455.78	15.22	11,567	0.07	6.38	-172.2	>3.00	90 days post injection (annual monitoring event), max Fe (II) reading, strong odor, light yellow
	4/26/2019 8:55	469.8	12.68	457.12	16.10	4,312	0.10	6.86	-141.4	1.40	2019 Semi-Annual Monitoring Event, light yellow, slight odor
	10/24/2019 13:15	469.8	12.86	456.94	17.00	2,234	0.16	7.13	-169.8	1.66	2019 Annual Monitoring Event, light yellow, no odor
	5/14/2020 12:05	469.8	12.22	457.58	19.10	2,320	0.17	7.73	-136.4	4.50	2020 Semi-Annual Monitoring Event, light brown, strong odor of decay
	10/8/2020 9:55	469.8	12.50	457.3	18.30	2,445	0.20	7.27	-147.5	4.50	2020 Annual Event
TMW-16	10/24/2017 10:58	469.87	13.23	456.64	18.07	2,258	0.19	5.84	117.7	--	2017 Annual Event
	4/19/2018 15:30	469.87	12.99	456.88	17.67	2,134	0.07	5.89	294.6	ND	2018 Semi-Annual Event
	8/2/2018 15:19	469.87	13.02	456.85	20.87	1,982	0.19	5.84	296.3	ND	Pre-Injection Baseline
	8/19/2018 10:02	469.87	11.87	458.00	20.46	5,719	0.12	6.09	32.5	--	During injection, slight light brown
	11/16/2018 10:25	469.87	12.91	456.96	15.39	2,739	1.10	6.62	-97.4	>3.00	90 days post injection (annual monitoring event), max Fe (II) reading, ISCR odor, light gray brown
	4/25/2019 10:50	469.87	11.88	457.99	16.80	5,610	0.07	7.01	-132.8	>3.00	2019 Semi-Annual Monitoring Event, max Fe (II) reading, clear, slight odor
	10/23/2019 15:15	469.87	11.45	458.42	18.30	3,689	0.09	7.03	-200.3	>3.00	2019 Annual Event, max Fe (II) reading, tan tinge, ISCR odor
	5/14/2020 15:31	469.87	10.60	459.27	18.90	3,217	0.06	7.11	-152.2	3.12	2020 Semi-Annual Monitoring Event, tan tinge, ISCR odor
	10/8/2020 15:20	469.87	11.28	458.59	19.00	3,160	0.87	7.11	-164.2	7.90	2020 Annual Event
TMW-25	10/25/2017 16:45	473.14	16.18	456.96	19.13	1,049	0.13	5.96	134.2	--	2017 Annual Event
	4/19/2018 14:10	473.14	16.30	456.84	17.61	1,022	0.14	5.89	440.7	0.22	2018 Semi-Annual Event
	11/15/2018 13:30	473.14	15.55	457.59	17.46	13,954	0.02	6.61	-169.8	>3.00	90 days post injection (annual monitoring event), max Fe (II) reading, strong odor, yellow/gray
	4/25/2019 11:00	473.14	14.23	458.91	16.9	3,710	0.05	7.05	-182.6	>3.00	2019 Semi-Annual Event, max Fe(II) reading, yellow with flecks, strong odor
	10/24/2019 10:55	473.14	11.9	461.24	16.4	1,509	0.36	7.07	-152.2	1.68	2019 Annual Event, pale yellow, slight odor
	5/14/2020 12:27	473.14	14.01	459.13	17.8	1,086	0.04	7.03	-143.1	4.00	2020 Semi-Annual Event, pale yellow, ISCR odor
	10/7/2020 17:50	473.14	13.87	459.27	19.2	1,220	0.04	6.82	-146.3	4.60	2020 Annual Event

RAMBOLL

TABLE 1
SUMMARY OF WATER QUALITY PARAMETERS (2020 ISCR Event)
Whirlpool Facility - Fort Smith, Arkansas

Well	Time - Time Stamp	TOC Elevation (feet)	Static Depth to Water (feet)	Groundwater Elevation (feet)	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Fe(II) ferrous (mg/L)	Notes
TMW-26	10/24/2017 12:48	472.1	16.84	455.26	19.27	983	0.24	6.17	13.8	--	2017 Annual Event
	4/19/2018 13:00	472.1	16.23	455.87	16.26	941	0.08	6.05	328.8	0.01	2018 Semi-Annual Event
	8/2/2018 16:45	472.1	16.30	455.8	21.75	1,055	0.20	5.95	174.8	ND	Pre-Injection Baseline
	8/21/2018 10:39	472.1	14.73	457.37	20.12	8,942	0.17	6.05	-112.2	--	During injection
	11/15/2018 11:15	472.1	16.10	456.00	15.34	14,751	0.04	6.47	-162.9	>3.00	90 days post injection (annual monitoring event), max Fe (II) reading, strong odor, brown/black, froth observed on top of water surface
	4/25/2019 16:45	472.1	15.60	456.50	18.00	5,644	0.07	6.45	-108.3	2.72	2019 Semi-Annual Monitoring Event, light yellow with oily sheen, strong odor
	10/24/2019 10:55	472.1	11.90	460.20	16.40	1,509	0.36	7.07	-152.2	1.68	2019 Annual Monitoring Event, pale yellow, slight ISCR odor
	5/14/2020 11:56	472.1	16.50	455.60	20.00	3,943	0.07	6.93	-168.9	4.50	2020 Semi-Annual Monitoring Event, yellow color, ISCR odor
	10/7/2020 11:10	472.1	15.45	456.65	18.50	3,227	0.07	7.00	-171.9	2.14	2020 Annual Event
TMW-30	10/24/2017 16:58	469.37	13.95	455.42	17.54	909	0.32	6.93	-379.5	--	2017 Annual Event, slightly brown cloudy
	--	469.37	--	--	--	--	--	--	--	--	2018 Semi-Annual Event
	8/11/2018 13:52	469.37	14.02	455.35	22.87	637	0.12	5.32	169.3	0.02	Pre-Injection Baseline (field parameters only, no samples collected)
	8/13/2018 9:05	469.37	13.99	455.38	20.49	1,738	0.14	6.32	131.8	--	Prior to day 3 of injections, light yellow brown
	11/14/2018 13:30	469.37	14.11	455.26	13.40	20,404	0.16	6.76	-555.7	0.98	90 days post injection (annual monitoring event), ISCR odor, black
	10/23/2019 14:45	469.37	12.72	456.65	19.80	4,742	0.20	7.03	-214.7	2.46	2019 Annual Monitoring Event, dark gray, ISCR odor
	5/14/2020 15:07	469.37	14.54	454.83	20.10	5,584	0.00	7.27	-208.5	--	2020 Semi-Annual Monitoring Event, dark black color prevented ferrous iron analysis, strong ISCR odor
	10/7/2020 10:25	469.37	11.78	457.59	19.00	4,290	0.01	7.24	-223.1	0.62	2020 Annual Event. Dark black, ISCR odor.
TMW-32	--	466.9	--	--	--	--	--	--	--	--	2017 Annual Event
	4/18/2018 16:30	466.9	10.81	456.09	17.75	653	0.11	5.58	173.8	ND	2018 Semi-Annual Event
	8/3/2018 12:50	466.9	11.33	455.57	22.87	637	0.12	5.32	169.3	0.02	Pre-Injection Baseline
	11/16/2018 9:35	466.9	10.93	455.97	17.71	934	0.08	6.66	-138.6	0.50	90 days post injection (annual monitoring event)
	4/25/2019 13:30	466.9	10.37	456.53	16.70	862	0.08	6.45	-35.8	>3.00	2019 Semi-Annual Monitoring Event, max Fe (II) reading, clear, faint odor
	10/24/2019 15:15	466.9	10.70	456.2	20.90	426	0.13	6.66	-70.9	1.54	2019 Annual Monitoring Event, pale yellow, slight ISCR odor
	5/14/2020 15:29	466.9	9.96	456.94	17.30	826	0.18	6.73	-15.5	8.10	2020 Semi-Annual Monitoring Event, clear, slight ISCR odor
	10/8/2020 12:50	466.9	10.63	456.27	20.1	897	0.48	6.43	-51.3	7.00	2020 Annual Event
Southeast Plume Permeable Reactive Barrier Treatment Zone (Injections in 2018)											
MW-185*	10/24/2017 15:20	473.86	14.72	459.14	23.90	246	0.61	6.16	60.6	--	2017 Annual Event
	4/19/2018 12:55	473.86	15.36	458.5	20.56	245	0.54	6.23	146.0	ND	2018 Semi-Annual Event
	7/31/2018 13:05	473.86	14.77	459.09	28.10	313	0.59	5.74	37.8	0.18	Pre-Injection Baseline
	11/14/2018 11:40	473.86	14.83	459.03	21.57	252	0.53	5.69	52.2	0.02	90 days post injection (annual monitoring event)
	4/25/2019 16:35	473.86	14.23	459.63	23.20	236	0.47	6.04	146.4	0.06	2019 Semi-Annual Monitoring Event, yellowish brown tint, moderate odor
	10/24/2019 14:29	473.86	14.26	459.6	22.20	271	0.59	5.64	151.7	0.29	2019 Annual Monitoring Event, clear, no odor
	5/13/2020 0:00	473.86	14.12	459.74	23.50	290	0.52	5.94	176.9	0.58	2020 Semi-Annual Monitoring Event, clear, no odor
	10/7/2020 12:55	473.86	14.23	459.63	25.50	316	0.79	5.75	81.9	0.00	2020 Annual Event
TMW-34	11/14/2018 15:00	471.37	12.54	458.83	22.60	427	0.07	6.26	95.1	ND	90 days post injection (annual monitoring event)
	4/25/2019 14:10	471.37	12.04	459.33	20.00	382	0.14	6.74	-2.5	0.27	2019 Semi-Annual Monitoring Event, clear with yellow tint, moderate odor
	10/24/2019 17:30	471.37	11.60	459.77	20.85	426	0.13	6.66	-70.9	1.54	2019 Annual Monitoring Event, clear, ISCR odor
	12/7/2019 10:40	471.37	12.43	458.94	21.60	399	0.10	6.34	-21.0	NM	2019 Re-sample
	5/14/2020 10:00	471.37	12.07	459.3	21.50	383	0.77	6.50	7.9	0.78	2020 Semi-Annual Monitoring Event, clear, ISCR odor
	10/7/2020 14:45	471.37	12.10	459.27	25.90	414	0.06	6.43	-29.7	2.00	2020 Annual Event
Northeast Plume Permeable Reactive Barrier Treatment Zone (Injections in 2019)											
MW-91	4/25/2019 9:47	468.9	11.51	457.39	19.80	435	0.57	5.67	124.1	0.00	2019 Semi-Annual Event
	10/24/2019 14:20	468.9	11.54	457.36	20.10	384	0.21	5.67	189.0	0.03	2019 Annual Event
	12/3/2019 14:50	468.9	10.89	458.01	23.90	443	0.34	5.69	167.5	0.00	Pre-Injection Baseline
	12/7/2019 17:35	468.9	12.70	456.2	22.40	4153	0.75	6.02	87.5	2.91	Post-Injection Monitoring
	5/14/2020 9:50	468.9	11.68	457.22	23.20	3748	2.81	7.08	-108.1	0.90	2020 Semi-Annual Monitoring Event, light brown, strong odor of decay
	10/6/2020 14:20	468.9	12.20	456.7	24.40	2236	0.10	6.85	-136.3	2.70	2020 Annual Event, slight ISCR odor.

RAMBOLL

TABLE 1
SUMMARY OF WATER QUALITY PARAMETERS (2020 ISCR Event)
Whirlpool Facility - Fort Smith, Arkansas

Well	Time - Time Stamp	TOC Elevation (feet)	Static Depth to Water (feet)	Groundwater Elevation (feet)	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Fe(II) ferrous (mg/L)	Notes
MW-99	4/24/2019 11:53	466.8	9.90	456.9	17.60	179	0.94	6.34	190.8	0.00	2019 Semi-Annual Event
	10/23/2019 0:00	466.8	9.40	457.4	21.20	189	0.57	6.28	114.4	0.03	2019 Annual Event
	12/3/2019 9:30	466.8	9.06	457.74	19.60	212	0.79	5.93	162.5	0.00	Pre-Injection Baseline
	12/9/2019 9:42	466.8	12.48	454.32	20.00	6378	0.78	7.08	78.4	1.48	Post-Injection Monitoring
	5/14/2020 9:32	466.8	11.96	454.84	18.50	9587	0.61	6.75	-109.7	0.00	2020 Semi-Annual Monitoring Event, opaque sheen, ISCR smell.
	10/7/2020 8:00	466.8	10	456.8	20.9	8328	0.12	7.05	-164.3	8.2	2020 Annual Event, cloudy, brown/black particles, ISCR smell.
South Plume Permeable Reactive Barrier Treatment Zone (Injections in 2020)											
TMW-19	10/23/2019 16:06	484.99	24.74	460.25	22.30	478	0.29	6.05	91.4	0.37	2019 Annual Event
	5/13/2020 12:35	484.99	24.58	460.41	19.80	255	0.80	6.07	218.4	0.48	2020 Semi-Annual Event
	10/5/2020 16:21	484.99	24.59	460.4	19.70	426	0.38	6.06	100.5	0.00	2020 Annual Event/Pre-Injection Baseline
TMW-36	10/24/2019 10:46	485.35	25.32	460.03	18.10	838	0.21	5.44	117.0	0.00	2019 Annual Event
	5/13/2020 15:44	485.35	24.92	460.43	20.60	865	0.16	5.87	184.1	0.04	2020 Semi-Annual Event
	10/5/2020 16:20	485.35	24.81	460.54	21.00	847	0.15	5.74	219.0	0.02	2020 Annual Event/Pre-Injection Baseline
	10/8/2020 12:40	485.35	24.56	460.79	22.00	734	0.21	5.66	121.7	--	During injection
	10/9/2020 15:40	485.35	24.46	460.89	20.90	803	3.84**	5.65	186.9	--	Post-Injection Monitoring, slight ISCR/organic odor, issue with DO sensor
TMW-36B	10/5/2020 17:50	485.35	25.18	460.17	20.60	1819	0.16	6.38	-115.7	5.00	2020 Annual Event/Pre-Injection Baseline
	10/9/2020 16:15	485.35	24.42	460.93	--	--	--	--	--	--	Post-Injection Monitoring, depth to water only, well was under positive pressure

Notes:

µS/cm = MicroSiemens per centimeter
mg/L = Milligrams per liter
ND = Not Detected
NA = Not Available
TOC = Top of casing
DO = Dissolved oxygen
ORP = Oxidation reduction potential
mV = Millivolts
SU = Standard Units
-- Not Measured
* MW-185 located up groundwater gradient from SE injection area.
** DO sensor malfunction, no measurement

TABLE 2
LABORATORY ANALYTICAL RESULTS - ISCR TREATMENT AREA MONITORING (JULY 2018 - OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-61R							TMW-10						TMW-11*					
Field Sample ID	Remedial Action Levels per ADEQ RADD Issued Dec 2013	MW-61R-201807	MW-61R-201811	MW-61R-201904	MW-61R-201910	MW-61R-201912	MW-61R-202005	MW-61R-202010	TMW-10-201807	TMW-10-201811	TMW-10-201904	TMW-10-201910	TMW-10-202005	TMW-10-202010	TMW-11-201710	TMW-11-201811	TMW-11-201904	TMW-11-201910	TMW-11-202005	TMW-11-202010
Lab Sample ID(s)		60276306001	60286720002	60300963027	60319115043	60323873002	60337357008	60350519002	60276306005	60286720008	60300963030	60318969022	60337357016; 570-28619-12	60350858002; 60350359001; 029RJ-7	60243014009	60286720007	60300963008	60318969021	60337357001; 570-28619-1	60350858007; 60350359002; 029RJ-10
Sample Date		7/31/2018	11/13/2018	04/25/2019	10/23/2019	12/7/2019	05/14/2020	10/06/2020	7/31/2018	11/13/2018	04/25/2019	10/22/2019	05/14/2020	10/05/2020	10/23/2017	11/13/2018	04/25/2019	10/22/2019	05/14/2020	10/05/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments		North Plume MW-61R Phase II Treatment Area							North Plume MW-61R Phase II Treatment Zone						North Plume MW-61R Phase II Treatment Zone					
Volatile Organic Compounds																				
Acetone	12000	3.6 J (1.9)	3.7 J (1.9)	U (3.3)	U (3.3)	U (3.3)	U (4.1)	U (4.7)	2.8 J (1.9)	128 (1.9)	10.8 (3.3)	U (3.3)	U (4.1)	U (4.7)	U (1.9)	5.9 J (1.9)	U (3.3)	U (3.3)	U (4.1)	U (4.7)
Benzene	5	U (0.060)	U (0.060)	U (0.079)	U (0.079)	U (0.079)	U (0.11)	U (0.088)	U (0.060)	0.10 J (0.060)	U (0.079)	U (0.079)	0.16 J (0.11)	0.16 J (0.088)	0.11 J (0.060)	0.11 J (0.060)	U (0.079)	U (0.079)	U (0.11)	U (0.088)
Bromomethane	7	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.52)	U (0.99)
2-Butanone	4900	U (0.59)	U (0.59)	U (0.70)	U (0.70)	U (0.70)	U (0.74)	U (2.4)	U (0.59)	307 (0.59)	2.7 J (0.70)	U (0.70)	U (0.74)	U (2.4)	U (0.59)	U (0.59)	U (0.70)	U (0.70)	U (0.74)	U (2.4)
Carbon Disulfide	720	U (0.12)	U (0.12)	U (0.16)	U (0.16)	U (0.16)	U (0.53)	U (0.24)	U (0.12)	0.56 J (0.12)	1.0 J (0.16)	0.35 J (0.16)	U (0.53)	U (0.24)	U (0.12)	U (0.12)	0.31 J (0.16)	U (0.16)	0.74 J (0.53)	U (0.24)
Chlorobenzene	100	U (0.21)	U (0.21)	U (0.13)	U (0.13)	U (0.13)	U (0.16)	U (0.23)	U (0.21)	U (0.21)	U (0.13)	U (0.13)	U (0.16)	U (0.23)	U (0.21)	U (0.21)	U (0.13)	U (0.13)	U (0.16)	U (0.23)
Chloroform	80	U (0.14)	U (0.14)	U (0.10)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	U (0.14)	U (0.14)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	U (0.14)	U (0.14)	U (0.10)	U (0.10)	U (0.087)	U (0.17)
Chloromethane	190	U (0.080)	U (0.080)	U (0.16)	U (0.16)	U (0.16)	U (0.30)	U (0.44)	U (0.080)	U (0.080)	U (0.16)	U (0.16)	U (0.30)	U (0.44)	U (0.080)	U (0.080)	U (0.16)	U (0.16)	0.40 J (0.30)	U (0.44)
1,1-Dichloroethane	2.4	U (0.050)	U (0.050)	U (0.097)	U (0.097)	U (0.097)	U (0.092)	U (0.098)	U (0.050)	U (0.050)	U (0.097)	U (0.097)	U (0.092)	U (0.098)	U (0.050)	U (0.050)	U (0.097)	U (0.097)	U (0.092)	U (0.098)
1,2-Dichloroethane	5	U (0.12)	0.17 J B (0.12)	U (0.14)	U (0.14)	U (0.14)	U (0.27)	U (0.23)	0.14 J B (0.12)	0.16 J B (0.12)	U (0.14)	U (0.14)	U (0.27)	U (0.23)	U (0.12)	0.18 J B (0.12)	U (0.14)	U (0.14)	U (0.27)	U (0.23)
1,1-Dichloroethene	7	U (0.20)	U (0.20)	U (0.22)	U (0.22)	U (0.22)	U (0.19)	U (0.21)	U (0.20)	0.26 J (0.20)	U (0.22)	U (0.22)	U (0.19)	U (0.21)	U (0.20)	U (0.20)	U (0.22)	U (0.22)	U (0.19)	U (0.21)
cis-1,2-Dichloroethene	70	1.8 (0.080)	1.9 (0.080)	1.1 (0.17)	1.7 (0.17)	1.0 (0.17)	1.0 (0.11)	1.1 (0.15)	5.9 (0.080)	15.0 (0.080)	2.4 (0.17)	1.4 (0.17)	0.67 J (0.11)	0.86 J (0.15)	1.7 (0.080)	0.73 J (0.080)	0.78 J (0.17)	0.79 J (0.17)	0.55 J (0.11)	0.66 J (0.15)
trans-1,2-Dichloroethene	100	U (0.20)	U (0.20)	U (0.17)	U (0.17)	U (0.17)	U (0.26)	U (0.15)	U (0.20)	U (0.20)	U (0.17)	U (0.17)	U (0.26)	U (0.15)	U (0.20)	U (0.20)	0.23 J (0.17)	U (0.17)	U (0.26)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.11)	U (0.18)
2-Hexanone	34	U (1.2)	U (1.2)	U (1.0)	U (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	3.7 J (1.2)	1.8 J (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	U (1.2)	U (1.0)	U (1.0)	U (0.72)	U (1.5)
4-Methyl-2-pentanone	1000	U (0.42)	U (0.42)	U (0.56)	U (0.56)	U (0.56)	U (0.55)	U (1.4)	U (0.42)	1.1 J (0.42)	0.77 J (0.56)	0.78 J (0.56)	U (0.55)	U (1.4)	U (0.42)	U (0.42)	U (0.56)	U (0.56)	U (0.55)	U (1.4)
Methylene Chloride	5	U (0.15)	U (0.15)	U (0.27)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.15)	U (0.15)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.15)	U (0.15)	U (0.27)	U (0.27)	U (0.30)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.15)	U (0.15)	U (0.31)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.15)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.15)	U (0.31)	U (0.31)	U (0.17)	U (0.28)
Tetrachloroethene	5	U (0.10)	U (0.10)	U (0.22)	U (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.10)	U (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.10)	U (0.22)	U (0.22)	U (0.17)	U (0.15)
Toluene	1000	U (0.17)	U (0.17)	U (0.14)	U (0.14)	U (0.14)	U (0.083)	U (0.18)	U (0.17)	0.25 J (0.17)	U (0.14)	U (0.14)	0.14 J (0.083)	U (0.18)	0.47 J (0.17)	1.1 (0.17)	U (0.14)	0.20 J (0.14)	0.12 J (0.083)	U (0.18)
1,1,2-Trichloroethane	5	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.085)	U (0.28)
Trichloroethene	5	7.0 (0.17)	7.7 (0.17)	14.9 (0.17)	20.8 (0.17)	15.0 (0.17)	15.6 (0.090)	15.8 (0.25)	91.1 (0.17)	14.3 (0.17)	11.5 (0.17)	8.6 (0.17)	2.5 (0.090)	4.8 (0.25)	0.62 J (0.17)	0.40 J (0.17)	1.4 (0.17)	0.70 J (0.17)	0.75 J (0.090)	0.70 J (0.25)
Vinyl Chloride	2	U (0.13)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	U (0.19)	U (0.25)	0.66 J (0.13)	6.2 (0.13)	3.7 (0.11)	2.4 (0.11)	2.8 (0.19)	3.8 (0.25)	0.70 J (0.13)	0.46 J (0.13)	0.64 J (0.11)	0.29 J (0.11)	U (0.19)	0.34 J (0.25)
Metals																				
Iron	NE	11900 (50.0)	10700 (50.0)	9980 (50.0)	9690 (50.0)	NM	12200 (50.0)	11000 (50.0)	122 B (50.0)	105000 (50.0)	29900 (50.0)	22100 (50.0)	19800 (50.0)	492 (50.0)	8800 (50.0)	10800 (50.0)	6900 (50.0)	7540 (50.0)	7840 (50.0)	6180 (50.0)
Iron, Ferric	NE	8600 (200)	9550 (0.50)	8800 (50.0)	7560 (50.0)	NM	NM	6800	72 (50.0)	102000 (50.0)	28690 (50.0)	19100 (50.0)	17780	U	NM	8890 (50.0)	5900 (50.0)	4540 (50.0)	6240	2380
Iron, Ferrous	NE	NM	1150	1180	2130	NM	7000	4200	NM	> (3000)	1210	> (3000)	2020	2030	3300	1910	1000	> (3000)	1600	3800
Carbon																				
Organic Carbon (total)	NE	860 J (1000)	710 J (1000)	470 J (1000)	380 J (1000)	NM	710 J (1000)	500 J (1000)	280 J (1000)	2240000 (300000)	35700 (20000)	16100 (5000)	13100 (2000)	5300 (2000)	3700 (1000)	13200 (2000)	4600 (2000)	1700 (1000)	3700 (1000)	2400 (1000)
Organic Carbon (dissolved)	NE	830 J (1000)	810 J (1000)	670 J (1000)	570 J (1000)	NM	750 J (1000)	600 J (1000)	320 J (1000)	2060000 (500000)	24800 (20000)	16400 (5000)	14700 (2000)	3500 (1000)	NM	9200 (1000)	2800 (1000)	1400 J (1000)	3800 (1000)	3200 (1000)
Anions																				
Chloride	NE	102000 (10000)	120000 (50000)	129000 (10000)	109000 (20000)	NM	104000 (10000)	112000 (20000)	170000 (10000)	276000 (50000)	201000 (50000)	198000 (10000)	199000 (10000)	198000 (10000)	NM	161000 (50000)	158000 (10000)	162000 (10000)	146000 (10000)	167000 J+ (10000)
Nitrogen	NE	U (100)	U (100)	U (100)	69 J (100)	NM	NM	UJ (100)	U (100)	120 (100)	U (100)	U (100)	NM	U (100)	U H1 (100)	U (100)	U (100)	U (100)	NM	U (100)
Nitrogen, Nitrate (As N)	NE	U (100)	U (100)	U (100)	U (100)	NM	U (100)	UJ (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U H1 (100)	U (100)	U (100)	U (100)	U (100)	U (100)
Nitrogen, Nitrite	NE	U (100)	U (100)	U (100)	U (100)	NM	U (100)	UJ (100)	U (100)	110 (100)	U (100)	U (100)	U (100)	U (100)	65 J H1 B (100)	U (100)	U (100)	U (100)	U (100)	U (100)
Sulfate	NE	9100 (1000)	8000 (1000)	12100 (1000)	12100 (1000)	NM	10100 (1000)	10800 (1000)	1900 (1000)	10400 (10000)	560 J (1000)	1100 (1000)	890 J (1000)	1200 (1000)	740 J H1 (1000)	U (1000)	1700 (1000)	1100 (1000)	2300 (2000)	99800 J- (10000)
Gases																				
Acetylene	NE	NM	NM	U (0.50)	NM	NM	NM	NM	NM	U (0.50)	UJ (0.50)	0.50 (0.50)	NM	U (0.74)	NM	U (0.50)	U (0.50)	0.50 (0.50)	NM	U (0.74)
Methane	NE	8400 (0.50)	6600 (0.50)	4300 (0.50)	3400 (0.50)	NM	1680 (10.0)	1900 (5.0)	490 (0.50)	11000 (0.50)	16000 J (0.50)	14000 (0.50)	12100 (10.0)	87 (5.0)	16000 (0.50)	16000 (0.50)	17000 (0.50)	13000 (0.50)	7040 J (10.0)	240 (5.0)
Ethane	NE	0.26 (0.10)	0.70 (0.10)	U (0.10)	0.10 (0.10)	NM	U (10.0)	U (1.0)	U (0.10)	0.28 (0.10)	0.32 J (0.10)	0.74 (0.10)	U (10.0)	0.94 J (1.0)	0.48 (0.10)	0.58 (0.10)	1.4 (0.10)	0.74 (0.10)	U (10.0)	0.76 J (1.0)
Ethene	NE	U (0.10)	U (0.10)	U (0.10)	0.10 (0.10)	NM	U (10.0)	U (1.0)	0.38 (0.10)	1.8 (0.10)	2.8 J (0.10)	2.8 (0.10)	U (10.0)	U (1.0)	1.4 (0.10)	0.90 (0.10)	1.1 (0.10)	0.52 (0.10)	U (10.0)	0.48 J (1.0)
Hydrogen (H2) [NM]4*	NE	NM	NM	NM	NM	NM	NM	NM	NM	11 (1.0)	NM	1.6 (1.0)	NM	1.0 J (1.9)	1.7 (0.60)	6.7 (1.0)	NM	2.5 (1.0)	NM	1.0 J (1.9)
Volatile Fatty Acids																				
Acetic Acid	NE	U (5000)	1900 (1000)	U (100)	340 (100)	NM	NM	14000 (5000)	U (5000)	130000 (10000)	2700 (1000)	630 (100)	U (4000)	3900 J (5000)	NM	2500 (1000)	U (1000)	190 (100)	U (4000)	850 J (1000)
Butyric Acid	NE	U (5000)	U (1000)	U (100)	100 U (100)	NM	NM	U (5000)	U (5000)	54000 (10000)	U (1000)	100 U (100)	U (4000)	U (5000)	NM	U (1000)	U (1000)	100 U (100)	U (4000)	U (1000)
Lactic Acid	NE	U (10000)	U (2000)	U (200)	200 U (200)	NM	NM	NM	U (10000)	6800 (2000)	U (2000)	200 U (200)	NM	NM	NM	U (2000)	U (2000)	200 U (200)	NM	NM
Propionic Acid	NE	U (5000)	U (1000)	U (100)	220 (100)	NM	NM	U (5000)	U (5000)	4100000 (100000)	4000 (1000)	300 (100)	U (4000)	U (5000)	NM	U (1000)	U (1000)	400 (100)	U (4000)	U (1000)
Pyruvic Acid	NE	U (5000)	U (1000)	U (100)	100 U (100)	NM	NM	U (5000)	U (5000)	43000 (10000)	U (1000)	100 U (100)	U (500)	U (5000)	NM	U (1000)	U (1000)	100 U (100)	U (500)	U (1000)
Molecular Analyses																				
BAV1 Vinyl Chloride Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	U (2)	NM	U (1)	NM	U (2)	NM	U (2)	NM	U (2)	NM	U (2.5)
Dehalococcoides (DHC) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	U (2)	NM	20000 (1)	NM	1120 (2)	NM	U (2)	NM	638 (2)	NM	341 (2.5)
tceA Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	U (2)	NM	1890 (1)	NM	1150 (2)	NM	U (2)	NM	28.9 (2)	NM	78.1 (2.5)
Vinyl Chloride Reductase (vrcA) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	U (2)	NM	1790 (1)	NM	776 (2)	NM	U (2)	NM	40.3 (2)	NM	66.5 (2.5)

Notes:

All concentrations are presented in ug/L except where noted.
1 All compounds are shown.
2 Concentrations that exceed the Remedial Action Levels per ADEQ RADD Issued Dec 2013 are double underlined.
3 = Not detected
U = Estimated concentration
J = The analyte concentration was determined from a dilution.
d = Method detection limit for VOCs; reporting limit for all other parameters
( ) = Baseline samples for analytical analysis were not collected at TMW-11. October 2017 annual event analytical data is used for comparison purposes. October 2017 is the most recent event with MNA data collected at TMW-11.
* = Baseline samples for analytical analysis were not collected at TMW-25. April 2018 annual event analytical data is used for comparison purposes. April 2018 is the most recent event with analytical data collected at TMW-25 (previous MNA data not collected at TMW-25).
** = Not Measured
NM = Analysis conducted outside the EPA method holding time
H1 = Analyte was detected in the associated method blank
B = Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M1 = The sample was analyzed at a dilution due to foaming of the sample in the purge vessel.
F1 #NAME?
D3 = Value greater than detection limit.
> Remedial action decision document
RADD = ADEQ = Arkansas Department of Energy and Environment Division of Environmental Quality
ADEQ = Micrograms per liter
µg/L = Milliliters
mL = Not established
NE = Not measured
NM = Iron, Ferrous (Fe2) field measurement from Table 1
Iron, Ferric (Fe3) calculated value (total Fe - Fe2)

Southwest Treatment Area
Southeast Treatment Area
Northeast Treatment Area
MW-61R Treatment Area
North Treatment Zone

RAMBOLL

TABLE 2
LABORATORY ANALYTICAL RESULTS - ISCR TREATMENT AREA MONITORING (JULY 2018 - OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		TMW-21						TMW-22						MW-194					
Field Sample ID	Remedial Action Levels per ADEQ RADD Issued Dec 2013	TMW-21-201807	TMW-21-201811	TMW-21-201904	TMW-21-201910	TMW-21-202005	TMW-21-202010	TMW-22-201807	TMW-22R-201811	TMW-22R-201904	TMW-22R-201910	TMW-22R-202005	TMW-22R-202010	MW-194-201807	MW-194-201811	MW-194-201904	MW-194-201910	MW-194-202005	MW-194-202010
Lab Sample ID(s)		60206665004	60287044033	60300963007	60318969020	60337357010; 570-28619-6	60350519025	60276523001	60287044034	60300963028	60319115061	60337357015; 570-28619-11	60350519017	60276306003	60286849029	60300963017	60319115042	60337357019; 570-28619-15	60350715006
Sample Date		7/31/2018	11/15/2018	04/25/2019	10/22/2019	05/14/2020	10/06/2020	8/1/2018	11/15/2018	04/25/2019	10/23/2019	05/14/2020	10/06/2020	7/31/2018	11/14/2018	04/25/2019	10/23/2019	05/14/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments		2018 North Plume Treatment Zone						2018 North Plume Treatment Zone						2018 North Plume Treatment Zone					
Volatile Organic Compounds																			
Acetone	12000	2.4 J (1.9)	331 (1.9)	443 (3.3)	202 (3.3)	67.5 (4.1)	U (4.7)	U (1.9)	32.8 (1.9)	12.8 (3.3)	U (3.3)	U (4.1)	U (4.7)	3.2 J (1.9)	U (1.9)	10.1 (3.3)	4.2 J (3.3)	U (4.1)	U (4.7)
Benzene	5	U (0.060)	0.11 J (0.060)	0.10 J (0.079)	U (0.079)	0.21 J (0.11)	0.10 J (0.088)	U (0.060)	0.10 J (0.060)	U (0.079)	0.15 J (0.079)	0.16 J (0.11)	0.17 J (0.088)	U (0.060)	U (0.060)	U (0.079)	U (0.079)	U (0.11)	U (0.088)
Bromomethane	7	U (0.16)	U (0.16)	UJ (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.52)	U (0.99)
2-Butanone	4900	U (0.59)	760 (0.59)	932 (0.70)	309 (0.70)	100 (0.74)	21.8 (2.4)	U (0.59)	20.5 (0.59)	4.0 J (0.70)	U (0.70)	U (0.74)	U (2.4)	U (0.59)	U (0.59)	5.2 J (0.70)	U (0.70)	11.8 (0.74)	U (2.4)
Carbon Disulfide	720	U (0.12)	0.78 J (0.12)	1.1 J (0.16)	0.42 J (0.16)	1.7 J (0.53)	U (0.24)	U (0.12)	1.3 J (0.12)	0.31 J (0.16)	U (0.16)	U (0.53)	U (0.24)	U (0.12)	U (0.12)	U (0.16)	U (0.16)	U (0.53)	U (0.24)
Chlorobenzene	100	U (0.21)	U (0.21)	UJ (0.13)	U (0.13)	U (0.16)	U (0.23)	U (0.21)	U (0.21)	U (0.13)	U (0.13)	U (0.16)	U (0.23)	U (0.21)	U (0.21)	U (0.13)	U (0.13)	U (0.16)	U (0.23)
Chloroform	80	U (0.14)	U (0.14)	UJ (0.10)	U (0.10)	U (0.087)	U (0.17)	U (0.14)	U (0.14)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	U (0.14)	U (0.14)	U (0.10)	U (0.10)	U (0.087)	U (0.17)
Chloromethane	190	U (0.080)	U (0.080)	UJ (0.16)	U (0.16)	0.46 J (0.30)	0.57 J (0.44)	U (0.080)	U (0.080)	U (0.16)	U (0.16)	U (0.30)	U (0.44)	U (0.080)	U (0.080)	U (0.16)	U (0.16)	U (0.30)	U (0.44)
1,1-Dichloroethane	2.4	U (0.050)	U (0.050)	UJ (0.097)	U (0.097)	U (0.092)	U (0.098)	U (0.050)	U (0.050)	U (0.097)	U (0.097)	U (0.092)	U (0.098)	U (0.050)	U (0.050)	U (0.097)	U (0.097)	U (0.092)	U (0.098)
1,2-Dichloroethane	5	U (0.12)	U (0.12)	0.19 J (0.14)	U (0.14)	U (0.27)	U (0.23)	0.19 J B (0.12)	U (0.12)	U (0.14)	U (0.14)	U (0.27)	U (0.23)	U (0.12)	U (0.12)	U (0.14)	U (0.14)	U (0.27)	U (0.23)
1,1-Dichloroethene	7	1.5 (0.20)	0.21 J (0.20)	0.25 J (0.22)	U (0.22)	U (0.19)	U (0.21)	0.97 J (0.20)	1.3 (0.20)	1.6 (0.22)	0.72 J (0.22)	0.69 J (0.19)	0.42 J (0.21)	U (0.20)	U (0.20)	U (0.22)	U (0.22)	U (0.19)	U (0.21)
cis-1,2-Dichloroethene	70	12.6 (0.080)	86.3 (0.080)	27.7 (0.17)	13.5 (0.17)	6.8 (0.11)	3.2 (0.15)	28.7 (0.080)	71.2 (0.080)	184 (0.85)	126 (0.17)	94.6 (0.11)	70.3 (0.15)	0.79 J (0.080)	0.87 J (0.080)	0.75 J (0.17)	0.97 J (0.17)	0.61 J (0.11)	0.78 J (0.15)
trans-1,2-Dichloroethene	100	U (0.20)	U (0.20)	0.25 J (0.17)	0.19 J (0.17)	0.29 J (0.26)	U (0.15)	U (0.20)	0.51 J (0.20)	1.6 (0.17)	1.1 (0.17)	1.7 (0.26)	1.2 (0.15)	U (0.20)	U (0.20)	U (0.17)	U (0.17)	U (0.26)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	UJ (0.12)	U (0.12)	0.15 J (0.11)	U (0.18)	U (0.18)	0.36 J (0.18)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.11)	U (0.18)
2-Hexanone	34	U (1.2)	6.5 J (1.2)	6.3 J (1.0)	U (1.0)	4.2 J (0.72)	U (1.5)	U (1.2)	U (1.2)	U (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	U (1.2)	U (1.0)	U (1.0)	U (0.72)	U (1.5)
4-Methyl-2-pentanone	1000	U (0.42)	1.3 J (0.42)	1.1 J (0.56)	1.1 J (0.56)	0.67 J (0.55)	U (1.4)	U (0.42)	U (0.42)	U (0.56)	U (0.56)	U (0.55)	U (1.4)	U (0.42)	U (0.42)	U (0.56)	U (0.56)	U (0.55)	U (1.4)
Methylene Chloride	5	U (0.15)	U (0.15)	UJ (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.15)	U (0.15)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.15)	U (0.15)	U (0.27)	U (0.27)	U (0.30)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.15)	U (0.15)	UJ (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.15)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.15)	U (0.31)	U (0.31)	U (0.17)	U (0.28)
Tetrachloroethene	5	U (0.10)	U (0.10)	UJ (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.10)	U (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.10)	U (0.22)	U (0.22)	U (0.17)	U (0.15)
Toluene	1000	U (0.17)	0.93 J (0.17)	0.34 J (0.14)	53.2 (0.14)	8.2 (0.083)	4.0 (0.18)	U (0.17)	U (0.17)	U (0.14)	0.23 J (0.14)	0.25 J (0.083)	0.28 J (0.18)	U (0.17)	U (0.17)	U (0.14)	U (0.14)	U (0.083)	U (0.18)
1,1,2-Trichloroethane	5	U (0.20)	U (0.20)	UJ (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.085)	U (0.28)
Trichloroethene	5	564 (1.7)	22.1 (0.17)	47.0 (0.17)	21.8 (0.17)	3.8 (0.090)	7.2 (0.25)	460 (3.4)	347 (3.4)	202 (0.85)	146 (0.17)	61.1 (0.090)	56.6 (0.25)	13.3 (0.17)	10.7 (0.17)	8.6 (0.17)	10.8 (0.17)	4.4 (0.090)	5.6 (0.25)
Vinyl Chloride	2	0.31 J (0.13)	0.52 J (0.13)	5.9 (0.11)	1.9 (0.11)	1.9 (0.19)	1.9 (0.25)	0.20 J (0.13)	0.16 J (0.13)	8.3 (0.11)	7.9 (0.11)	26.3 (0.19)	15.4 (0.25)	U (0.13)	U (0.13)	U (0.11)	U (0.11)	U (0.19)	U (0.25)
Metals																			
Iron	NE	81 B (50.0)	131000 (50.0)	147000 (50.0)	76100 (50.0)	47200 (50.0)	11100 (50.0)	694 (50.0)	3510 (50.0)	14800 (50.0)	21200 (50.0)	16700 (50.0)	13700 (50.0)	19400 (50.0)	8260 (50.0)	4630 (50.0)	6940 (50.0)	19100 (50.0)	6200 (50.0)
Iron, Ferric	NE	81 (200)	128000	144000 (50.0)	73100 (50.0)	40800	6100	310 (50.0)	2310 (50.0)	12790 (50.0)	18200 (50.0)	13700	8700	18900 (50.0)	7650 (50.0)	1630 (50.0	4790 (50.0)	16980	2900
Iron, Ferrous	NE	NM	> (3000)	3300	> (3000)	6400	5000	NM	1200	2010	> (3000)	> (3000)	5000	NM	610	73000	2150	2120	3300
Carbon																			
Organic Carbon (total)	NE	280 J (1000)	2770000 (500000)	3930000 (500000)	1130000 (100000)	228000 (50000)	28200 (5000)	U (1000)	161000 (50000)	1500 (1000)	2900 (1000)	1500 (1000)	620 J (1000)	260 J (1000)	U (1000)	13400 (1000)	630 J (1000)	2900 (2000)	640 J (1000)
Organic Carbon (dissolved)	NE	330 J (1000)	2670000 (500000)	3660000 M1 (500000)	883000 (100000)	253000 (50000)	21000 (2000)	U (1000)	U (500000)	2000 (1000)	U (1000)	1900 (1000)	1000 (1000)	1100 B (1000)	U (1000)	13500 (1000)	580 J (1000)	2700 (1000)	630 J (1000)
Anions																			
Chloride	NE	186000 (10000)	281000 (20000)	214000 (50000)	204000 (50000)	237000 (20000)	197000 B (50000)	190000 (20000)	148000 (20000)	200000 (50000)	189000 (20000)	183000 (20000)	199000 B (50000)	167000 (10000)	150000 H1 (20000)	177000 (10000)	155000 (20000)	151000 (10000)	165000 J+ (20000)
Nitrogen	NE	U (100)	130 (100)	U (100)	150 (100)	NM	U (100)	U (100)	U (100)	U (100)	75 J (100)	NM	U (100)	210 (100)	U H1 (100)	U (100)	53 J (100)	NM	U (100)
Nitrogen, Nitrate (As N)	NE	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U (100)	U H1 (100)	U (100)	U (100)	U (100)	U (100)
Nitrogen, Nitrite	NE	U (100)	190 (100)	U (100)	170 (100)	U (100)	U (100)	U (100)	U (100)	U (100)	69 J (100)	U (100)	U (100)	390 (100)	U H1 (100)	U (100)	U (100)	U (100)	U (100)
Sulfate	NE	8200 (1000)	10600 (1000)	24900 (2000)	15300 (2000)	7500 (1000)	16000 (1000)	5600 (1000)	7300 (1000)	2800 (1000)	2800 (1000)	1900 (1000)	2100 (1000)	8900 (1000)	9100 H1 (1000)	11900 (10000)	10200 (1000)	10100 (1000)	11400 (1000)
Gases																			
Acetylene	NE	NM	NM	UJ (0.50)	NM	NM	NM	NM	NM	U (0.50)	NM	NM	NM	NM	NM	U (0.50)	NM	NM	NM
Methane	NE	1.5 (0.50)	15000 (0.50)	17000 J (0.50)	12000 (0.50)	11700 (10.0)	7600 (5.0)	14 (0.50)	700 (0.50)	7700 (0.50)	7800 (0.50)	5770 (10.0)	5500 (5.0)	U (0.50)	870 H1 (0.50)	6800 (0.50)	9200 (0.50)	10600 (10.0)	6400 (5.0)
Ethane	NE	U (0.10)	0.49 (0.10)	0.86 J (0.10)	0.48 (0.10)	U (10.0)	0.62 J (1.0)	1.1 (0.10)	1.6 (0.10)	1.1 (0.10)	2.1 (0.10)	6.7 J (10.0)	4.8 (1.0)	U (0.10)	0.26 H1 (0.10)	1.3 (0.10)	0.24 (0.10)	U (10.0)	0.39 J (1.0)
Ethene	NE	0.39 (0.10)	1.9 (0.10)	2.5 J (0.10)	1.2 (0.10)	U (10.0)	1.2 (1.0)	0.11 (0.10)	4.2 (0.10)	7.2 (0.10)	4.1 (0.10)	16.2 (10.0)	12 (1.0)	0.14 (0.10)	0.27 H1 (0.10)	0.29 (0.10)	0.12 (0.10)	U (10.0)	U (1.0)
Hydrogen (H2) [NM]4*	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Volatile Fatty Acids																			
Acetic Acid	NE	U (5000)	260000 (10000)	610000 (100000)	130000 (10000)	25000 (4000)	13000 (5000)	U (5000)	62000 (10000)	2700 (1000)	180 (100)	U (4000)	11000 (5000)	U (5000)	2500 (1000)	12000 (1000)	1800 (100)	U (4000)	2000 J (2500)
Butyric Acid	NE	U (5000)	130000 (10000)	280000 (10000)	56000 (10000)	24000 (4000)	U (5000)	U (5000)	12000 (1000)	U (1000)	100 U (100)	U (4000)	U (5000)	U (5000)	U (1000)	U (1000)	100 U (100)	U (4000)	U (2500)
Lactic Acid	NE	U (10000)	U (20000)	U (20000)	2000 U (2000)	NM	NM	U (10000)	U (2000)	U (2000)	200 U (200)	NM	NM	U (10000)	NM	U (2000)	200 U (200)	NM	NM
Propionic Acid	NE	U (5000)	4600000 (100000)	3900000 (100000)	1300000 (100000)	320000 (80000)	20000 (5000)	U (5000)	230000 (10000)	1400 (1000)	100 (100)	U (4000)	U (5000)	U (5000)	U (1000)	32000 (1000)	260 (100)	U (4000)	300 J (2500)
Pyruvic Acid	NE	U (5000)	38000 (10000)	13000 (10000)	5400 (1000)	U (500)	U (5000)	U (5000)	2100 (1000)	U (1000)	100 U (100)	U (500)	U (5000)	U (5000)	NM	U (1000)	100 U (100)	U (500)	U (2500)
Molecular Analyses																			
BAV1 Vinyl Chloride Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

TABLE 2
LABORATORY ANALYTICAL RESULTS - ISCR TREATMENT AREA MONITORING (JULY 2018 - OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		TMW-16						TMW-25**						TMW-26					
Field Sample ID	Remedial Action Levels per ADEQ RADD Issued Dec 2013	TMW-16-201807	TMW-16-201811	TMW-16-201904	TMW-16-201910	TMW-16-202005	TMW-16-202010	TMW-25-201804	TMW-25-201811	TMW-25-201904	TMW-25-201910	TMW-25-202005	TMW-25-202010	TMW-26-201807	TMW-26-201811	TMW-26-201904	TMW-26-201910	TMW-26-202005	TMW-26-202010
Lab Sample ID(s)		60276564001	60287140007	60300963025	60319115060	60337357011; 570-28619-7	60350822004	60268614014	60287044032	60300963009	60319241004	60337357009; 570-28619-5	60350822006; 60350715039	60276564002	60287044031	60300963029	60319115044	60337357007; 570-28619-3	60350715010
Sample Date		8/2/2018	11/16/2018	04/25/2019	10/23/2019	05/14/2020	10/08/2020	04/19/2018	11/15/2018	04/25/2019	10/24/2019	05/14/2020	10/07/2020	8/2/2018	11/15/2018	04/25/2019	10/23/2019	05/14/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments		2018 Southwest Treatment Zone						2018 Southwest Treatment Zone						2018 Southwest Treatment Zone					
Volatile Organic Compounds																			
Acetone	12000	4.0 J (1.9)	146 (1.9)	402 (3.3)	73.7 (3.3)	U (4.1)	U (4.7)	2.0 J (1.9)	193 (9.4)	78.6 (3.3)	U (3.3)	U (4.1)	U (4.7)	3.6 J (1.9)	242 (9.4)	161 (3.3)	38.2 (3.3)	U (4.1)	7.5 J (4.7)
Benzene	5	U (0.060)	0.13 J (0.060)	0.20 J (0.079)	0.18 J (0.079)	0.16 J (0.11)	0.14 J (0.088)	0.11 J (0.060)	U (0.30)	0.21 J (0.079)	U (0.079)	0.17 J (0.11)	0.15 J (0.088)	U (0.060)	U (0.30)	0.15 J (0.079)	0.12 J (0.079)	0.13 J (0.11)	U (0.088)
Bromomethane	7	U (0.16)	U (0.16)	UJ (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.80)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	1.6 J (0.16)	U (0.80)	UJ (0.32)	U (0.32)	U (0.52)	U (0.99)
2-Butanone	4900	U (0.59)	1090 (5.9)	7460 (7.0)	325 (0.70)	16.0 (0.74)	UJ (2.4)	U (0.59)	328 (3.0)	295 (0.70)	15.8 (0.70)	0.86 J (0.74)	UJ (2.4)	U (0.59)	1460 (3.0)	826 (0.70)	113 (0.70)	2.9 J (0.74)	U (2.4)
Carbon Disulfide	720	U (0.12)	0.97 J (0.12)	0.85 J (0.16)	1.6 J (0.16)	1.5 J (0.53)	1.1 J (0.24)	U (0.12)	U (0.60)	0.48 J (0.16)	0.31 J (0.16)	U (0.53)	0.54 J (0.24)	U (0.12)	U (0.60)	1.8 J (0.16)	U (0.16)	1.5 J (0.53)	0.50 J (0.24)
Chlorobenzene	100	0.55 J (0.21)	0.33 J (0.21)	0.24 J (0.13)	0.14 J (0.13)	U (0.16)	U (0.23)	3.5 (0.21)	2.9 J (1.0)	4.7 (0.13)	5.3 (0.13)	4.5 (0.16)	2.9 (0.23)	U (0.21)	U (1.0)	UJ (0.13)	U (0.13)	U (0.16)	U (0.23)
Chloroform	80	1.5 (0.14)	0.15 J (0.14)	UJ (0.10)	U (0.10)	U (0.087)	U (0.17)	0.26 J (0.14)	U (0.70)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	0.21 J (0.14)	U (0.70)	UJ (0.10)	U (0.10)	U (0.087)	U (0.17)
Chloromethane	190	U (0.080)	U (0.080)	UJ (0.16)	U (0.16)	U (0.30)	U (0.44)	U (0.080)	U (0.40)	U (0.16)	U (0.16)	U (0.30)	U (0.44)	2.5 (0.080)	U (0.40)	UJ (0.16)	U (0.16)	U (0.30)	U (0.44)
1,1-Dichloroethane	2.4	0.31 J (0.050)	0.25 J (0.050)	UJ (0.097)	U (0.097)	U (0.092)	U (0.098)	U (0.050)	U (0.25)	U (0.097)	U (0.097)	U (0.092)	U (0.098)	0.27 J (0.050)	U (0.25)	0.29 J (0.097)	U (0.097)	U (0.092)	U (0.098)
1,2-Dichloroethane	5	U (0.12)	U (0.12)	UJ (0.14)	U (0.14)	U (0.27)	U (0.23)	U (0.12)	U (0.60)	U (0.14)	U (0.14)	U (0.27)	U (0.23)	U (0.12)	U (0.60)	U (0.14)	U (0.14)	U (0.27)	U (0.23)
1,1-Dichloroethene	7	1.4 (0.20)	U (2.0)	0.58 J (0.22)	U (0.22)	U (0.19)	U (0.21)	0.31 J (0.20)	U (1.0)	U (0.22)	U (0.22)	U (0.19)	U (0.21)	0.36 J (0.20)	U (1.0)	0.50 J (0.22)	0.29 J (0.22)	U (0.19)	U (0.21)
cis-1,2-Dichloroethene	70	15.1 (0.080)	29.1 (0.80)	236 (1.7)	8.8 (0.17)	1.0 J (0.11)	1.2 J+ (0.15)	10.9 (0.080)	11.0 (0.40)	47.7 (0.17)	39.9 (0.17)	5.5 (0.11)	1.1 (0.15)	2.5 (0.080)	11.1 (0.40)	46.3 (0.17)	53.3 (0.17)	2.5 (0.11)	1.1 (0.15)
trans-1,2-Dichloroethene	100	U (0.20)	6.8 J (2.0)	2.3 (0.17)	0.39 J (0.17)	U (0.26)	U (0.15)	U (0.20)	U (0.60)	U (0.17)	U (0.17)	U (0.26)	0.17 J (0.15)	U (0.20)	U (0.60)	UJ (0.17)	U (0.17)	U (0.26)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	UJ (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.90)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.90)	UJ (0.12)	U (0.12)	0.12 J (0.11)	U (0.18)
2-Hexanone	34	U (1.2)	22.0 (1.2)	6.8 J (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	U (6.0)	4.6 J (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	U (6.0)	UJ (1.0)	U (1.0)	U (0.72)	U (1.5)
4-Methyl-2-pentanone	1000	U (0.42)	U (0.42)	UJ (0.56)	1.9 J (0.56)	1.3 J (0.55)	U (1.4)	U (0.42)	U (2.1)	U (0.56)	U (0.56)	U (0.55)	U (1.4)	U (0.42)	U (2.1)	0.69 J (0.56)	2.6 J (0.56)	0.79 J (0.55)	U (1.4)
Methylene Chloride	5	0.71 J (0.15)	0.72 J (0.15)	UJ (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.15)	U (0.75)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	0.27 J (0.15)	U (0.75)	UJ (0.27)	U (0.27)	U (0.30)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.15)	1.6 (0.15)	UJ (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.75)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.75)	UJ (0.31)	U (0.31)	U (0.17)	U (0.28)
Tetrachloroethene	5	0.38 J (0.10)	U (0.10)	UJ (0.22)	U (0.22)	U (0.17)	U (0.15)	0.14 J (0.10)	U (0.50)	U (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.50)	UJ (0.22)	U (0.22)	U (0.17)	U (0.15)
Toluene	1000	U (0.17)	U (0.17)	0.15 J (0.14)	0.21 J (0.14)	0.40 J (0.083)	0.34 J (0.18)	U (0.17)	U (0.85)	0.19 J (0.14)	0.15 J (0.14)	0.17 J (0.083)	0.21 J (0.18)	U (0.17)	1.1 J (0.85)	0.16 J (0.14)	0.37 J (0.14)	31.3 (0.083)	8.2 (0.18)
1,1,2-Trichloroethane	5	U (0.20)	U (0.20)	UJ (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (1.0)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (1.0)	UJ (0.10)	U (0.10)	U (0.085)	U (0.28)
Trichloroethene	5	988 (1.7)	368 (1.7)	23.8 (0.17)	6.0 (0.17)	0.71 J (0.090)	0.59 J (0.25)	240 (0.85)	58.6 (0.85)	38.6 (0.17)	23.6 (0.17)	17.0 (0.090)	3.1 (0.25)	96.1 (0.17)	54.4 (0.85)	128 (0.17)	42.9 (0.17)	4.1 (0.090)	3.7 (0.25)
Vinyl Chloride	2	0.81 J (0.13)	1.6 J (1.3)	1.4 (0.11)	2.4 (0.11)	0.57 J (0.19)	0.38 J (0.25)	0.29 J (0.13)	U (0.65)	0.39 J (0.11)	0.41 J (0.11)	1.2 (0.19)	U (0.25)	0.23 J (0.13)	U (0.65)	0.29 J (0.11)	2.9 (0.11)	0.71 J (0.19)	0.99 J (0.25)
Metals																			
Iron	NE	110 (50.0)	186000 (50.0)	114000 (50.0)	53400 (50.0)	18400 (50.0)	19000 (50.0)	NM	1410000 (500)	149000 (50.0)	23600 (50.0)	24200 (50.0)	25300 (50.0)	12.6 J (50.0)	1300000 (500)	205000 (50.0)	34800 (50.0)	41600 (50.0)	34800 (50.0)
Iron, Ferric	NE	110 (200)	185700 (50.0)	111000 (50.0)	50400 (50.0)	15280	11,100	NM	1407000 (500)	146000 (50.0)	21920 (50.0)	20200	20700	U (50.0)	1297000 (500)	202280 (50.0)	33120 (50.0)	37100	32660
Iron, Ferrous	NE	NM	> (3000)	> (3000)	> (3000)	3120	NM	220	> (3000)	3150	1680	4000	4600	NM	> (3000)	2720	2560	4500	2140
Carbon																			
Organic Carbon (total)	NE	U (1000)	2980000 (500000)	14500 (1000)	449000 (50000)	51500 (10000)	38900 (10000)	NM	13000000 (1000000)	14200 (1000)	43400 (10000)	13600 (2000)	12200 (5000)	U (1000)	11800000 (1000000)	2590000 (500000)	212000 (25000)	65700 (20000)	58700 (50000)
Organic Carbon (dissolved)	NE	U (1000)	5910000 (1000000)	1440000 (100000)	469000 (50000)	64800 (10000)	33000 (10000)	NM	11000000 (1000000)	1420000 (100000)	39300 (10000)	11400 (2000)	8400 (5000)	U (1000)	10100000 (1000000)	2530000 (500000)	203000 (25000)	78400 (25000)	58700 (10000)
Anions																			
Chloride	NE	250000 (20000)	480000 (50000)	496000 (50000)	498000 (50000)	357000 (50000)	382000 (50000)	NM	441000 (50000)	192000 (10000)	149000 (10000)	103000 (10000)	123000 (10000)	119000 (10000)	441000 (50000)	213000 (50000)	206000 (20000)	191000 (20000)	196000 (20000)
Nitrogen	NE	96300 (5000)	180 (100)	42 J (100)	81 J (100)	NM	U (100)	NM	320 (100)	1000 (100)	NM	NM	U (100)	30700 (2000)	410 M1 (100)	12800 (500)	3500 (100)	NM	160 (100)
Nitrogen, Nitrate (As N)	NE	96300 (5000)	72 J (100)	U (100)	U (100)	U (100)	U (100)	NM	140 (100)	1000 (100)	NM	1300 (100)	U (100)	30700 (2000)	160 M1 (100)	12800 (500)	3400 (100)	U (100)	160 (100)
Nitrogen, Nitrite	NE	U (5000)	100 (100)	U (100)	85 J (100)	U (100)	U (100)	NM	180 (100)	U (100)	NM	U (100)	U (100)	U (100)	250 (100)	U (500)	140 (100)	U (100)	U (100)
Sulfate	NE	96600 (10000)	10900 (10000)	1900 (1000)	3900 (1000)	1200 (1000)	770 J (1000)	NM	186000 (20000)	23300 (2000)	19200 (2000)	19600 (2000)	11000 (1000)	100000 (10000)	239000 M1 (20000)	127000 (10000)	33900 (2000)	2700 (1000)	5300 (1000)
Gases																			
Acetylene	NE	NM	NM	UJ (0.50)	NM	NM	NM	NM	NM	UJ (0.50)	NM	NM	NM	NM	NM	UJ (0.50)	NM	NM	NM
Methane	NE	2.0 (0.50)	10000 (0.50)	16000 J (0.50)	24000 (0.50)	9630 (10.0)	15000 (5.0)	NM	900 (0.50)	9900 J (0.50)	12000 (0.50)	9730 (10.0)	14000 (5.0)	8.5 (0.50)	11000 (0.50)	12000 J (0.50)	13000 (0.50)	6740 (10.0)	16000 (5.0)
Ethane	NE	U (0.10)	5.3 (0.10)	0.45 J (0.10)	0.42 (0.10)	U (10.0)	2.7 (1.0)	NM	6.3 (0.10)	0.22 J (0.10)	0.16 (0.10)	U (10.0)	1.1 (1.0)	0.44 (0.10)	1.5 (0.10)	0.31 J (0.10)	0.10 (0.10)	U (10.0)	0.58 J (1.0)
Ethene	NE	U (0.10)	18 (0.10)	2.0 J (0.10)	5.1 (0.10)	U (10.0)	2.2 (1.0)	NM	31 (0.10)	1.1 J (0.10)	0.25 (0.10)	U (10.0)	2.1 (1.0)	0.15 (0.10)	15 (0.10)	2.0 J (0.10)	1.3 (0.10)	U (10.0)	1.0 (1.0)
Hydrogen (H2) [NM]4*	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Volatile Fatty Acids																			
Acetic Acid	NE	U (5000)	1400000 (100000)	83000 (10000)	60000 (10000)	8100 (4000)	5700 (5000)	NM	3800000 (100000)	290000 (10000)	17000 (1000)	4400 (4000)	3900 (2500)	U (5000)	4000000 (100000)	360000 (100000)	16000 (1000)	11000 (4000)	12000 (10000)
Butyric Acid	NE	U (5000)	190000 (100000)	34000 (10000)	28000 (1000)	U (4000)	U (5000)	NM	1200000 (100000)	120000 (10000)	1900 (100)	U (4000)	U (2500)	U (5000)	1600000 (100000)	140000 (10000)	2700 (1000)	U (4000)	U (10000)
Lactic Acid	NE	U (10000)	U (20000)	U (20000)	2000 U (2000)	NM	NM	NM	220000 (20000)	U (20000)	200 U (200)	NM	NM	U (10000)	U (200000)	U (20000)	2000 U (2000)	NM	NM
Propionic Acid	NE	U (5000)	4500000 (100000)	3100000 (100000)	560000 (10000)	27000 (4000)	2400 J (5000)	NM	19000000 (1000000)	2000000 (100000)	27000 (1000)	U (4000)	320 J (2500)	U (5000)	16000000 (1000000)	3900000 (100000)	110000 (10000)	U (4000)	U (10000)
Pyruvic Acid	NE	U (5000)	17000 (10000)	23000 (10000)	3100 (1000)	160 (500)	U (5000)	NM	U (100000)	19000 (10000)	640 (100)	U (500)	U (2500)	U (5000)	83000 (10000)	32000 (10000)	810 (100)	U (500)	U (10000)
Molecular Analyses																			
BAV1 Vinyl Chloride Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

TABLE 2
LABORATORY ANALYTICAL RESULTS - ISCR TREATMENT AREA MONITORING (JULY 2018 - OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		TMW-32						MW-186						TMW-34					
Field Sample ID	Remedial Action Levels per ADEQ RADD Issued Dec 2013	TMW-32-201807	TMW-32-201811	TMW-32-201904	TMW-32-201910	TMW-32-202005	TMW-32-202010	MW-186-201807	MW-186-201811	MW-186-201904	MW-186-201910	MW-186-202005	MW-186-202010	TMW-34-201811	TMW-34-201904	TMW-34-201910	TMW-34-201912	TMW-34-202005	TMW-34-202010
Lab Sample ID(s)		60276630001	60287140008	60300963026	60319241002	60337357014; 570-28619-10	60350822003	60276630002	60286849026	60301142001	60319241003	60337357013	60350822016	60286849028	60300963010	60319241001	60323873001	60337357004; 570-28619-2	60350715024
Sample Date		8/3/2018	11/17/2018	04/25/2019	10/24/2019	05/14/2020	10/08/2020	8/3/2018	11/14/2018	04/26/2019	10/24/2019	05/14/2020	10/08/2020	11/14/2018	04/25/2019	10/24/2019	12/7/2019	05/14/2020	10/07/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments		2018 Southwest Treatment Zone						2018 Southeast Treatment Zone						2018 Southeast Treatment Zone					
Volatile Organic Compounds																			
Acetone	12000	3.8 J (1.9)	6.6 J (1.9)	U (3.3)	U (3.3)	U (4.1)	U (4.7)	2.8 J (1.9)	276 (9.4)	659 (3.3)	U (3.3)	U (4.1)	5.0 J (4.7)	6.4 J (1.9)	10.8 (3.3)	U (3.3)	U (3.3)	U (4.1)	U (4.7)
Benzene	5	0.14 J (0.060)	U (0.060)	U (0.079)	U (0.079)	U (0.11)	U (0.088)	U (0.060)	U (0.30)	U (0.079)	U (0.079)	U (0.11)	U (0.088)	U (0.060)	U (0.079)	U (0.079)	U (0.079)	U (0.11)	U (0.088)
Bromomethane	7	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.80)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.16)	U (0.32)	U (0.32)	U (0.32)	U (0.52)	U (0.99)
2-Butanone	4900	U (0.59)	21.4 (0.59)	U (0.70)	U (0.70)	0.92 J (0.74)	UJ (2.4)	U (0.59)	1250 (3.0)	5050 (36.0)	U (0.70)	U (0.74)	U (2.4)	U (0.59)	1.7 J (0.70)	U (0.70)	U (0.70)	U (0.74)	U (2.4)
Carbon Disulfide	720	U (0.12)	1.2 J (0.12)	U (0.16)	U (0.16)	U (0.53)	U (0.24)	U (0.12)	U (0.60)	3.2 J (0.16)	0.81 J (0.16)	0.90 J (0.53)	U (0.24)	U (0.12)	U (0.16)	0.27 J (0.16)	U (0.16)	U (0.53)	U (0.24)
Chlorobenzene	100	4.5 (0.21)	1.9 (0.21)	2.6 (0.13)	2.7 (0.13)	3.1 (0.16)	1.9 (0.23)	U (0.21)	U (1.0)	U (0.13)	U (0.13)	U (0.16)	U (0.23)	U (0.21)	U (0.13)	U (0.13)	U (0.13)	U (0.16)	U (0.23)
Chloroform	80	U (0.15)	U (0.14)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	U (0.14)	U (0.70)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	U (0.14)	U (0.10)	U (0.10)	U (0.10)	U (0.087)	U (0.17)
Chloromethane	190	U (0.15)	U (0.080)	U (0.16)	U (0.16)	U (0.30)	U (0.44)	U (0.080)	U (0.40)	U (0.16)	U (0.16)	0.57 J (0.30)	U (0.44)	U (0.080)	U (0.16)	U (0.16)	U (0.16)	U (0.30)	U (0.44)
1,1-Dichloroethane	2.4	U (0.15)	U (0.050)	U (0.097)	U (0.097)	U (0.092)	U (0.098)	1.1 (0.050)	U (0.25)	U (0.097)	U (0.097)	U (0.092)	U (0.098)	U (0.050)	U (0.097)	0.14 J (0.097)	0.18 J (0.097)	0.30 J (0.092)	0.44 J (0.098)
1,2-Dichloroethane	5	0.15 J B (0.12)	U (0.12)	U (0.14)	U (0.14)	U (0.27)	0.27 J (0.23)	0.14 J B (0.12)	U (0.60)	U (0.14)	U (0.14)	U (0.27)	U (0.23)	0.19 J B (0.12)	U (0.14)	U (0.14)	0.17 J (0.14)	U (0.27)	U (0.23)
1,1-Dichloroethene	7	U (0.20)	U (0.20)	U (0.22)	U (0.22)	U (0.19)	U (0.21)	0.54 J (0.20)	U (1.0)	U (0.22)	U (0.22)	U (0.19)	U (0.21)	U (0.20)	U (0.22)	U (0.22)	0.56 J (0.22)	0.75 J (0.19)	1.3 (0.21)
cis-1,2-Dichloroethene	70	3.4 (0.20)	1.9 (0.080)	36.4 (0.17)	21.0 (0.17)	16.1 (0.11)	7.3 (0.15)	4.5 (0.080)	6.5 (0.40)	8.8 (0.17)	3.0 (0.17)	0.62 J (0.11)	0.40 J (0.15)	1.5 (0.080)	2.2 (0.17)	6.9 (0.17)	10.3 (0.17)	18.1 (0.11)	46.0 (0.15)
trans-1,2-Dichloroethene	100	U (0.20)	U (0.20)	U (0.17)	U (0.17)	U (0.26)	U (0.15)	U (0.20)	U (0.60)	U (0.17)	U (0.17)	U (0.26)	U (0.15)	U (0.20)	U (0.17)	U (0.17)	U (0.17)	U (0.26)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.90)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.12)	U (0.11)	U (0.18)
2-Hexanone	34	U (1.2)	U (1.2)	U (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	U (6.0)	7.3 J (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.2)	U (1.0)	U (1.0)	U (1.0)	U (0.72)	U (1.5)
4-Methyl-2-pentanone	1000	U (0.42)	U (0.42)	U (0.56)	U (0.56)	U (0.55)	U (1.4)	U (0.42)	U (2.1)	1.0 J (0.56)	0.68 J (0.56)	U (0.55)	U (1.4)	U (0.42)	U (0.56)	U (0.56)	U (0.56)	U (0.55)	U (1.4)
Methylene Chloride	5	U (0.42)	U (0.15)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.42)	U (0.75)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.15)	U (0.27)	U (0.27)	U (0.27)	U (0.30)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.42)	0.41 J (0.15)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.42)	U (0.75)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.15)	U (0.31)	U (0.31)	U (0.31)	U (0.17)	U (0.28)
Tetrachloroethene	5	U (0.42)	U (0.10)	U (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.50)	U (0.22)	U (0.22)	U (0.17)	U (0.15)	U (0.10)	U (0.22)	U (0.22)	U (0.22)	U (0.17)	0.15 J (0.15)
Toluene	1000	U (0.42)	U (0.17)	U (0.14)	U (0.14)	0.18 J (0.083)	U (0.18)	U (0.17)	U (0.85)	0.22 J (0.14)	U (0.14)	U (0.083)	U (0.18)	U (0.17)	U (0.14)	U (0.14)	U (0.14)	U (0.083)	U (0.18)
1,1,2-Trichloroethane	5	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (1.0)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.20)	U (0.10)	U (0.10)	U (0.10)	U (0.085)	U (0.28)
Trichloroethene	5	83.5 (0.17)	16.0 (0.17)	12.5 (0.17)	29.2 (0.17)	31.6 (0.090)	27.6 (0.25)	17.7 (0.17)	10.2 F1 (0.85)	5.6 (0.17)	2.9 (0.17)	1.0 J (0.090)	0.43 J (0.25)	7.4 (0.17)	10.3 (0.17)	17.6 (0.17)	26.7 (0.17)	46.6 (0.090)	84.4 (0.25)
Vinyl Chloride	2	U (0.13)	0.35 J (0.13)	0.13 J (0.11)	0.13 J (0.11)	1.5 (0.19)	0.90 J (0.25)	0.15 J (0.13)	U (0.65)	0.14 J (0.11)	2.2 (0.11)	0.36 J (0.19)	0.33 J (0.25)	U (0.13)	U (0.11)	U (0.11)	U (0.11)	U (0.19)	U (0.25)
Metals																			
Iron	NE	U D3 (50.0)	7780 (50.0)	17300 (50.0)	12500 (50.0)	9150 (50.0)	6150 (50.0)	127 (50.0)	588000 (250)	41400 (50.0)	39400 (50.0)	13000 (50.0)	13700 (50.0)	109 (50.0)	2360 (50.0)	2110 (50.0)	NM	928 (50.0)	2260 (50.0)
Iron, Ferric	NE	U (50.0)	7280 (50.0)	14300 (50.0)	10960 (50.0)	1050	U	120 (50.0)	585000 (250)	40000 (50.0)	37740 (50.0)	8500	9200	U (0.50)	2090 (50.0)	570 (50.0)	NM	148	260
Iron, Ferrous	NE	NM	500	> (3000)	1760	8100	7000	NM	> (3000)	1400	1660	4500	4500	U	270	1540	NM	780	2000
Carbon																			
Organic Carbon (total)	NE	U (1000)	4800 (1000)	570 J (1000)	2200 (1000)	1200 (1000)	940 J (1000)	U (1000)	9150000 (1000000)	10200 (1000)	40100 (10000)	22600 (5000)	19500 (5000)	720 J (1000)	3000 (1000)	560 J (1000)	NM	1400 (1000)	480 J (1000)
Organic Carbon (dissolved)	NE	U (1000)	4600 (1000)	730 J (1000)	1300 J (1000)	1400 (1000)	850 J (1000)	U (1000)	8980000 (1000000)	1060000 (100000)	34100 (10000)	22600 (5000)	20300 (5000)	840 J (1000)	1900 (1000)	6500 (1000)	NM	1100 (1000)	690 J (1000)
Anions																			
Chloride	NE	119,000 (10000)	98900 (10000)	129000 (10000)	110000 (10000)	119000 (10000)	118000 (20000)	92200 (10000)	260000 (20000)	155000 (10000)	155000 (10000)	110000 (10000)	138000 (10000)	22400 (5000)	23500 (2000)	26000 (2000)	NM	23800 (2000)	35800 (5000)
Nitrogen	NE	5600 (200)	U (100)	U (100)	NM	NM	U (100)	11200 (500)	130 D6 H1 (100)	UJ (100)	NM	NM	U (100)	U (100)	870 (100)	NM	NM	NM	1500 (100)
Nitrogen, Nitrate (As N)	NE	5600 (200)	U (100)	U (100)	NM	U (100)	U (100)	11200 (500)	U H1 (100)	UJ (100)	NM	U (100)	U (100)	U (100)	870 (100)	NM	NM	1600 (100)	1500 (100)
Nitrogen, Nitrite	NE	U (200)	U (100)	U (100)	NM	U (100)	U (100)	U (500)	140 D6 H1 (100)	UJ (100)	NM	U (100)	U (100)	U (100)	U (100)	NM	NM	U (100)	U (100)
Sulfate	NE	28900 (2000)	22300 (10000)	33100 (10000)	27200 (2000)	29500 (10000)	38700 (5000)	106000 (10000)	1400 (1000)	13700 (1000)	6500 (1000)	1300 (1000)	U (1000)	9200 (1000)	9400 (1000)	10400 (1000)	NM	9200 (1000)	8500 (1000)
Gases																			
Acetylene	NE	NM	NM	UJ (0.50)	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	U (0.50)	NM	NM	NM	NM
Methane	NE	81 (0.50)	410 (0.50)	7800 J (0.50)	8800 (0.50)	9130 (10.0)	6400 (5.0)	U (0.50)	14000 (0.50)	NM	12000 (0.50)	9180 (10.0)	15000 (5.0)	4700 (0.50)	13000 (0.50)	8400 (0.50)	NM	5240 (10.0)	3900 J (5.0)
Ethane	NE	U (0.10)	0.31 (0.10)	0.26 J (0.10)	0.21 (0.10)	U (10.0)	U (1.0)	U (0.10)	0.50 (0.10)	NM	0.10 (0.10)	U (10.0)	U (1.0)	1.1 (0.10)	0.86 (0.10)	0.24 (0.10)	NM	U (10.0)	U (1.0)
Ethene	NE	U (0.10)	0.75 (0.10)	0.70 J (0.10)	0.30 (0.10)	U (10.0)	0.48 J (1.0)	U (0.10)	6.6 (0.10)	NM	0.55 (0.10)	U (10.0)	0.71 J (1.0)	0.73 (0.10)	0.11 (0.10)	0.10 (0.10)	NM	U (10.0)	U (1.0)
Hydrogen (H2) [NM]4*	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Volatile Fatty Acids																			
Acetic Acid	NE	U (5000)	4000 (1000)	U (100)	100 U (100)	U (4000)	440 J (500)	U (5000)	3500000 (100000)	NM	1400 (100)	NM	1900 J (2500)	1800 (1000)	620 (100)	100 U (100)	NM	U (4000)	380 J (500)
Butyric Acid	NE	U (5000)	U (1000)	U (100)	100 U (100)	U (4000)	U (500)	U (5000)	1000000 (100000)	NM	100 U (100)	NM	U (2500)	U (1000)	U (100)	100 U (100)	NM	U (4000)	U (500)
Lactic Acid	NE	U (10000)	U (2000)	U (200)	200 U (200)	NM	NM	U (10000)	NM	NM	200 U (200)	NM	NM	NM	U (200)	200 U (200)	NM	NM	NM
Propionic Acid	NE	U (5000)	15000 (1000)	U (100)	100 U (100)	U (4000)	67 J (500)	U (5000)	14000000 (1000000)	NM	460 (100)	NM	290 J (2500)	U (1000)	U (100)	100 U (100)	NM	U (4000)	U (500)
Pyruvic Acid	NE	U (5000)	U (1000)	U (100)	100 U (100)	U (500)	U (500)	U (5000)	NM	NM	100 U (100)	NM	U (2500)	NM	U (100)	100 U (100)	NM	U (500)	U (500)
Molecular Analyses																			
BAV1 Vinyl Chloride Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

TABLE 2
LABORATORY ANALYTICAL RESULTS - ISCR TREATMENT AREA MONITORING (JULY 2018 - OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location		MW-185						MW-91			MW-99		
Field Sample ID	Remedial Action Levels per ADEQ RADD Issued Dec 2013	MW-185-201807	MW-185-201811	MW-185-201904	MW-185-201910	MW-185-202005	MW-185-202010	MW-91-201912	MW-91-202005	MW-91-202010	MW-99-201912	MW-99-202005	MW-99-202010
Lab Sample ID(s)		60276306002	6028684027	60300963011	60319241013	60337286021	60350715025	60323037002	60337357012	60350519008	60323037001	60337357018; 570-28619-14	60350715001
Sample Date		7/31/2018	11/14/2018	04/25/2019	10/24/2019	05/13/2020	10/07/2020	12/3/2019	05/14/2020	10/06/2020	12/3/2019	05/14/2020	10/7/2020
Sample Method		Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow
Comments		2018 Southeast Treatment Zone						2019 Northeast Treatment Zone			2019 Northeast Treatment Zone		
Volatile Organic Compounds													
Acetone	12000	3.7 J (1.9)	3.3 J (1.9)	U (3.3)	U (3.3)	U (4.1)	U (4.7)	U (3.3)	551 (4.1)	77.5 (4.7)	U (7.4)	347 (4.1)	330 J+ (4.7)
Benzene	5	U (0.060)	U (0.060)	U (0.079)	U (0.079)	U (0.11)	U (0.088)	U (0.079)	0.17 J (0.11)	0.19 J (0.088)	U (0.13)	0.13 J (0.11)	0.16 J (0.088)
Bromomethane	7	U (0.16)	U (0.16)	U (0.32)	U (0.32)	U (0.52)	U (0.99)	U (0.32)	U (0.52)	U (0.99)	U (2.8)	U (0.52)	U (0.99)
2-Butanone	4900	U (0.59)	U (0.59)	U (0.70)	U (0.70)	U (0.74)	U (2.4)	U (0.70)	1430 (7.4)	131 (2.4)	U (1.8)	624 (0.74)	1360 (24.0)
Carbon Disulfide	720	U (0.12)	U (0.12)	U (0.16)	U (0.16)	U (0.53)	U (0.24)	U (0.16)	5.8 (0.53)	1.3 J (0.24)	U (0.086)	0.73 J (0.53)	1.1 J (0.24)
Chlorobenzene	100	U (0.21)	U (0.21)	U (0.13)	U (0.13)	U (0.16)	U (0.23)	U (0.13)	U (0.16)	U (0.23)	U (0.17)	U (0.16)	U (0.23)
Chloroform	80	U (0.14)	U (0.14)	U (0.10)	U (0.10)	U (0.087)	U (0.17)	0.21 J (0.10)	U (0.087)	U (0.17)	U (0.25)	U (0.087)	U (0.17)
Chloromethane	190	U (0.080)	U (0.080)	U (0.16)	U (0.16)	U (0.30)	U (0.44)	U (0.16)	0.49 J (0.30)	U (0.44)	U (0.51)	U (0.30)	U (0.44)
1,1-Dichloroethane	2.4	U (0.050)	U (0.050)	U (0.097)	0.27 J (0.097)	0.39 J (0.092)	0.63 J (0.098)	1.3 (0.097)	U (0.092)	0.21 J (0.098)	U (0.12)	U (0.092)	U (0.098)
1,2-Dichloroethane	5	U (0.12)	0.15 J B (0.12)	U (0.14)	U (0.14)	U (0.27)	U (0.23)	0.20 J (0.14)	U (0.27)	U (0.23)	U (0.33)	U (0.27)	U (0.23)
1,1-Dichloroethene	7	U (0.20)	0.25 J (0.20)	0.28 J (0.22)	0.67 J (0.22)	0.86 J (0.19)	1.4 (0.21)	3.6 (0.22)	0.79 J (0.19)	0.76 J (0.21)	0.42 J (0.14)	U (0.19)	U (0.21)
cis-1,2-Dichloroethene	70	1.4 (0.080)	2.6 (0.080)	3.4 (0.17)	6.3 (0.17)	7.9 (0.11)	10.6 (0.15)	27.6 (0.17)	104 (0.11)	136 (0.15)	4.1 (0.18)	10.7 (0.11)	5.0 (0.15)
trans-1,2-Dichloroethene	100	U (0.20)	U (0.20)	U (0.17)	U (0.17)	U (0.26)	U (0.15)	0.57 J (0.17)	0.36 J (0.26)	0.41 J (0.15)	U (0.082)	U (0.26)	U (0.15)
Ethyl Benzene	700	U (0.18)	U (0.18)	U (0.12)	U (0.12)	U (0.11)	U (0.18)	U (0.12)	U (0.11)	U (0.18)	U (0.20)	U (0.11)	U (0.18)
2-Hexanone	34	U (1.2)	U (1.2)	U (1.0)	U (1.0)	U (0.72)	U (1.5)	U (1.0)	21.9 (0.72)	U (1.5)	U (1.60	10.8 (0.72)	32.5 (1.5)
4-Methyl-2-pentanone	1000	U (0.42)	U (0.42)	U (0.56)	U (0.56)	U (0.55)	U (1.4)	U (0.56)	3.5 J (0.55)	8.5 J (1.4)	U (1.3)	U (0.55)	1.6 J (1.4)
Methylene Chloride	5	U (0.15)	U (0.15)	U (0.27)	U (0.27)	U (0.30)	U (0.81)	U (0.27)	U (0.30)	U (0.81)	U (0.35)	U (0.30)	U (0.81)
1,1,2,2-Tetrachloroethane	0.066	U (0.15)	U (0.15)	U (0.31)	U (0.31)	U (0.17)	U (0.28)	U (0.31)	U (0.17)	U (0.28)	U (0.23)	U (0.17)	U (0.28)
Tetrachloroethene	5	U (0.10)	U (0.10)	U (0.22)	U (0.22)	13.7 (0.17)	U (0.15)	4.4 (0.22)	0.46 J (0.17)	0.37 J (0.15)	U (0.14)	U (0.17)	U (0.15)
Toluene	1000	U (0.17)	U (0.17)	U (0.14)	U (0.14)	U (0.083)	U (0.18)	U (0.14)	0.26 J (0.083)	2.2 (0.18)	U (0.17)	0.12 J (0.083)	U (0.18)
1,1,2-Trichloroethane	5	U (0.20)	U (0.20)	U (0.10)	U (0.10)	U (0.085)	U (0.28)	U (0.10)	U (0.085)	U (0.28)	U (0.12)	U (0.085)	U (0.28)
Trichloroethene	5	11.7 (0.17)	11.7 (0.17)	17.0 (0.17)	52.7 (0.17)	94.5 (0.090)	176 (0.25)	331 (1.7)	59.8 (0.090)	51.9 (0.25)	59.3 (0.097)	1.5 (0.090)	0.85 J (0.25)
Vinyl Chloride	2	U (0.13)	U (0.13)	U (0.11)	0.12 J (0.11)	U (0.19)	U (0.25)	0.16 J (0.11)	0.36 J (0.19)	0.67 J (0.25)	U (0.17)	U (0.19)	U (0.25)
Metals													
Iron	NE	10100 (50.0)	46.0 J (50.0)	826 (50.0)	NM	NM	NM	76 (50.0)	24700 (50.0)	24200 (50.0)	895 (50.0)	175000 (50.0)	130000 M1 (500)
Iron, Ferric	NE	9900 (50.0)	26 (50.0)	766 (50.0)	NM	NM	NM	76 (50.0)	23800	21500	895 (50.0)	175000	121800
Iron, Ferrous	NE	NM	20	60	290	580	U	NM	900	2700	NM	U	8200
Carbon													
Organic Carbon (total)	NE	370 J (1000)	U (1000)	690 J (1000)	NM	NM	NM	380 J (1000)	225000 (50000)	68500 (10000)	U (1000)	4590000 (1000000)	2850000 J (500000)
Organic Carbon (dissolved)	NE	900 J (1000)	U (1000)	540 J (1000)	NM	NM	NM	530 J (1000)	224000 (50000)	52900 (5000)	570 J (1000)	3830000 (1000000)	2920000 J (500000)
Anions													
Chloride	NE	17100 (10000)	18800 (1000)	21700 (2000)	NM	NM	NM	80600 (10000)	136000 (10000)	127000 (20000)	18300 (10000)	195000 (10000)	137000 (20000)
Nitrogen	NE	820 (100)	5100 (500)	4800 (100)	NM	NM	NM	1700 (100)	NM	U (100)	1800 (100)	NM	U (100)
Nitrogen, Nitrate (As N)	NE	210 (100)	5000 (500)	4800 (100)	NM	NM	NM	1700 (100)	U (100)	U (100)	1800 (100)	U (100)	U (100)
Nitrogen, Nitrite	NE	610 (100)	U (500)	U (100)	NM	NM	NM	U (100)	96 (100)	U (100)	U (100)	U (100)	U (100)
Sulfate	NE	8200 (1000)	7700 (1000)	8000 (1000)	NM	NM	NM	11400 (1000)	2000 (1000)	1300 (1000)	6000 (1000)	18500 (1000)	24700 (2000)
Gases													
Acetylene	NE	NM	NM	U (0.50)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Methane	NE	0.64 (0.50)	U (0.50)	0.62 (0.50)	NM	NM	NM	1 (0.50)	3570 (10.0)	6900 (5.0)	1.2 (0.50)	5080 (10.0)	12000 (5.0)
Ethane	NE	U (0.10)	U (0.10)	0.65 (0.10)	NM	NM	NM	U (0.10)	U (10.0)	0.80 J (1.0)	U (0.10)	U (10.0)	1.2 (1.0)
Ethene	NE	0.17 (0.10)	U (0.10)	U (0.10)	NM	NM	NM	U (0.10)	U (10.0)	2.6 (1.0)	U (0.10)	U (10.0)	2.5 (1.0)
Hydrogen (H2) [NM]4*	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Volatile Fatty Acids													
Acetic Acid	NE	U (5000)	2800 (1000)	U (100)	NM	NM	NM	170 (100)	NM	24000 (5000)	200 (100)	490000 (80000)	940000 (50000)
Butyric Acid	NE	U (5000)	U (1000)	U (100)	NM	NM	NM	U (100)	NM	1800 J (5000)	U (100)	380000 (80000)	450000 (50000)
Lactic Acid	NE	U (10000)	NM	U (200)	NM	NM	NM	U (200)	NM	NM	U (200)	NM	U (50000)
Propionic Acid	NE	U (5000)	2500 (1000)	U (100)	NM	NM	NM	U (100)	NM	32000 (5000)	110 (100)	6800000 (1600000)	3300000 (250000)
Pyruvic Acid	NE	U (5000)	NM	U (100)	NM	NM	NM	U (100)	NM	U (5000)	U (100)	UJ (500)	21000 (10000)
Molecular Analyses													
BAV1 Vinyl Chloride Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Dehalococcoides (DHC) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
tceA Reductase [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vinyl Chloride Reductase (vrcA) [cells/mL]	NE	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

TABLE 3
SUMMARY OF TCE CONCENTRATIONS - ISCR TREATMENT AREAS
(JULY 2018 - OCTOBER 2020)
Whirlpool Facility - Fort Smith, Arkansas

MW-61R Phase II Treatment Zone

Sampling Event	Week of Date	MW-61R	TMW-10
Baseline	7/30/2018	7.0	91.1
450 Days After Injection	10/21/2019	20.8	8.6
490 Days After Injection	12/2/2019	15.0	NA
650 Days After Injection	5/11/2020	15.6	2.5
800 Days After Injection	10/6/2020	15.8	4.8
	Percent Reduction	NA	94.7%

North Plume Treatment Zone

Sampling Event	Week of Date	TMW-21	TMW-22[a]	MW-194
Baseline	7/30/2018	564	460	13.3
450 Days After Injection	10/21/2019	21.8	146	10.8
650 Days After Injection	5/11/2020	3.8	61.1	4.4
800 Days After Injection	10/6/2020	7.2	56.6	5.6
	Percent Reduction	98.7%	87.7%	57.9%

Southwest Plume Treatment Zone

Sampling Event	Week of Date	MW-186	TMW-16	TMW-32	TMW-26	TMW-25[b]
Baseline	7/30/2018	17.7	988	83.5	96.1	240
450 Days After Injection	10/21/2019	2.9	6.0	29.2	42.9	23.6
650 Days After Injection	5/11/2020	1.0	0.7	31.6	4.1	17
800 Days After Injection	10/6/2020	0.4	0.6	27.6	3.7	3.1
	Percent Reduction	97.6%	99.9%	66.9%	96.1%	98.7%

Southeast Treatment Zone

Sampling Event	Week of Date	MW-185[c]	TMW-34
Baseline	7/30/2018	11.7	NS
450 Days After Injection	10/21/2019	52.7	17.6
490 Days After Injection	12/2/2019	NA	26.7
650 Days After Injection	5/11/2020	94.5	46.6
800 Days After Injection	10/6/2020	176	84.4
	Percent Reduction	NA	NA

Northeast Treatment Zone

Sampling Event	Week of Date	MW-91	MW-99
Baseline	12/2/2019	331	59.3
160 Days After Injection	5/11/2020	59.8	1.5
300 Days After Injection	10/6/2020	51.9	0.9
	Percent Reduction	84.3%	98.6%

Notes:

PRB = Permeable Reactive Barrier

TCE = Trichloroethylene

Concentrations in micrograms per liter (µg/L)

NS = Not Sampled

NA = Not Applicable

[a]Replacement well TMW-22R installed during week of November 5, 2018; July 2018 TCE concentrations from original TMW-22.

[b]Baseline data for TMW-25 collected during week of April 19, 2018.

[c]MW-185 located up-gradient from treatment zone

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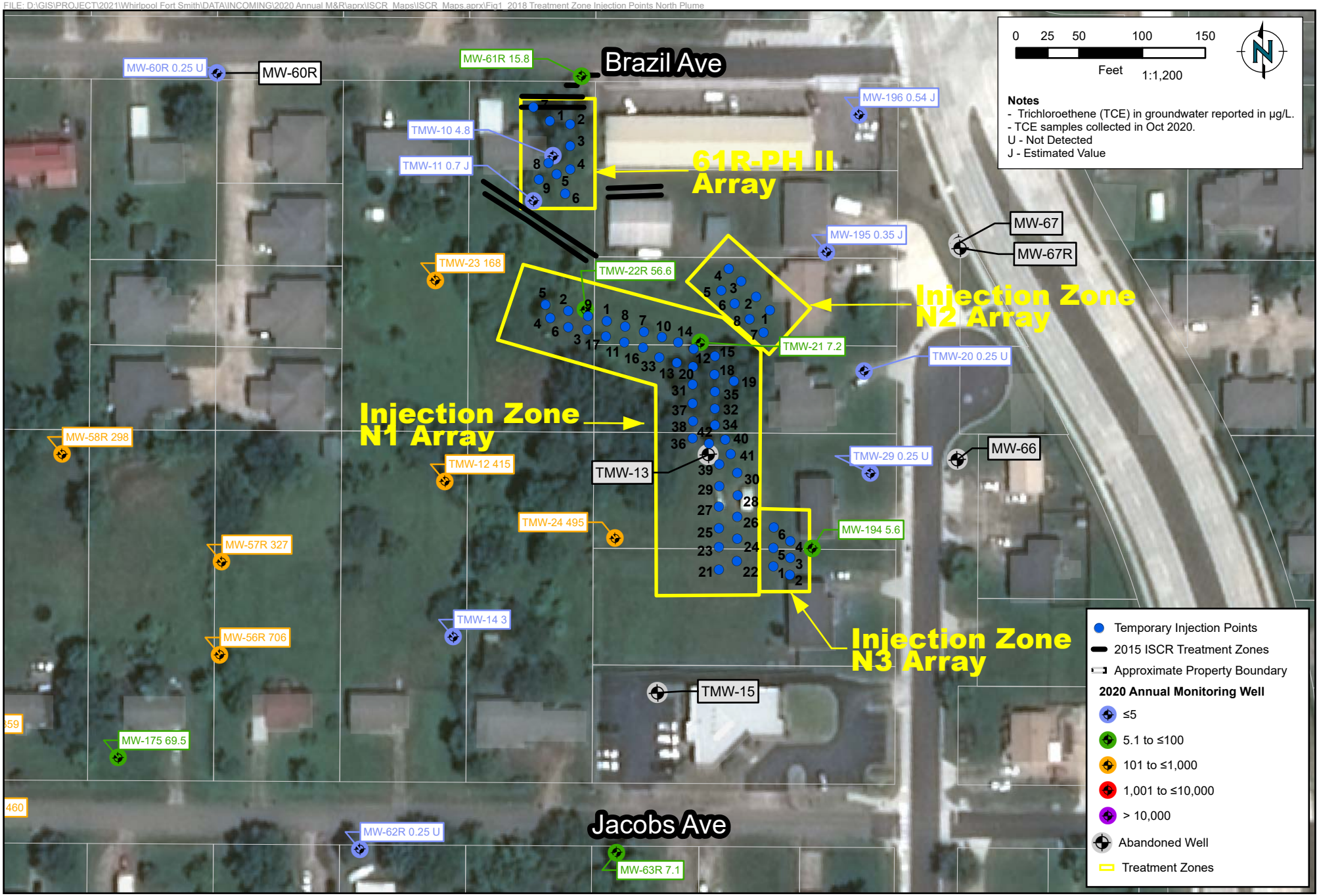
Figures

FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&R\aprx\ISCR_Maps\ISCR_Maps.aprx\Fig1_2018 Treatment Zone Injection Points North Plume



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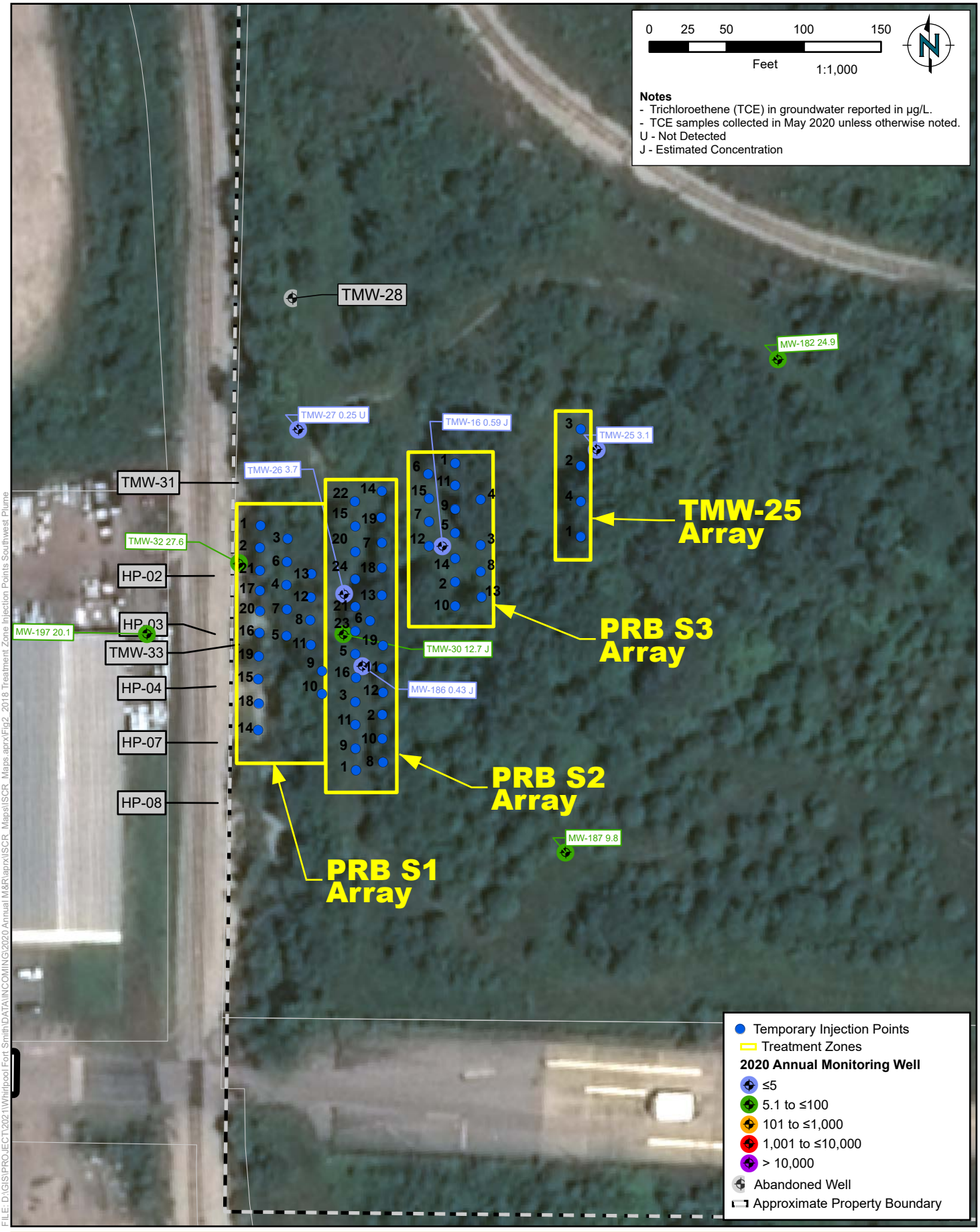
DRAFTED BY: FK/KNB | DATE: 01/10/2021

2018 TREATMENT ZONE INJECTION POINTS NORTH PLUME

Former Whirlpool Facility - Fort Smith, Arkansas

Figure 1

PROJECT: 1690016820



FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&R\aprx\ISCR_MapsISCR_Maps.aprx\Fig2_2018 Treatment Zone Injection Points Southwest Plume

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2018 TREATMENT ZONE INJECTION POINTS SOUTHWEST PLUME

Former Whirlpool Facility - Fort Smith, Arkansas

Figure 2

PROJECT: 1690016820

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RAMBOLL

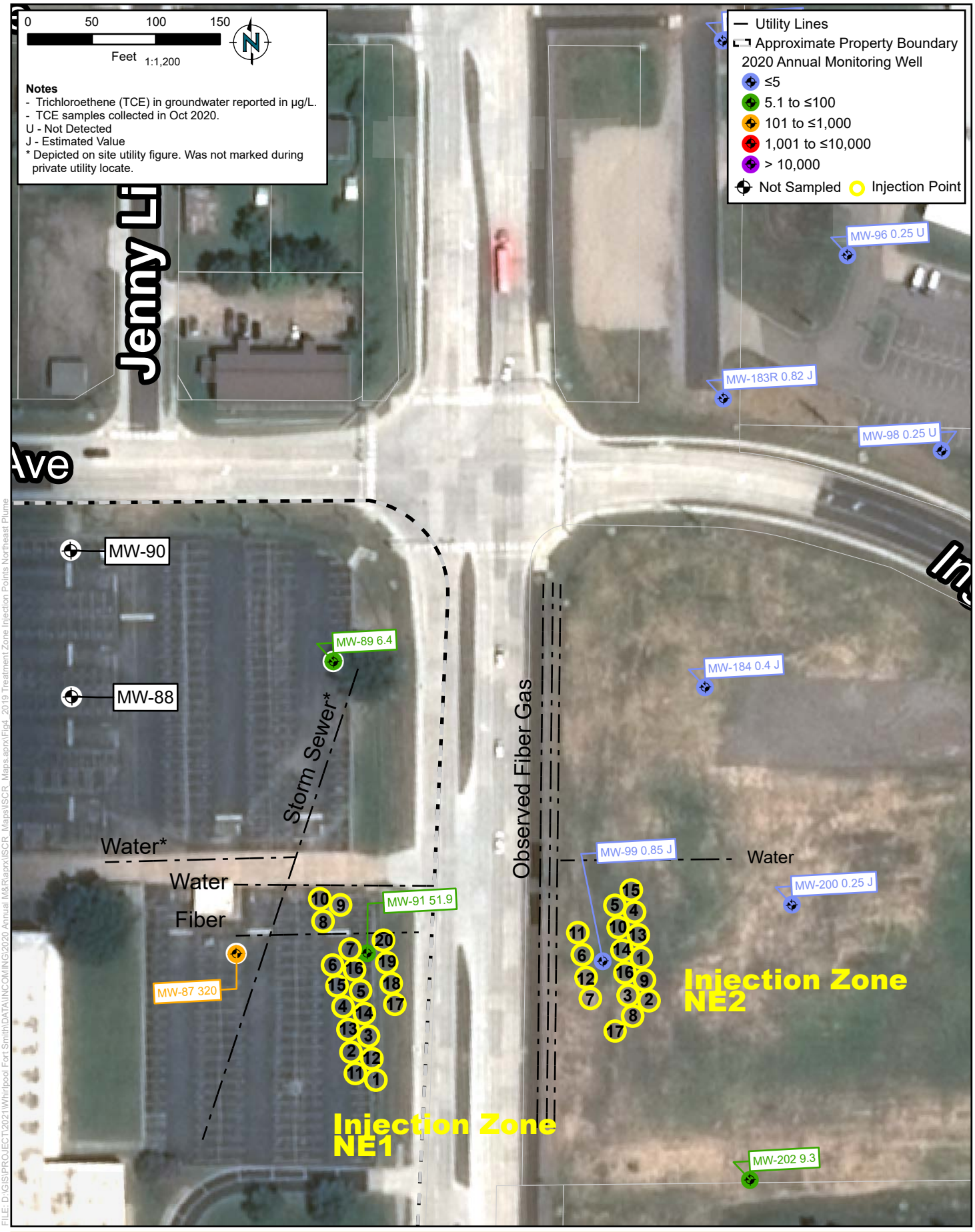
DRAFTED BY: FK/KNB | DATE: 01/10/2021

2018 TREATMENT ZONE INJECTION POINTS SOUTHEAST PLUME

Former Whirlpool Facility - Fort Smith, Arkansas

Figure 3

PROJECT: 1690016820



RAMBOLL

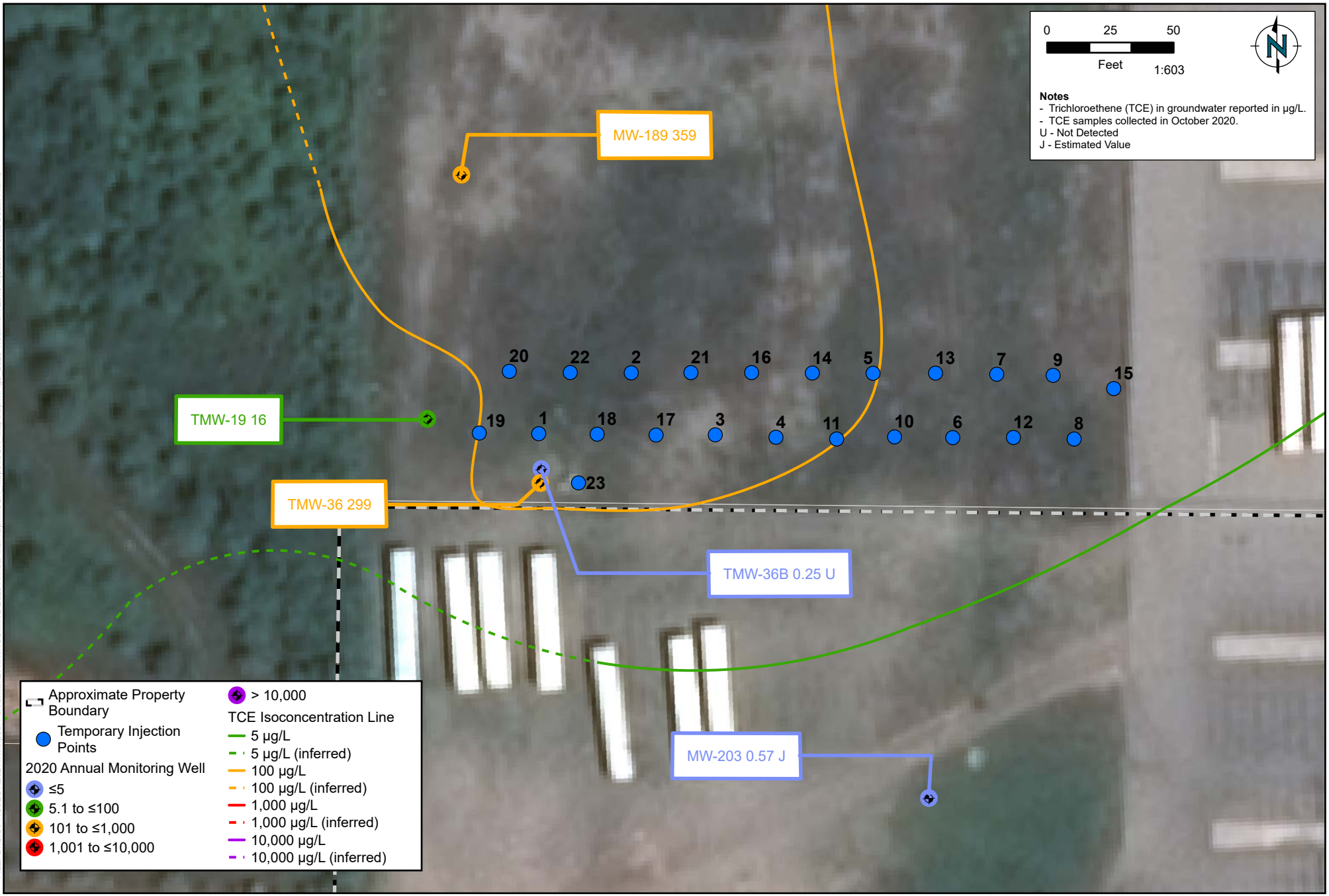
DRAFTED BY: FK/KNB | DATE: 01/10/2021

2019 TREATMENT ZONE INJECTION POINTS NORTHEAST PLUME

Whirlpool Facility - Fort Smith, Arkansas

Figure 4

PROJECT: 1690016820



FILE: D:\GIS\PROJECT\2021\Whirlpool Fort Smith\DATA\INCOMING\2020 Annual M&R\aprx\ISCR_Maps\ISCR_Maps.aprx\Fig5_2020 Treatment Zone Injection Points South Plume

RAMBOLL

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2020 TREATMENT ZONE INJECTION POINTS SOUTH PLUME

Whirlpool Facility - Fort Smith, Arkansas

Figure 5

PROJECT: 1690012820

Appendix A
IET Report

Innovative Environmental Technologies, Inc.

Technology Discussion and Field Report

To

Ramboll

For

The Application Of

"In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies"

At

Former Whirlpool Facility
Fort Smith, AR

November 2020

Innovative Environmental Technologies, Inc.
6071 Easton Road
Pipersville, PA 18947
(888) 721-8283
www.iet-inc.net

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Remediation Implementation 3

- **Injection Procedures** 3
- **Direct-Push-Driven Perforated Rod Placement** 3
- **ZVI, Organic Hydrogen, Nutrient and Vitamin Injection** 4
- **Liquid Rinse** 4
- **Post Injection Line Purge** 4

MW189 PRB Locations Map 4

PRB-MW189 Area 5

Conclusion 5

Appendix A – Injection Logs 6

Executive Summary

On behalf of Ramboll, Innovative Environmental Technologies, Inc. (IET) has prepared the following injection report. This report has been prepared to document remediation activities conducted at the site.

The injection program was implemented from October 6th to October 10th, 2020. The remedial approach employed synergistic reductive dechlorination chemistry, utilizing zero valent iron, various organic hydrogen donors, nutrients and vitamins. The integration of both abiotic and biotic remedial compounds allow for rapid dechlorination reactions and long lasting biological attenuation.

The injections were completed in the form of a permeable reactive barrier transecting the downgradient section of the plume at the Southern section of the whirlpool facility immediately downgradient of MW-189. The total injected reagent contained 3,780 pounds of Zero Valent Iron, 210 pounds of Nutrient, 1,386 pounds of Hydrolyzed Kelp, 210 pounds of Sodium Sulfite, 6,636 pounds of Provect-IR, 3,150 pounds of Calcium Propionate, 210 pounds of Yeast Extract, 210 pounds of Magnesium Hydroxide, 105 gallons of AMR compound, 453.6 grams of Vitamin B12 and 3,160.7 grams of Vitamin B2 suspended in water to create approximately 6,300 gallons of injectant volume. The design was implemented as proposed with some field modifications that were implemented by Ramboll and IET. The layout and number of the locations in PRB MW189 were adjusted due to additionally collected data, and nine MW189 locations were added to the PRB, all MW189 locations targeted depths ranging from 34-40' bgs as opposed to the originally proposed 28-40' targeted depths. The point by point dosages along with any field adjustments and instances of surfacing are also noted in the attached field logs.

Introduction

The former Whirlpool site located in Fort Smith, Arkansas was identified as having soils and groundwater impacted by the historical release of chlorinated solvents. The primary compounds of concern were Trichloroethene (TCE) and its associated daughter products. An injection program was proposed by IET for the remediation of CVOC impacts along the northeastern edge of the plume utilizing direct push tooling and synergistic reductive dechlorination technologies.

Remediation Implementation

Injection Procedures

IET completed the twenty-three injection locations across one area at the site. Details regarding each injection attempt are provided in the field logs in the Appendix.

Direct-Push-Driven Perforated Rod Placement



FIGURE 1: AMS 9500 VTR

An AMS unit comparable to the one pictured in Figure 1, was utilized to drive the injection screen (as seen in Figure 2) to depths ranging from 34 to 40 feet below ground surface (bgs). It is at these depths, that the likelihood exists of being in close proximity to the targeted waters in the more permeable layers that were identified during characterization of the site. These more permeable layers are those believed to have historically provided the preferential pathways taken by the dissolved-phase CVOCs.

Subsurface Pathway Development

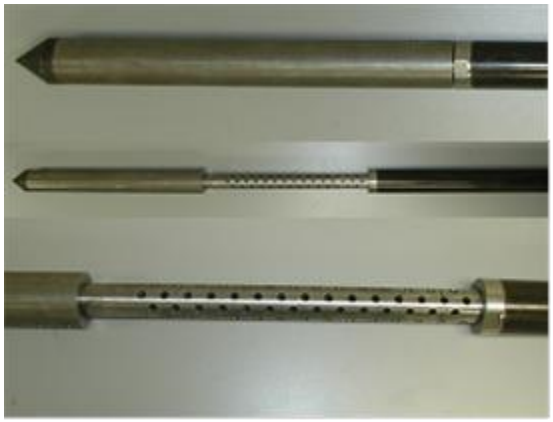


FIGURE 2: RETRACTABLE INJECTION SCREEN

Compressed nitrogen was used to propel injectants into the subsurface. Compressed nitrogen was first injected into the subsurface at approximately 150 pounds per square inch (psi) until a significant pressure drop was observed at the injection pressure vessel. This process is referred to as pathway development. The intent of this step is to open pathways in the subsurface for the injectants to follow. These pathways are believed to be those more permeable pathways along which CVOCs are more likely to have migrated, both in the vadose and saturated zones. Liquid and liquid-entrained injectants are then delivered with pressurized gas to the pathways that were produced during the development step.

ZVI, Organic Hydrogen, Nutrient and Vitamin Injection

A colloidal suspension of 1-3-micron zero valent iron (ZVI) was immediately injected into the subsurface fractures and voids that were developed during the compressed nitrogen injection step. Immediately following, under constant pressure the injectant slurry was then introduced.

Liquid Rinse

A small amount of water was injected to clear the injection lines of the injectant and promotes mounding of groundwater into the vadose zone.

Post Injection Line Purge

Compressed nitrogen was injected to clear the lines of all material and to force the remedial components further into the formation before moving to the next injection location.

MW189 PRB Locations Map

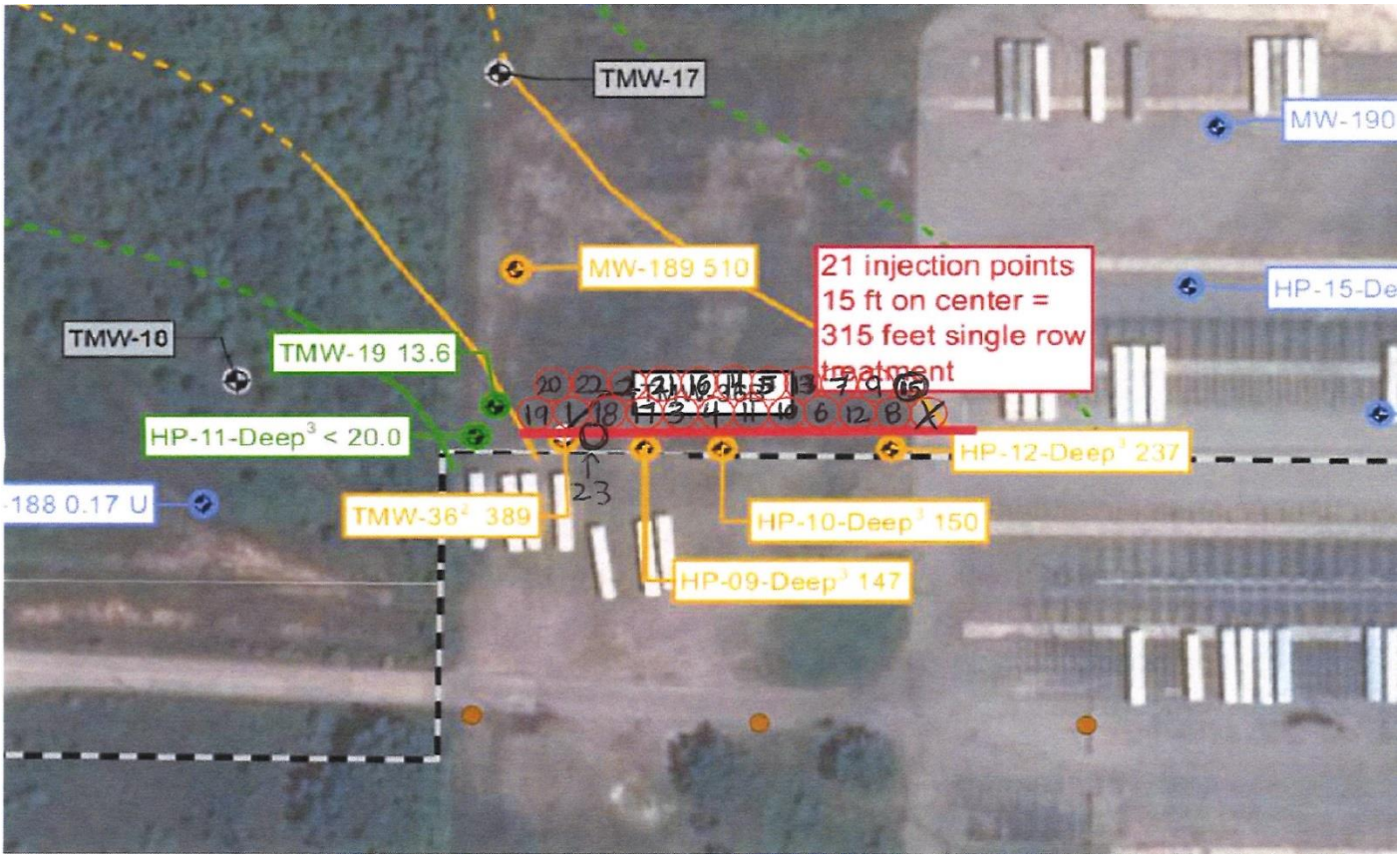


FIGURE 3: MW189 PRB – INJECTION LOCATIONS

PRB-MW189 Area

This area included 23 injection points targeting an approximate 10,400 sq. ft. area at depths between 34-40' below grade. The PRB consisted of two lines of points installed downgradient of MW-189. This area was completed as proposed with field modifications, such as adding locations and targeting the deeper zone. Proposed injection volumes were also increased to maximize the radius of influence of each injection location. All the proposed injectant was introduced to the subsurface and no instances of daylighting were observed during the application process.

Conclusion

The injection program at the former Whirlpool site was implemented based on the proposed design with field modifications that were required due to new data collected from new monitoring locations in this area and decisions made by Ramboll and IET personnel. All proposed injectants were ultimately introduced at the depths associated with groundwater flow across the permeable reactive barrier. It is expected that the injection event will yield positive results in the targeted area and IET looks forward the assessing the data following future sampling events.

Appendix A – Injection Logs

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/6/2020**

Time:	**14:30**	**13:28**
	to	to
	14:49	**14:45**

PRB-MW189	Injection #1		Injection #2		Summary	
1	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/6/2020**

Time:	**15:20**	**14:55**
	to	to
	15:46	**15:17**

PRB-MW189 2	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/6/2020**

Time: **16:33** to **16:48** **15:53** to **16:28**

PRB-MW189 3	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time:	**9:20**	**8:51**
	to	to
	10:00	**9:17**

PRB-MW189 4	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	175	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time: **10:57, 12:38** to **11:18, 12:50** **10:05** to **10:52**

PRB-MW189 5	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	38-40'	34-36'	40-42'	38-40'	38-42'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	100	50		

Other Field Observations: very tight, finished 2/3 of Injection #1 with chemgrout piston pump.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

	Injection #1		Injection #2	
Time:	**11:51** to **12:20**		**11:18** to **11:47**	

PRB-MW189 6	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time:	**13:38**	**13:10**
	to	to
	14:00	**13:34**

PRB-MW189	**Injection #1**		**Injection #2**		**Summary**	
7	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**
Injection Zone	**34-36'**	**34-36'**	**38-40'**	**38-40'**	**34-40'**	**34-40'**
Fracture Duration (sec)	**3**	**3**	**3**	**3**		
Pathway Development (psi)	**200**	**150**	**200**	**150**		
Estimated ROI (ft)	**12**	**12**	**12**	**12**		
AMR Compound (gals)	**2.5**	**2.5**	**2.5**	**2.5**	**5**	**5**
Vitamin B2 (grams)	**75.3**	**75.3**	**75.3**	**75.3**	**150.5**	**150.5**
Vitamin B12 (grams)	**10.8**	**10.8**	**10.8**	**10.8**	**21.6**	**21.6**
Yeast (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Provect-IR (lbs)	**158**	**158**	**158**	**158**	**316**	**316**
Sulfite (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Propionate (lbs)	**75**	**75**	**75**	**75**	**150**	**150**
Kelp (lbs)	**33**	**33**	**33**	**33**	**66**	**66**
Nutrient (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Magnesium Hydroxide (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
ZVI (lbs) 1-3 micron	**90**	**90**	**90**	**90**	**180**	**180**
Mixture Volume (gal)	**150**	**150**	**150**	**150**	**300**	**300**
Line Purge (psi)	**100**	**50**	**100**	**50**		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time:	**14:45**	**14:26**
	to	to
	15:16	**14:40**

PRB-MW189 8	**Injection #1**		**Injection #2**		**Summary**	
	Actual	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**
Injection Zone	**34-36'**	**34-36'**	**38-40'**	**38-40'**	**34-40'**	**34-40'**
Fracture Duration (sec)	**3**	**3**	**3**	**3**		
Pathway Development (psi)	**200**	**150**	**200**	**150**		
Estimated ROI (ft)	**12**	**12**	**12**	**12**		
AMR Compound (gals)	**2.5**	**2.5**	**2.5**	**2.5**	**5**	**5**
Vitamin B2 (grams)	**75.3**	**75.3**	**75.3**	**75.3**	**150.5**	**150.5**
Vitamin B12 (grams)	**10.8**	**10.8**	**10.8**	**10.8**	**21.6**	**21.6**
Yeast (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Provect-IR (lbs)	**158**	**158**	**158**	**158**	**316**	**316**
Sulfite (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Propionate (lbs)	**75**	**75**	**75**	**75**	**150**	**150**
Kelp (lbs)	**33**	**33**	**33**	**33**	**66**	**66**
Nutrient (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Magnesium Hydroxide (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
ZVI (lbs) 1-3 micron	**90**	**90**	**90**	**90**	**180**	**180**
Mixture Volume (gal)	**150**	**150**	**150**	**150**	**300**	**300**
Line Purge (psi)	**150**	**50**	**150**	**50**		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time: **15:40** to **16:00** **15:21** to **15:38**

PRB-MW189 9	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time:	**16:35**	**16:10**
	to	to
	16:57	**16:30**

PRB-MW189	Injection #1		Injection #2		Summary	
10	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/7/2020**

Time: _____ to _____ **17:12** to **17:36**

PRB-MW189	Injection #1		Injection #2		Summary	
11	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone		34-36'	39-41'	38-40'	39-41'	34-40'
Fracture Duration (sec)		3	3	3		
Pathway Development (psi)		150	200	150		
Estimated ROI (ft)		12	12	12		
AMR Compound (gals)		2.5	2.5	2.5	2.5	5
Vitamin B2 (grams)	0	75.3	75.3	75.3	75.3	150.5
Vitamin B12 (grams)	0	10.8	10.8	10.8	10.8	21.6
Yeast (lbs)	0	5	5	5	5	10
Provect-IR (lbs)	0	158	158	158	158	316
Sulfite (lbs)	0	5	5	5	5	10
Propionate (lbs)	0	75	75	75	75	150
Kelp (lbs)	0	33	33	33	33	66
Nutrient (lbs)	0	5	5	5	5	10
Magnesium Hydroxide (lbs)	0	5	5	5	5	10
ZVI (lbs) 1-3 micron	0	90	90	90	90	180
Mixture Volume (gal)	0	150	150	150	150	300
Line Purge (psi)		50	150	50		

Other Field Observations: Shallow interval eliminated based off of local boring log (HP-10)

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

	Injection #1	Injection #2
Time:	**10:09** to **10:29**	**9:43** to **10:05**

PRB-MW189 12	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	33-35'	34-36'	35-37'	38-40'	33-37'	34-40'
Fracture Duration (sec)	5	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations: DPT refusal at 38' bgs.

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

Time: **11:19** to **11:32** **10:33** to **11:15**

PRB-MW189 13	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

Time: _____ to _____ **11:43** to **12:10**

PRB-MW189	Injection #1		Injection #2		Summary	
14	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone		34-36'	40-42'	38-40'	40-42'	34-40'
Fracture Duration (sec)		3	3	3		
Pathway Development (psi)		150	200	150		
Estimated ROI (ft)		12	12	12		
AMR Compound (gals)		2.5	2.5	2.5	2.5	5
Vitamin B2 (grams)		75.3	75.3	75.3	75.3	150.5
Vitamin B12 (grams)		10.8	10.8	10.8	10.8	21.6
Yeast (lbs)		5	5	5	5	10
Provect-IR (lbs)		158	158	158	158	316
Sulfite (lbs)		5	5	5	5	10
Propionate (lbs)		75	75	75	75	150
Kelp (lbs)		33	33	33	33	66
Nutrient (lbs)		5	5	5	5	10
Magnesium Hydroxide (lbs)		5	5	5	5	10
ZVI (lbs) 1-3 micron		90	90	90	90	180
Mixture Volume (gal)		150	150	150	150	300
Line Purge (psi)		50	150	50		

Other Field Observations: Shallow interval eliminated based off of local boring log (HP-10)

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

	Injection #1	Injection #2
Time:	**12:39** to **13:00**	**12:21** to **12:36**

PRB-MW189	Injection #1		Injection #2		Summary	
15	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

	Injection #1	Injection #2
Time:	**13:43** to **14:00**	**13:05** to **13:40**

PRB-MW189 16	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

	Injection #1	Injection #2
Time:	**14:31** to **14:56**	**14:10** to **14:27**

PRB-MW189	Injection #1		Injection #2		Summary	
17	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

	Injection #1	Injection #2
Time:	**15:34** to **15:55**	**15:03** to **15:26**

PRB-MW189	Injection #1		Injection #2		Summary	
18	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	36-38'	38-40'	34-38'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	200	150	200	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	150	50	150	50		

Other Field Observations: No flow at 38-40'

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8/2020**

Time: **16:02** to **16:30**

PRB-MW189 19	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone		34-36'	36-38'	38-40'	36-38'	34-40'
Fracture Duration (sec)		3	3	3		
Pathway Development (psi)		150	200	150		
Estimated ROI (ft)		12	12	12		
AMR Compound (gals)	0	2.5	2.5	2.5	2.5	5
Vitamin B2 (grams)	0	75.3	75.3	75.3	75.3	150.5
Vitamin B12 (grams)	0	10.8	10.8	10.8	10.8	21.6
Yeast (lbs)	0	5	5	5	5	10
Provect-IR (lbs)	0	158	158	158	158	316
Sulfite (lbs)	0	5	5	5	5	10
Propionate (lbs)	0	75	75	75	75	150
Kelp (lbs)	0	33	33	33	33	66
Nutrient (lbs)	0	5	5	5	5	10
Magnesium Hydroxide (lbs)	0	5	5	5	5	10
ZVI (lbs) 1-3 micron	0	90	90	90	90	180
Mixture Volume (gal)	0	150	150	150	150	300
Line Purge (psi)		50	150	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/8, 10/9/2020**

Time:	**8:23**	**17:08**	
	to	to	
	8:50	**17:35**	

PRB-MW189	**Injection #1**		**Injection #2**		**Summary**	
20	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**
Injection Zone	**34-36'**	**34-36'**	**38-40'**	**38-40'**	**34-40'**	**34-40'**
Fracture Duration (sec)	**3**	**3**	**3**	**3**		
Pathway Development (psi)	**175**	**150**	**200**	**150**		
Estimated ROI (ft)	**12**	**12**	**12**	**12**		
AMR Compound (gals)	**2.5**	**2.5**	**2.5**	**2.5**	**5**	**5**
Vitamin B2 (grams)	**75.3**	**75.3**	**75.3**	**75.3**	**150.5**	**150.5**
Vitamin B12 (grams)	**10.8**	**10.8**	**10.8**	**10.8**	**21.6**	**21.6**
Yeast (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Provect-IR (lbs)	**158**	**158**	**158**	**158**	**316**	**316**
Sulfite (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Propionate (lbs)	**75**	**75**	**75**	**75**	**150**	**150**
Kelp (lbs)	**33**	**33**	**33**	**33**	**66**	**66**
Nutrient (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
Magnesium Hydroxide (lbs)	**5**	**5**	**5**	**5**	**10**	**10**
ZVI (lbs) 1-3 micron	**90**	**90**	**90**	**90**	**180**	**180**
Mixture Volume (gal)	**150**	**150**	**150**	**150**	**300**	**300**
Line Purge (psi)	**150**	**50**	**150**	**50**		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/9/2020**

Time: **10:21** to **10:40** **9:49** to **10:16**

PRB-MW189 21	Injection #1		Injection #2		Summary	
	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	150	150	150	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/9/2020**

	Injection #1	Injection #2
Time:	**11:17** to **11:50**	**10:47** to **11:13**

PRB-MW189	Injection #1		Injection #2		Summary	
22	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone	34-36'	34-36'	38-40'	38-40'	34-40'	34-40'
Fracture Duration (sec)	3	3	3	3		
Pathway Development (psi)	150	150	150	150		
Estimated ROI (ft)	12	12	12	12		
AMR Compound (gals)	2.5	2.5	2.5	2.5	5	5
Vitamin B2 (grams)	75.3	75.3	75.3	75.3	150.5	150.5
Vitamin B12 (grams)	10.8	10.8	10.8	10.8	21.6	21.6
Yeast (lbs)	5	5	5	5	10	10
Provect-IR (lbs)	158	158	158	158	316	316
Sulfite (lbs)	5	5	5	5	10	10
Propionate (lbs)	75	75	75	75	150	150
Kelp (lbs)	33	33	33	33	66	66
Nutrient (lbs)	5	5	5	5	10	10
Magnesium Hydroxide (lbs)	5	5	5	5	10	10
ZVI (lbs) 1-3 micron	90	90	90	90	180	180
Mixture Volume (gal)	150	150	150	150	300	300
Line Purge (psi)	100	50	100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Whirlpool-Fort Smith AR** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Date of Injection: **10/9/2020**

	Injection #1		Injection #2	
Time:	**10:21** to **10:40**		**9:49** to **10:16**	

PRB-MW189	Injection #1		Injection #2		Summary	
23	Actual	Proposed	Actual	Proposed	Actual	Proposed
Injection Zone			38-40'	38-40'	38-40'	34-40'
Fracture Duration (sec)			3	3		
Pathway Development (psi)			150	150		
Estimated ROI (ft)			12	12		
AMR Compound (gals)			2.5	2.5	2.5	2.5
Vitamin B2 (grams)			75.3	75.3	75.3	75.3
Vitamin B12 (grams)			10.8	10.8	10.8	10.8
Yeast (lbs)			5	5	5	5
Provect-IR (lbs)			158	158	158	158
Sulfite (lbs)			5	5	5	5
Propionate (lbs)			75	75	75	75
Kelp (lbs)			33	33	33	33
Nutrient (lbs)			5	5	5	5
Magnesium Hydroxide (lbs)			5	5	5	5
ZVI (lbs) 1-3 micron			90	90	90	90
Mixture Volume (gal)			150	150	150	150
Line Purge (psi)			100	50		

Other Field Observations:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

Job Name: **Ramboll-Whirlpool** **2020 Injections**

In-Situ Reductive Dechlorination of Soil and Groundwater via Synergistic Technologies

Dates of Injection: **10/6 to 10/9/2020**

PRB MW189 Summary

	Actual	Proposed
AMR Compound (gals)	105	105
Vitamin B2 (grams)	3160.7	3160.5
Vitamin B12 (grams)	453.6	453.6
Yeast (lbs)	210	210
Provect-IR (lbs)	6636	6636
Sulfite (lbs)	210	210
Propionate (lbs)	3150	3150
Kelp (lbs)	1386	1386
Nutrient (lbs)	210	210
Magnesium Hydroxide (lbs)	210	210
ZVI (lbs)	3780	3780
Mixture Volume (gal)	6300	6300

Appendix B
ISCR Reagent Safety Data Sheets

Appendix B
ISCR Reagent Safety Data Sheets

NIACET CORPORATION
400 47th St.
Niagara Falls, NY 14304
Fax (716) 285 1497
Ph (716) 285 1474

MSDS
NIACET
CALCIUM PROPIONATE

Issued: January 2006

EMERGENCY PHONE NUMBER: (800) 424 9300, (202) 483-7616

MATERIAL SAFETY DATA SHEET
CALCIUM PROPIONATE

SECTION I - PRODUCT IDENTIFICATION

Product Name: **NIACET Calcium Propionate, FCC**
Chemical Synonyms: **Cal Prop, CP**
Chemical Family: **organic acid, calcium salt**
Chemical Formula: **$(C_3H_5O_2)_2Ca$**

SECTION II - INGREDIENTS

	% by wt.	CAS #
Calcium Propionate (dry basis)	**99 min**	**4075-81-4**
Water	**5 max**	**7732-18-5**

SECTION III - PHYSICAL DATA

Molecular Weight: **186.22**
Appearance: **white powder, granules, or crystals**
pH of 10% Aq Soln: **7.5 to 10.5**
Odor: **odorless**
Melting Point: **400 'C (decomposes)**
Boiling Point: **not applicable**
Vapor Pressure: **not applicable**
Bulk Density: **approx. 45 lbs./cu. ft.**
Solubility in Water: **28.5% in water at 20'C**
Reactivity in Water: **does not react**

SECTION IV - FIRE & EXPLOSION HAZARD

Flash Point: **None by Tag Closed Cup**
Flammable Limits: **Not Determined** **Auto-Ignition Temperature: Not Applicable**
Unusual Hazards: **Avoid dispersion of dust to minimize possible explosion hazard.**
Extinguishing Media: **Appropriate media for surrounding fire.**

SECTION V - REACTIVITY DATA

Hazardous Decomposition Products: **Carbon monoxide**
Hazardous Polymerization: **Will not occur.**
Incompatibility: **Strong oxidizing agents**

SECTION VI - TOXICITY DATA

Calcium Propionate is a non-toxic food chemical Generally Recognized As Safe by the FDA

Occupational Exposure: **No exposure limits have been set by OSHA, NIOSH or ACGIH.**
Carcinogen: **IARC: NO, NTP: NO, OSHA: NO**

NIACET CORPORATION
400 47th St.
Niagara Falls, NY 14304
Fax (716) 285 1497
Ph (716) 285 1474

Issued: January 2006

EMERGENCY PHONE NUMBER: (800) 424 9300, (202) 483-7616

SECTION VII - HEALTH HAZARD INFORMATION

Primary Routes of Exposure:
Ingestion: If swallowed, wash mouth out with water.
Eye Contact: Can cause irritation. Flush with water for at least 15 minutes, hold eyelids open. Get medical attention.
Skin Contact: May cause irritation of the skin. Wash area with soap and water. Get medical attention if irritation persists.
Inhalation: If irritation develops, remove to fresh air.

Effects of Overexposure:
Dust, in high concentration, may cause irritation of eyes, nose and throat.

Medical Conditions Aggravated by Exposure:
None identified. Handle with reasonable care.

SECTION VIII - EMPLOYEE PROTECTION

Protective Clothing: Appropriate work apparel. Plastic or rubber gloves optional.
Eye Protection: Safety glasses should always be worn when working with chemicals.
Respiratory Protection: Material should be handled in a manner that does not produce airborne particles. If dust is a problem a dust mask or respirator is recommended.

SECTION IX - SPILL AND DISPOSAL PROCEDURES

Action to be taken for Spills:
Wear suitable protective clothing including a respirator or dust mask. Sweep up spillage and collect for disposal. Wash down area with large quantities of water.

Disposal Methods:
Material is biodegradable. Dispose of in accordance with applicable Federal, state and local regulations.

SECTION X - OTHER REGULATORY CONTROLS

Calcium Propionate	**TSCA Inventory:**	**YES (all ingredients)**
	OSHA Hazard:	**NO**
	Regulated under RECRA:	**NO**
	Regulated under CERCLA:	**NO**
	Regulated under SARA Title III:	**NO**

The information herein is given in good faith and believed to be accurate and has been compiled from sources believed to be reliable. Buyer assumes all risk of use, storage and handling of this product in compliance with applicable federal. State, and local laws and regulations.

Material Safety Data Sheet

Nitrogen

Section 1. Chemical product and company identification

Product name : Nitrogen

Supplier : AIRGAS INC., on behalf of its subsidiaries
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

Product use : Synthetic/Analytical chemistry. Liquid – cryogenic coolant.

Synonym : nitrogen (dot); nitrogen gas; Nitrogen NF, LIN, Cryogenic Liquid Nitrogen, Liquid Nitrogen

MSDS # : 001040

Date of Preparation/Revision : **1/14/2011.**

In case of emergency : 1-866-734-3438

Section 2. Hazards identification

Physical state : Gas. [NORMALLY A COLORLESS GAS: MAY BE A CLEAR COLORLESS LIQUID AT LOW TEMPERATURES. SOLD AS A COMPRESSED GAS OR LIQUID IN STEEL CYLINDERS.]

Emergency overview : WARNING!

GAS:
CONTENTS UNDER PRESURE.
Do not puncture or incinerate container.
Can cause rapid suffocation.
May cause severe frostbite.
LIQUID:
Extremely cold liquid and gas under pressure.
Can cause rapid suffocation.
May cause severe frostbite.

Do not puncture or incinerate container.

Contact with rapidly expanding gases or liquids can cause frostbite.

Routes of entry : Inhalation

Potential acute health effects

Eyes : Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Skin : Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Inhalation : Acts as a simple asphyxiant.

Ingestion : Ingestion is not a normal route of exposure for gases. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Medical conditions aggravated by over-exposure : Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.

See toxicological information (Section 11)

Section 3. Composition, Information on Ingredients

Name	CAS number	% Volume	Exposure limits
Nitrogen	7727-37-9	100	Oxygen Depletion [Asphyxiant]

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training.If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : None expected.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : As this product is a gas, refer to the inhalation section.

Section 5. Fire-fighting measures

Flammability of the product : Non-flammable.

Products of combustion : Decomposition products may include the following materials:
nitrogen oxides

Fire-fighting media and instructions : Use an extinguishing agent suitable for the surrounding fire.

Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.

Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Handling : High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.

Storage : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).
For additional information concerning storage and handling refer to Compressed Gas Association pamphlets P-1 Safe Handling of Compressed Gases in Containers and P-12 Safe Handling of Cryogenic Liquids available from the Compressed Gas Association, Inc.

Section 8. Exposure controls/personal protection

Engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

When working with cryogenic liquids, wear a full face shield.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Insulated gloves suitable for low temperatures

Personal protection in case of a large spill : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name

Nitrogen	Oxygen Depletion [Asphyxiant]

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Molecular weight : 28.02 g/mole

Molecular formula : N2

Boiling/condensation point : -195.8°C (-320.4°F)

Melting/freezing point : -210°C (-346°F)

Critical temperature : -146.9°C (-232.4°F)

Vapor density : 0.967 (Air = 1) Liquid Density@BP: 50.46 lb/ft3 (808.3 kg/m3)

Specific Volume (ft^3/lb) : 13.8889

Gas Density (lb/ft^3) : 0.072

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Toxicity data

Other toxic effects on humans : No specific information is available in our database regarding the other toxic effects of this material to humans.

Specific effects

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity

Not available.

Environmental fate : Not available.

Environmental hazards : No known significant effects or critical hazards.

Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation.Return cylinders with residual product to Airgas, Inc.Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1066 UN1977	NITROGEN, COMPRESSED Nitrogen, refrigerated liquid	2.2	Not applicable (gas).		**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 75 kg **Cargo aircraft** Quantity limitation: 150 kg
TDG Classification	UN1066 UN1977	NITROGEN, COMPRESSED Nitrogen, refrigerated liquid	2.2	Not applicable (gas).		**Explosive Limit and Limited Quantity Index** 0.125 **Passenger Carrying Road or Rail Index** 75
Mexico Classification	UN1066 UN1977	NITROGEN, COMPRESSED Nitrogen, refrigerated liquid	2.2	Not applicable (gas).		-

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Section 15. Regulatory information

United States

U.S. Federal regulations :

TSCA 8(a) IUR: Partial exemption
United States inventory (TSCA 8b): This material is listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Nitrogen
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Nitrogen: Sudden release of pressure

State regulations :

Connecticut Carcinogen Reporting: This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.
Rhode Island Hazardous Substances: This material is not listed.

Canada

WHMIS (Canada) : Class A: Compressed gas.

CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

United States

Label requirements :

GAS:
CONTENTS UNDER PRESURE.
Do not puncture or incinerate container.
Can cause rapid suffocation.
May cause severe frostbite.
LIQUID:
Extremely cold liquid and gas under pressure.
Can cause rapid suffocation.
May cause severe frostbite.

Canada

Label requirements : Class A: Compressed gas.

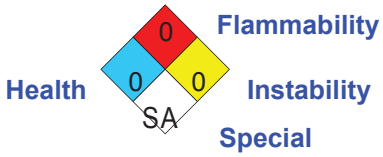
Hazardous Material Information System (U.S.A.) :

Health	0
Flammability	0
Physical hazards	0

liquid:

Health	3
Fire hazard	0
Reactivity	0
Personal protection	

National Fire Protection Association (U.S.A.) :



liquid:



Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

NATURAL SOURCING™
Specialists in Cosmeceutical Ingredients

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MATERIAL SAFETY DATA SHEET

ORGANIC KELP POWDER

(Ascophyllum nodosum)

MSDS

1. PRODUCT NAME AND COMPANY IDENTIFICATION

Product Name:	**ORGANIC KELP POWDER (Ascophyllum nodosum)**
Product Use:	Personal Care Formulations
Company Name:	Natural Sourcing
Company Address:	341 Christian Street, Oxford, CT 06478, USA
Date Issued:	7/1/2008
Emergency Telephone Number:	**Chemtrec Tel: (800) 262-8200**

2. COMPOSITION/INGREDIENT INFORMATION

Ingredients:	**Concentration %**
Ascophyllum nodosum (Kelp)	100%, Powdered
Hazardous Components:	None

3. HAZARDS IDENTIFICATION

Routes of Entry

Eyes:	Mild Irritation may occur
Skin:	No known hazard
Inhalation:	No known hazard
Ingestion:	No known hazard

4. FIRST AID MEASURES

Eyes:	Flush with plenty of water or eye wash solution for 15 minutes. Get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Extinguishing Media:	Water Spray, Foam, Powder and Carbon Dioxide
Special Firefighting Procedures:	N/A
Unusual Fire & Explosion Hazards:	N/A

6. ACCIDENTAL RELEASE MEASURES (STEPS FOR SPILLS)

Precautions:	N/A
Methods for Cleaning Up:	Sweep up or flush with water and dispose of according to local regulations.

7. HANDLING AND STORAGE

Safe Handling:	Wear safety glasses, Wear dusk mask
Requirements for Storage Areas and Containers:	Keep container closed, away from sunlight and protected from humidity.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Eye:	Safety glasses should be worn.
Skin/Body:	Gloves should be worn.
Respiratory:	Wear dusk mask.
Ventilation:	Ensure good ventilation of the work situation.
Other:	Evaluate need based on application.
Work/Hygiene Practice:	Normal work and hygiene practices

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Powder
Color:	Green
Odor:	Characteristic, fish-like

10. STABILITY AND REACTIVITY

Stability:	Stable
Incompatibility (Materials to Avoid):	N/A
Hazardous Decomposition or Byproducts:	N/A
Conditions to Avoid:	Avoid contamination of product, sunlight and damp conditions.

11. TOXICOLOGICAL INFORMATION

Toxicity Data:	Non toxic

12. ECOLOGICAL INFORMATION

Persistence and Degradability:	Easily Degradable

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods:	Dispose of according to local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT Classification:	Not classified

15. REGULATORY INFORMATION

No Information

16. ADDITIONAL INFORMATION

This information is provided for documentation purposes only.
This product is not considered hazardous.

The complete range of conditions or methods of use are beyond our control therefore we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate however, all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This safety sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers.

MATERIAL SAFETY DATA SHEET

24- HOUR EMERGENCY ASSISTANCE:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES:	1-888-721-8283
CHEMTREC	1-800-424-9300

MANUFACTURER:

INNOVATIVE ENVIRONMENTAL TECHNOLOGIES
6130 KIT ROAD
PIPERSVILLE, PA 18947
888-721-8283

PRODUCT IDENTIFICATION:

TRADE NAME: BIO IET-3
COMPONENTS:

1. Urea
   - CAS Number: 57-13-6
   - Synonym(s): Carbamide; Carbonyldiamine; Carbanidic Acid
   - Chemical Family: Amide
   - Molecular Formula: CH_4N_2O
   - Molecular Weight: 60.07
2. Diammonomium Phosphate (DAP)
   - CAS Number: 7783-28-0
   - Synonym(s): Ammonium phosphate; Diammonium hydrogen phosphate; Dibasic Ammonium Phosphate
   - Chemical Family: Salt
   - Molecular Formula: $(NH_4)_2HPO_4$
   - Molecular Weight: 132.0
3. Monosodium Phosphate (MSP)
   - CAS Number: 7558-80-7
   - Synonym(s): Sodium acid phosphate; Sodium phosphate monobasic; Sodium dihydrogen phosphate
   - Chemical Family: Salt
   - Molecular Formula: NaH_2PO_4
   - Molecular Weight: 119.98

PRODUCT HAZARD SUMMARY:

HEALTH: May be harmful if swallowed. May be irritating to the skin, eyes and respiratory tract. Heated material may cause thermal burns.

FLAMMABILITY: Non-combustible

REACTIVITY: Stable

PRODUCT HEALTH HAZARD INFORMATION:

INGESTION: Slightly toxic. Domestic animal oral LD50 of Urea is 511 mg/kg. Acute oral LD50 of Diammonium Phosphate is > 1,000 mg/kg in male rats. May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, diarrhea.

SKIN: Slightly irritating. Repeated or prolonged skin contact may cause reddening, itching, and inflammation. Contact with heated material may cause thermal burns.

INHALATION: May cause respiratory tract irritation.

SPECIAL TOXIC EFFECTS: Asthmatics exposed to dust may have difficulty in breathing. Urea is a naturally occurring chemical in the body. It is an end product of protein metabolism and is excreted in the urine.

FIRST AID

INGESTION: Do not induce vomiting. Keep affected person warm and at rest. Get medical attention.

SKIN CONTACT: Wash area of contact thoroughly with soap and water. Launder clothing before reuse. Get medical attention if irritation persists. For contact with molten product, do not remove contaminated clothing. Flush skin immediately with large amounts of cold water. If possible, submerge area in cold water. Pack with ice. Thermal burns require immediate attention.

EYE CONTACT: Flush immediately with large amounts of water for at least fifteen minutes. Eyelids should be held away from eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

INHALATION: Removed affected person from source of exposure. If not breathing, ensure open airway and institute cardiopulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Get medical attention.

PERSONAL PROTECTION INFORMATION:

EYE PROTECTION: Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses when working with this substance. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: Wear impervious gloves and protective clothing to prevent skin contact. Suggested protective materials are butyl rubber.

RESPIRATORY PROTECTION: None normally needed. Use NIOSH or MSHA approved equipment when airborne exposure limits are exceeded. NIOSH?MSHA approved breathing equipment must be available for non-routine and emergency use.

PHYSICAL PROPERTIES:

BIOLING POINT:	Decomposes	
SPECIFIC GRAVITY:	NA	
MELTING POINT:	133-211 C (271-412 F); DAP decomposes at 155 C (311 F)	
% VOLATILE:	NA	
VAPOR PRESSURE:	NA	
EVAPORATION RATE (WATER-1)	NA	
VAPOR DENSITY (AIR=1)	NA	
VISCOSITY:	NA	
% SOLUBILITY IN WATER, GM/100 GM @ 25C	Urea	119
	DAP	41
	MSP	71
OCTANOL/WATER PARTITION COEFFICIENT:	ND	
POUR POINT:	NA	
pH	ND	

APPEARANCE/ODOR: White granules with little or no odor. Ammonia odor will develop upon long standing

FIRE AND EXPLOSION DATA:

FLASH POINT	NA
AUTOIGNITION TEMPERATURE:	NA
FLAMMABILITY LIMITS IN AIR (% BY VOLUME); LOWER:	NA
FLAMMABILITY LIMITS IN AIR (% BY VOLUME); UPPER:	NA

BASIC FIREFIGHTING PROCEDURES: Use extinguishing agent suitable for type of surrounding fire. Material itself burns with great difficulty. Urea becomes slippery when wet. Guard against falls.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Fire may produce poisonous or irritating gas, fumes or vapor. Irritating or toxic substances may be emitted upon thermal decomposition. Exposed firefighters should wear MSHA/NIOSH approved self-contained breathing apparatus with full face mask and full protective equipment. Uncontaminated Urea, DAP and MSP are not explosion hazards. They may form explosive mixtures subject to spontaneous dentonation when contaminated with strong acids (nitric, picric, perchloric) or nitrate fertilizers. At elevated temperature, dry Urea may omit ammonia. Wet Urea may hydrolyze to corrosive ammonium carbamate. Aqueous solution of Urea at elevated temperature may decompose to highly toxic hydrogen cyanide. DAP decomposes upon heating to ammonia and polyphosphoric acid.

REACTIVITY DATA:

STABILITY/INCOMPATIBILITY: Stable when stored dry at up to 160 F and atmospheric pressure. Avoid contact with strong oxidizers, acids and bases, and nitrates. Decomposes to ammonia, biuret, NO_x, CO_x, and polyphoshoric acid.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS: Thermal decomposition products may be hazardous. Urea reactions with sodium or calcium hypochlorite to form explosive nitrogen trichloride. DAP heated with ammonium nitrate at 170 C or higher forms explosive nitroguinidine. Diammonium phosphate wil react with alkali to liberate ammonium.

ENVIRONMENTAL INFORMATION:

SPILL OR RELEASE TO THE ENVIRONMENT: No special procedures are required for clean-up of this material. Avoid methods that result in water pollution. Caution should be exercised regarding personnel safety and exposure to the material as set forth elsewhere in this data sheet.

EMERGENY ACTION: Keep unnecessary people away.

WASTE DISPOSAL: This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulation; however, it could be hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions (40 CFR 261). Additional, it could be designated as hazardous according to state regulations. This substance could also become a hazardous waste if it is mixed with or comes in contact with a hazardous waste. If such contact or mixing have occurred, check 40 CFR 261 to determine whether it is a hazardous waste. If it is a hazardous waste, regulations at 40 CFR 262, 263, and 264 apply.

The transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

SARA TITLE III INFORMATION: Listed here are the hazard categories for the Superfun Amendments and Reauthorization Act (SARA) Section 311/312 (40 CFR 370):

Immediate hazard-no- Delayed Hazard-no-Fire Hazard-no-Pressure Hazard-no Reactivity Hazard-no

REGULATORY INFORMATION:

HANDLING/STORAGE: Store in tightly closed containers in cool, dry, isolated, well ventilated area away from heat, sources of ignition and incompatibles. Avoid contamination with other "look-alike" materials that may produce explosion hazard (see Unusual Fire and Explosion Hazards section).

EMPTY CONTAINERS: Empty containers may contain product residue. Do not reuse without adequate precautions.

TRANSPORTATION REQUIREMENTS:

D.O.T. Proper Shipping Name (49 CFR 172.101)	NA
D.O.T. Hazard Class (49 CFR 172.101)	NA
UN/NA Code (40 CFR 172.101)	NA
Bill of Lading Description (49 CFR 172.202)	BIO IET-3
D.O.T. Labels Required (49 CFR 172.101)	NA
D.O.T. Placards Required	NA

INGREDIENTS AND HEALTH HAZARD INFORMATION:

COMPONENTS	CAS NUMBER	%	EXPOSURE LIMITS. REF
Urea	57-13-6	50	10 mg/m^3 (total) TLV as nuisance dust
DAP	7783-28-0	25	ND
MSP	7558-80-7	25	ND

Revision Date: April 9, 2009

NA= Not Applicable
ND= No Data

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 Reviewed on 05/30/2014

* 1 Identification

· **Product identifier**

· **Trade name: Provect-IR Antimethanogenic ISCR Reagent**
· **Product description**
Remediation product for the treatment of soil, sediment and groundwater. Not for use in potable water sources.

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Provectus Environmental Products
2871 W. Forest Road
Suite 2
Freeport, IL 61032
Phone: 815-650-2230
Fax: 815-650-2232
www.provectusenvironmental.com
· **Emergency telephone number:** 815-650-2230

* 2 Hazard(s) identification

· **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Non-Regulated Material
· **Hazard pictograms** Non-Regulated Material
· **Signal word** Non-Regulated Material
· **Hazard statements** Non-Regulated Material
· **Hazard description:**
CONTAINMENT HAZARD: Any vessel that contains wetted reagent must be vented due to potential pressure build up from fermentation gases.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 0
Fire = 1
Reactivity = 0

* 3 Composition/information on ingredients

7439-89-6	iron	5-40%
4075-81-4	calcium dipropionate	2 - 4%
	Proprietary Organic Carbon Sources	48-90%

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

8013-01-2	Yeast extracts	STOT SE 3, H335	0.5 - 2%

(Contd. on page 2)

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 Reviewed on 05/30/2014

Trade name: Provect-IR Antimethanogenic ISCR Reagent

(Contd. of page 1)

9000-30-0	Guar gum	STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	0.5 - 2%
7757-83-7	sodium sulphite	Acute Tox. 4, H302	1 - 2%

· ***Additional information:*** Product contains red yeast rice

4 First-aid measures

· ***Description of first aid measures***
· ***After inhalation:*** Remove person to fresh air. If signs/symptons continue, get medical attention.
· ***After skin contact:*** Wash off with soap and water. Get medical attention if irritation develops.
· ***After eye contact:*** Flush with water for 5 minutes
· ***After swallowing:***
Rinse mouth with water and afterwards drink plenty of milk or water. Call a poson control center or doctor immediately for treatment advice.
· ***Most important symptoms and effects, both acute and delayed*** No further relevant information available.
· ***Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

5 Fire-fighting measures

· ***Extinguishing media***
· ***Suitable extinguishing agents:***
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· ***Special hazards arising from the substance or mixture*** No further relevant information available.
· ***Advice for firefighters***
· ***Protective equipment:*** No special measures required.

* 6 Accidental release measures

· ***Personal precautions, protective equipment and emergency procedures*** Not required.
· ***Environmental precautions:*** Do not allow to enter sewers/ surface or ground water.
· ***Methods and material for containment and cleaning up:***
Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Sweep or vacuum up spillage and place in vented container.
· ***Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 7 Handling and storage

· ***Precautions for safe handling*** No special measures required.
· ***Information about protection against explosions and fires:*** Combustible material

· ***Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:***
CONTAINMENT HAZARD: Any vessel that contains wetted reagent must be vented due to potential pressure build up from fermentation gases.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:***
Keep tightly closed in a dry and cool place. Keep away from open flames, hot surfaces and sources of ignition. Any material that is wetted must be vented due to potential pressure build up from fermentation gases.

(Contd. on page 3)

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 Reviewed on 05/30/2014

Trade name: Provect-IR Antimethanogenic ISCR Reagent

(Contd. of page 2)

· ***Specific end use(s)*** No further relevant information available.

* 8 Exposure controls/personal protection

· ***Additional information about design of technical systems:*** No further data; see section 7.

· ***Control parameters***
· ***Components with occupational exposure limits:***
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· ***Additional information:***
Dry or powdered ingredients are combustible. Dispersal of finely divided dust from products into air may form mixtues that are ignitable and explosive. Minimize airborne dust generation and eliminate sources of ignition.

· ***Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
The usual precautionary measures for handling chemicals should be followed.
· ***Breathing equipment:*** Not required.
· ***Protection of hands:*** Not required.
· ***Eye protection:*** Not required.

* 9 Physical and chemical properties

· ***Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***

Form:	Solid
Color:	Brown to Green
· ***Odor:***	Pleasant
· ***Odor threshold:***	Not determined.
· ***pH-value:***	Not applicable.
· ***Change in condition***	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Undetermined.
· ***Flash point:***	Not applicable.
· ***Flammability (solid, gaseous):***	Not determined.
· ***Ignition temperature:***	
Decomposition temperature:	Not determined.
· ***Auto igniting:***	Product is not selfigniting.
· ***Danger of explosion:***	Dry or powdered ingredients are combustible. Dispersal of finely divided dust from products into air may form mixtures that are ingnitable and explosive. Minimize airborne dust generation and eliminate sources of ignition.
· ***Explosion limits:***	
Lower:	Not determined.
Upper:	Not determined.
· ***Vapor pressure:***	Not applicable.
· ***Density:***	Not determined.

(Contd. on page 4)

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 Reviewed on 05/30/2014

Trade name: Provect-IR Antimethanogenic ISCR Reagent

(Contd. of page 3)

· **Relative density** Not determined.
· **Vapour density** Not applicable.
· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**
Water: Soluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**
Dynamic: Not applicable.
Kinematic: Not applicable.

· **Solvent content:**
Organic solvents: 0.0 %

Solids content: 100.0 %
· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability** Product is stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

* 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Product dust may cause eye irritation.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.

(Contd. on page 5)

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 Reviewed on 05/30/2014

Trade name: Provect-IR Antimethanogenic ISCR Reagent

(Contd. of page 4)

· ***Persistence and degradability*** No further relevant information available.
· ***Bioaccumulative potential*** No further relevant information available.
· ***Mobility in soil*** No further relevant information available.
· ***Additional ecological information:***
· ***General notes:*** Water hazard class 1 (Self-assessment): slightly hazardous for water
· ***Results of PBT and vPvB assessment***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.
· ***Other adverse effects*** No further relevant information available.

13 Disposal considerations

· ***Waste treatment methods***
· ***Recommendation:*** Smaller quantities can be disposed of with household waste.

· ***Uncleaned packagings:***
· ***Recommendation:*** Disposal must be made according to official regulations.
· ***Recommended cleansing agent:*** Water, if necessary with cleansing agents.

* 14 Transport information

· ***UN-Number***
· ***DOT, ADR, ADN, IMDG, IATA*** Non-Regulated Material
· ***UN proper shipping name***
· ***DOT, ADR, ADN, IMDG, IATA*** Non-Regulated Material
· ***Transport hazard class(es)***

· ***DOT, ADR, ADN, IMDG, IATA***
· ***Class*** Non-Regulated Material
· ***Packing group***
· ***DOT, ADR, IMDG, IATA*** Non-Regulated Material
· ***Environmental hazards:***
· ***Marine pollutant:*** No
· ***Special precautions for user*** Not applicable.
· ***Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code*** Not applicable.
· ***UN "Model Regulation":*** -

15 Regulatory information

· ***Safety, health and environmental regulations/legislation specific for the substance or mixture***
· ***Sara***

· ***Section 355 (extremely hazardous substances):***

None of the ingredients is listed.

· ***Section 313 (Specific toxic chemical listings):***

None of the ingredients is listed.

· ***TSCA (Toxic Substances Control Act):***

7439-89-6	iron
4075-81-4	calcium dipropionate
8013-01-2	Yeast extracts
9000-30-0	Guar gum
7757-83-7	sodium sulphite

(Contd. on page 6)

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 Reviewed on 05/30/2014

Trade name: Provect-IR Antimethanogenic ISCR Reagent

(Contd. of page 5)

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements** Non-Regulated Material
· **Hazard pictograms** Non-Regulated Material
· **Signal word** Non-Regulated Material
· **Hazard statements** Non-Regulated Material

· **National regulations:**
The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

· **State Right to Know**

7439-89-6	iron	5-40%
4075-81-4	calcium dipropionate	2-4%
8013-01-2	Yeast extracts STOT SE 3, H335	0.5-2%
9000-30-0	Guar gum STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	0.5-2%
7757-83-7	sodium sulphite Acute Tox. 4, H302	1-2%
	Proprietary Organic Carbon Sources	48-90%

All ingredients are listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 05/30/2014 / 6
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association

(Contd. on page 7)

Safety Data Sheet (SDS)

OSHA HazCom 2012 Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

Printing date 05/30/2014 *Reviewed on 05/30/2014*

Trade name: Provect-IR Antimethanogenic ISCR Reagent

(Contd. of page 6)

ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
Acute Tox. 4: Acute toxicity, Hazard Category 4
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· **** Data compared to the previous version altered.***

SDS / MSDS Created by MSDS Authoring Services (www.MSDSAuthoring.com)

Health	4
Fire	0
Reactivity	0
Personal Protection	F

Material Safety Data Sheet

Contact information: Purebulk, Inc.
1640 Austin Rd
Roseburg, Oregon USA 97471

Toll Free: 888-280-0050
Phone: 541-679-1500
FAX: 541-393-9005

Section 1: Chemical Product and Company Identification

Product Name: ***Red Yeast Rice P.E. 0.4%***

CAS#: 75330-75-5
Synonym: 2-methyl-1S,2,3R,7S,8S,8aR-hexahydro-3,7-dimethyl-8-[2-[(2R,4R)-tetrahydro-4-hydroxy-6-oxo
Chemical Name: Lovastatin
Chemical Formula: C24H36O5

Section 2: Composition and Information on Ingredients

Composition(s):

Composition
Ankaflavin
Monascorubrin
Rubropunctatin
Monascorubramine

Toxicological Data on Ingredients: The toxicological effects of this product have not been thoroughly studied.

Section 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Severe over-exposure can result in death.

Potential Chronic Health Effects: CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to lung, upper respiratory tract, mucuous membrances. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Flash point: Not available.
Autoignition Temp: Not available.
Flammability: Not available.

Section 5: Fire and Explosion Data

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Special Fire Fighting Procedures: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Unusual Fire and Explosion Hazards: No data available.
Hazardous Combustion Products: No data available.
Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
Unsuitable Extinguishing Media: A solid water stream may be inefficient.

Section 6: Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:

Avoid release into the environment.
Avoid raising and breathing dust, and provide adequate ventilation.
As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Transfer to a proper chemical waste container for disposal.

Section 7: Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling
Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated exposure.
Precautions To Be Taken in Storing: Keep tightly closed. Store at correct temperature.

Section 8: Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:

Compatible chemical-resistant gloves

Eye wash station in work area
Lab coat
Safety glasses
Safety shower in work area
Vent Hood

Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Ventilation:	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

Section 9: Physical and Chemical Properties

Physical States:	Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Solubility Notes:	~0.5 mg/ml in 1: 1 DMSO: PBS (pH 7.2); ~20 mg/ml in EtOH & DMSO; ~15 mg/ml in DMF;
Percent Volatile:	No data.
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
Formula:	C24H36O5

Section 10: Stability and Reactivity Data

Stability:	Stable
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide carbon monoxide
Possibility of Hazardous Reactions:	Will not occur
Conditions To Avoid - Hazardous Reactions:	No data available.

Section 11: Toxicological Information

The toxicological effects of this product have not been thoroughly studied.

Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

Section 12: Ecological Information

Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

Section 13: Disposal Considerations

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14: Transport Information

LAND TRANSPORT (US DOT): DOT Proper Shipping Name Not dangerous goods.

LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name Not dangerous goods.

AIR TRANSPORT (ICAO/IATA): ICAO/IATA Shipping Name Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15: Other Regulatory Information

European Community Hazard Symbol codes: No data available.

European Community Risk and Safety Phrases:

S24/25 - Avoid contact with skin and eyes.
S37/39 - Wear suitable gloves and eye/face protection.

US EPA SARA Title III:

Section 16: Other Information

References: *Not available.*

Other Special Considerations: Not available.

Created: 06/25/2013 2:00 P.M. kkl

Last Updated: 07/09/2013 3:10 P.M. kkl

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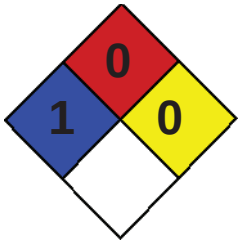

Health	2
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
MSDS

Sodium sulfite

Section 1: Chemical Product and Company Identification

Product Name: Sodium sulfite

Catalog Codes: SLS2383

CAS#: 7757-83-7

RTECS: WE2150000

TSCA: TSCA 8(b) inventory: Sodium sulfite

CI#: Not available.

Synonym: Sulfurous Acid, Disodium salt

Chemical Name: Sulfurous acid, disodium salt

Chemical Formula: Na2SO3

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium sulfite	7757-83-7	100

Toxicological Data on Ingredients: Sodium sulfite: ORAL (LD50): Acute: 820 mg/kg [Mouse.]. 3650 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant), of eye contact (irritant).

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to peripheral nervous system, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact: Not available.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:
Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, combustible materials, organic materials, acids.

Storage:

Air sensitive. Moisture sensitive. Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance:
Solid. (Solid crystalline powder. Powdered solid. Crystals solid.)

Odor: Sulfurous. Odorless.

Taste: Sulfurous. Saline.

Molecular Weight: 126.04 g/mole

Color: White or Tan to slightly pink

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: Decomposition temperature: >500°C (932°F)

Critical Temperature: Not available.

Specific Gravity: 2.63 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:
Soluble in cold water, hot water. Soluble in glycerol. Almost insoluble in alcohol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materitals, air, moisture, dust generation

Incompatibility with various substances: Reactive with oxidizing agents, combustible materials, organic materials, acids.

Corrosivity:
Corrosive in presence of aluminum, of zinc, of copper. Slightly corrosive in presence of steel.

Special Remarks on Reactivity:
Air sensitive. Moisture sensitive. Keep container tightly closed. When heated to decompostion, it emits toxic fumes of Na2O and SOx

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 820 mg/kg [Mouse.].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: peripheral nervous system, central nervous system (CNS).

Other Toxic Effects on Humans:
Hazardous in case of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals:
Lowest Published Dose: LDL [Rabbit] - Route: Oral; Dose 2825 mg/kg

Special Remarks on Chronic Effects on Humans: May affect genetic material(mutagenic)

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation and may cause chemical conjunctivitis. Conjunctivitis may be more noted in sensitive individuals. Inhalation: Causes upper respiratory tract and mucous membrane irritation. May cause hypersensitivity reaction with swelling of the tongue, bronchospasm, bronchoconstriction diaphoreisis, flushing, urticaria, hypotension, tachycardia, and anaphylaxis particularly in asthmatic people who are sulfite sensitive. Ingestion: May cause gastrointestinal tract irritation with abdominal pain, nausea, vomiting and diarrhea. May affect behavior/central nervous system (CNS depression with convulsions, somnolence), respiration (respiration depression), and cardiovascular system (circulatory disturbancs, hypotension). It may liberate sulfurous acid which may result in caustic injury. Hypersensitivity reaction with swelling of the tongue bronchospasm, bronchoconstriction diaphoreisis, flushing, urticaria, hypotension, tachycardia, and anaphylaxis may occur more frequently with people who are asthmatic. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause dermal sensitization (contact dermatitis), but this is rare. Inhalation: Prolonged or repeated inhalation may cause chronic irritation, inflammation, delayed pulmonary edema, and alteration of sense of smell and taste. Ingestion: Prolonged or repeated ingestion may affect the bone marrow (bone marrow atrophy), and behavior/central/peripheral nervous systems (CNS depression and paralysis).

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself. **Special Remarks on the Products of Biodegradation:** Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Sodium

sulfite **Other Regulations:** Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):
R22- Harmful if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. S22- Do not breathe dust. S24/25- Avoid contact with skin and eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36- Wear suitable protective clothing.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

Section 16: Other Information

References:
-The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. RTECS (Registry of Toxic Effects of Chemicals). Hazardous Substance Data Bank (HDSB)

Other Special Considerations: Not available.

Created: 10/09/2005 06:36 PM

Last Updated: 11/01/2010 12:00 PM

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Material Safety Data Sheet

Riboflavin

ACC# 20145

Section 1 - Chemical Prod uct and Company Identification

MSDS Name: Riboflavin
Catalog Numbers: BP167 50, BP167-50, BP16750
Synonyms: Lactoflavine; 6,7-Dimethyl-9-D-ribitylisoalloxazine; Isoalloxazine, 7,8-dimethyl-10-D-ribityl-;Isoalloxazine, 7,8-dimethyl-10-(D-ribo-2,3,4,5-tetrahydroxypentyl)-; Vitamin B2; Vitamin G
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMT REC assistance, call: 800-424-9300
For International CHEMT REC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
83-88-5	Riboflavin	ca.100	201-507-1

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Yellow powder or orange-yellow crystals.
Warning! Causes respiratory tract irritation. Causes eye and skin irritation. May cause digestive tract irritation. Light sensitive. This is expected to be a low hazard for usual industrial handling.
Target Organs: No data found.

Potential Health Effects

Eye: Causes eye irritation. May cause chemical conjunctivitis.
Skin: Causes skin irritation. May cause skin discoloration.
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation.

Inhalation: Causes respiratory tract irritation. Can produce delayed pulmonary edema.
Chronic: Effects may be delayed. Laboratory experiments have resulted in m utagenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.
Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower:Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Remove contaminated clothing and wash before re use. Minimize d ust generation and acc um ulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adeq uate ventilation. Store protected from light. Wash clothing before re use.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible s ubstances. Store protected from light.

Section 8 - Expos ure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material sho uld be eq uipped with an eyewash facility and a safety shower. Use adeq uate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Riboflavin	none listed	none listed	none listed

OSHA Vacated PELs: Riboflavin: No OSHA Vacated PELs are listed for this chemical. Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals
Appearance: Yellow powder or orange-yellow crystals
Odor: slight odor
pH: 6 (neutral)
Vapor Pressure: Negligible.
Vapor Density: Not available.
Evaporation Rate:negligible

Viscosity: Not applicable.
Boiling Point: Not available.
Freezing/Melting Point:290 deg C
Decomposition Temperature:290 deg C Solubility: Soluble.
Specific Gravity/Density:Not available.
Molecular Formula:C17H2ON4O6
Molecular Weight:374.0366

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Light sensitive.
Conditions to Avoid: Incompatible materials, light, dust generation, moisture, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, reducing agents, bases, calcium, metallic salts.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 83-88-5: V31400000
LDSO/LCSO:
CAS# 83-88-5:
Oral, rat: LD50 = >10 gm/kg;
.

Carcinogenicity:
CAS# 83-88-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: Cytogenetic Analysis: Hamster, Lung = 300 mg/L.; Sex Chromosome Loss and Nondisj unction: Hamster, Lung = 100 mg/L.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators m ust determine whether a discarded chemical is classified as a hazardo us waste. US EPA g uidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators m ust cons ult state and local hazardo us waste reg ulations to ens ure complete and acc urate classification.
RC RA P-Series: None listed.
RC RA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	**Not reg ulated as a hazardo us material**	**No information available.**
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 83-88-5 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CE RCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

Section 313 **No chemicals are reportable under Section 313.**

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 83-88-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 83-88-5: No information available.

Canada - DSL/NDSL

CAS# 83-88-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

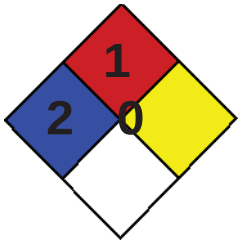
Section 16 - Additional Information

MSDS Creation Date: 7/16/1999

Revision #3 Date: 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any

claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.



Health	2
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet

Cyanocobalamin MSDS

Section 1: Chemical Product and Company Identification

Product Name: Cyanocobalamin

Catalog Codes: SLC5008, SLC2218

CAS#: 68-19-9

RTECS: GL7030000

TSCA: TSCA 8(b) inventory: Cyanocobalamin

CI#: Not available.

Synonym: Vitamin B12; Cobinamide, cyanide phosphate 3'-ester with 5,6-dimethyl-1-alpha-Dribofuranosylbenzimidazole, inner salt

Chemical Formula: C63H88CoN14O14P

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Cyanocobalamin	68-19-9	100

Toxicological Data on Ingredients: Cyanocobalamin LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention. **Serious Inhalation:** Not available.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...). Some metallic oxides.

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes

Storage:
Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a

cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Not available.

Taste: Not available.

Molecular Weight: 1355.39 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: Decomposes.

Melting Point: 102.5°C (216.5°F)

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Partially soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:
Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic. **Special Remarks on the Products of Biodegradation:** Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Cyanocobalamin

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC): R36/38- Irritating to eyes and skin.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available. **Created:** 10/10/2005 08:17 PM

Last Updated: 06/09/2012 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

Autolyzed yeast

Provesta® 027

O h l

ASIAB.F. tog:stlients Company

Product Code: 50300

D7107

PRODUCT SPECIFICATION

Chemical and physical data

Parameter	Unit	Min.		Max.	Method
Moisture	%			7	100 deg F oven, 24 hours
Protein in product	%	49			AOAC 988.05

Microbiological standard

Parameter	Unit	Specification	Method
Total plate count	cfulg	<7,500	48 hrs at 30 deg F
Yeasts and molds	cfu/g	<50	3 days at 30 deg_F
E. coli	cfulg	NEG	FDA BAM Revision A of 8th Ed, 1998 Chp.4
Coliforms	cfu/g	<10	FDA BAM Revision A of 8th Ed, 1998 Chp.4
Staph aureus	cfu/g	<10	FDA BAM Revision A of 8th Ed, 1998 Chp.12
Salmonella	NEG/375 g	NEG	AOAC/BAM Method 2004.03

Typical Nutritional Information

Calories	371/100g	Cholesterol	<1mg/100g(1)
Calories from fat	631100g	Ash	8g/100g
Calories from Saturated fat	7.2/100g	Sodium	0.10g/100g
Protein	52g/100g	Potassium	2.5g/100g
Carbohydrates	26g/100g	Vitamin A (IU)	<44 IU/100g(1)
Dietary Fiber	5g/100g	Vitamin C (ascorbic acid)	<0.5mg/100g(1)
Sugar-Total	<iwicio 3 I)	Calcium	0.015g/100g
Fat — Total	7g/ 100g	Iron	0.010g/100g
Saturated Fatty Acids	0.8g/100g		
Trans Fatty Acids	0.07g/100g		

Below Detection Limit

This information is hosed on our present knowledge and experience. However, it implies no liability or other regal respOnstbi lity on our part. including with regard to existing third parry patent rights. In particular, no guarantee of properties in legai sense is implied. We reserve the right lo make any changes according to technological progress or tunher developments. The customer is not released from the obligation Is conduct careful inspection and leafing of incoming goods. Reference to trade names used by other companies is neither a recommendation. nor is it imended to suggest that similar products could no! be used. All other business transactions shalt exclusively be governed by our General Sales Conditions

Europe - Africa - Middle East — Asia
°lily GmbH
Wandsbeker Zollstr. 59
22041 Hamburg
Germany
Tel: +49 (0)4068 293 01
Fax: +49 (0)4068 293 128
Email: infoeohly.de
www.ohly.corn

America
Chly Americas
35 Adams Street NE
Hutchinson, MN 55350
United States
Tel: -I-1 320-587-2481
Fax: +1 320-587-8617
E-mail: infoOprovesta.com
Toll Free: 0800 321 26 89

BASF
The Chemical Company

Safety data sheet ZV-Iron Microspheres 200

1. Substance/preparation and company identification

Company	24 Hour Emergency Response information
BASF CORPORATION	CHEMTREC: 1-800-424-9300
100 Campus Drive	BASF HOTLINE: 1-800-832-HELP
Florham Park, NJ 07932	

Molecular formula: FE (Small Quantities C,N,O)
Synonyms: Carbonyl Iron Powders

2. Composition/information on ingredients

CAS Number	Content (W/W)	Chemical name
7439-89-6	**98.0 %**	Carbonyl iron powder

3. Hazard identification

Emergency overview

DANGER: EXTREMELY FLAMMABLE. INGESTION MAY CAUSE GASTRIC DISTURBANCES.
CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of dusts.
Use with local exhaust ventilation.
Wear a NIOSH-certified {or equivalent) particulate respirator.
Wear NIOSH-certified chemical goggles.
Wear protective clothing.
Wash thoroughly after handling.
Eye wash fountains and safety showers must be easily accessible.

Potential health effects

Primary routes **of exposure**
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:
No other known acute effects.

Irritation:
Extremely irritating to the skin, eyes and respiratory tract.

Potential environmental effects

Aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.
The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

4. First-aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:
Wash thoroughly with soap and water.

If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open. If irritation develops, seek medical attention.

If swallowed:
Rinse mouth and then drink plenty of water.

Seek medical attention.

Note to physician
Symptoms: Overexposure may cause:, vomiting, acidosis, shock, bloody diarrhea, nausea

5. Fire-fighting measures

Autoignition:	150 °C	
Lower explosion limit:		(20 °C, 1 bar)
Flammability:	Highly flammable.	

Suitable extinguishing media:
water spray

Unsuitable extinguishing media far safety reasons:
carbon dioxide

Additional information:
Avoid whirling up the material/product because of the danger of dust explosion.

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

NFPA Hazard codes:
Health : 1 Fire: 3 Reactivity: **1** Special:

6. Accidental release measures

Personal **precautions:**
Avoid dust formation. Use personal protective clothing.

Environmental precautions:
This product is not regulated by RCRA. This product is not regulated by CERCLA CSuperfund').

Cleanup:
❑o not vacuum up powder.

For large amounts: Dampen, pick up mechanically and dispose of.
For residues: Dampen, pick up mechanically and dispose of.

7. Handling and storage

Handling

General advice:
Handle in accordance with good industrial hygiene and safety practice. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
Fine dust of the product is capable of dust explosion. Avoid all sources of ignition: heat, sparks, open flame. Electrostatic discharge may cause ignition. Ground all transfer equipment properly to prevent electrostatic discharge.

Storage

Storage incompatibility:
General: Segregate from acids. Segregate from oxidants.

Storage **stability:**
Protect against moisture.

8. Exposure controls and personal protection

Advice on system design:
Provide local exhaust ventilation to control dust.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) particulate respirator. Do not exceed the maximum use concentration for the respirator facepieceicartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended.

9. Physical and chemical properties

Form:	powder	
Odour:	faint odour	
Colour:	grey	
Melting point:	1,535 °C	Literature data.
Boiling point:	2,735 °C	Literature data.
Density:	7.8 g/cm3	(20 'C)
Bulk density:	2,500 - 3,500 kg/m3	
Solubility in water:		insoluble

10. Stability and reactivity

Minimum ignition energy:
1 - 3 nnJ, 1 bar, 20 'C, Inductivity: 1 mH (VD! 2263, sheet 1, 2.5)

Conditions to avoid:
Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge. Avoid dust formation.

Substances to avoid:
acids

Hazardous reactions:
Dust explosion hazard. Contact with acids liberates hydrogen gas.

Decomposition products:
No hazardous decomposition products known.

Corrosion to metals:
No corrosive effect on metal.

11. Toxicological information

Acute toxicity

Oral:
LD50/rat: > 5,000 mg/kg

Chronic toxicity

Carcinogenicity:
In the majority of the short term assays the substance caused no carcinogenic effects.

12. Ecological information

Environmental fate and transport

Biodegradation:
Evaluation: Inorganic product which cannot be eliminated from water by biological purification processes.
Can be eliminated mechanically.

Bioaccumulation:

The product will not be readily bioavailable due to its consistency and insolubility in water. Accumulation in organisms is not to be expected.

Environmental toxicity

Acute and prolonged toxicity to fish:
DIN 38412 Part 15 static
golden ❑rfe1LC50 (96 h): > 10,000 mg/l Nominal concentration.

13. Disposal considerations

Waste disposal of substance:
Dispose of in a licensed facility.
Dispose of in accordance with national, state and local regulations.

Container disposal:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport information

Land transport
LISDOT

Hazard class:	4.2
Packing group:	II
ID number:	UN 3189
Hazard label:	4.2
Proper shipping name:	METAL POWDER, SELF-HEATING, N.O.S. (contains CARBONYL IRON POWDER)

Sea transport
IMDG

Hazard class:	4.2
Packing group:	II
ID number:	UN 3189
Hazard label:	4.2
Marine pollutant:	NO
Proper shipping name:	METAL POWDER, SELF-HEATING, N.O.S. contains (CARBONYL IRON POWDER)

Air transport
IATMCAO

Hazard class:	4.2
Packing group:	

ID number:	UN 3189
Hazard label:	4.2
Proper shipping name:	METAL POWDER, SELF-HEATING, N.O.S. contains (CARBONYL IRON POWDER)

15. Regulatory information

Federal Regulations

Registration status:
TSCA, US released / listed

OSHA hazard category: Skin and/or eye irritant, Chronic target organ effects reported

SARA hazard categories (EPCRA 311/312): Chronic, Acute Chronic, Acute

16. Other information

HMIS III rating
Health: 2 Flammability: 3 Physical hazard: 1

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

Local contact Information
prod_reg @ basf .corn

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA. AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

Appendix C
Laboratory Analytical Reports

LABORATORY ANALYTICAL REPORTS FOR THE ISCR EVENT ARE INCLUDED IN APPENDIX B OF THE 2020 ANNUAL REPORT

Attachment G

Methane Research Supporting Documents

RAMBOLL ENVIRON

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: MW-194		Date(s): **8/3/2016**	
Location: **Fort Smith, Arkansas**			
Logged By: **N. Zurweller**	Checked By: **M. Ellis**		
Contractor: **McCray Drilling, LLC**	Purpose: **Monitoring Well**		
Drilling Method: **Hollow Stem Auger**	GS Elevation: **Not available**	TOC Elevation: **Not available**	
Sampling Method: **HSA Continuous Sampler**	North: **Not available**	East: **Not available**	
Well Construction:	Borehole Dia.: **8.25 inches**	Total Depth: **21.0 feet**	
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 11 FT	Project Number: **3437500F**		
Screen: Sch. 40 2 Inch 0.010 PVC 11 FT to 21 FT	Project Name: **Whirlpool Corporation**		
Annular Fill: Cement Grout 0 FT to 7 FT; Bentonite 7 FT to 9 FT; Sand 9 FT to 11 FT	Remarks: **Instrument failure during PID screening due to high humidity.**		

Elevation (ft)	Depth (ft)	Recovery (ft)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
		5		NM			Topsoil, light brown, silty, trace root hairs and black nodules, loose, stiff, dry		Flush Mount
				NM		CL	Silty Clay, red brown, with gray mottling, with black nodules, trace sand, coarse, plastic, stiff, slightly moist		
	5			NM					
		5		NM					
				NM					
	10		MW-194-SL(12-13FT)	NM			Silty Clay, red brown, with gray mottling, with sand, fine, trace sand, course, slightly plastic, slightly stiff, slightly moist		
		5				SC	Clayey Sand, red brown, with gravel, fine, subrounded, slightly cohesive, moist		
			MW-194-SL(14-15FT)	NM		GC	Clayey Gravel, red brown, with sand, fine to course, gravel, fine to course, subrounded, occasional black nodules, cohesive, wet		
	15								
		5	MW-194-SL(17.5-18.5FT)	NM					
				NM		MH	Clayey Silt, yellow brown, hard, laminated, crumbly, dry		
	20	1		NM			Shale, dark gray brown, laminated, hard, crumbly, dry		

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 8/11/16

RAMBOLL ENVIRON

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: TMW-10		Date(s): **9/16/2015**	
Location: **Fort Smith, Arkansas**			
Logged By: **N. Zurweller**		Checked By: **W. Weber**	
Contractor: **Able Environmental**		Purpose: **Temporary Monitoring Well**	
Drilling Method: **Hollow Stem Auger**		GS Elevation: **461.34 ft amsl**	TOC Elevation: **460.75 ft amsl**
Sampling Method: **HSA Continuous Sampler**		North: **370112.92**	East: **591972.99**
Well Construction:		Borehole Dia.: **8.25 inches**	Total Depth: **15.5 feet**
Blank Casing: Sch. 40 PVC 2 Inch	0 FT to 10.5 FT	Project Number: **3433244A**	
Screen: Sch. 40 2 Inch 0.010 PVC	10.5 FT to 15.5 FT	Project Name: **Whirlpool Corporation**	
Annular Fill: Cement Grout	0 FT to 6.5 FT	Remarks: **Temporary Monitoring Well**	
Bentonite	6.5 FT to 8.5 FT		
Sand	8.5 FT to 15.5 FT		

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
460	0	5		0			Fill, silty, dark brown and yellowish brown, trace root hairs, loose, dry		Flush Mount
				0		MH	Clayey Silt, brown, frequent reddish brown and gray mottling, with black nodules, trace gravel, subrounded, fine, trace sand, coarse, slightly plastic, stiff, moist		
	5					CL	Silty Clay, brown, frequent reddish brown and gray mottling, with black nodules, plastic, stiff, moist		
455		4		0			Silty Clay, reddish brown and gray, with black nodules, with gravel, subrounded, fine, with sand, coarse, plastic, stiff, moist		
				0		SC	Clayey Sand, reddish brown, with silt, with gravel, subrounded, fine to coarse, with sand, fine to coarse, slightly plastic, stiff, moist		
	10		TMW-10-SL (10-12FT)			GC	Clayey Gravel, reddish brown, with sand, fine to coarse, gravel, subrounded, fine to coarse, slightly cohesive, moist		
450		5		0			Clayey Gravel as above, wet		
				0					
	15	0.5		0		CL	Silty clay, yellowish brown, plastic, laminated, wet		
445							Shale, dark gray and yellowish brown, with weathered shale, hard, laminated, dry		
	20								
440									
	25								
435									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 10/12/15

RAMBOLL ENVIRON

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: TMW-16		Date(s): **4/13/2017**	
Location: **Fort Smith, Arkansas**			
Logged By: **N. Zurweller, RG**		Checked By:	
Contractor: **McCray Drilling, LLC**		Purpose: **Temporary Monitoring Well**	
Drilling Method: **Hollow Stem Auger**		GS Elevation: **469.537 ft amsl**	TOC Elevation: **469.87 ft amsl**
Sampling Method: **HSA Continuous Sampler**		North: **367789.55**	East: **590180.10**
Well Construction:		Borehole Dia.: **8.25 inches**	Total Depth: **28.0 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 18 FT		Project Number: **3437500H**	
Screen: Sch. 40 2 Inch 0.010 PVC 18 FT to 28 FT		Project Name: **Whirlpool Corporation**	
Annular Fill: Bentonite 0 FT to 16 FT; Sand 16 FT to 28 FT		Remarks: **Blind drill to 18' BGS.**	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
465	5				NA		Lithology not available		Flush Mount
460	10								
455	15								
450	20	4		0.8		CL	Silty Clay, red brown, with blue gray mottling, stiff, slightly plastic, dry		
				1.1		SC	Clayey Sand, red brown and gray, with silt, sand, very fine, cohesive, slightly moist, clayey gravel in shoe		
445	25	5	TMW-16-SL(25-25.5FT)	2.0		GC	Clayey Gravel, red brown, with sand, fine to coarse, trace cobbles, gravel, fine to coarse, subrounded, cohesive, wet		
				1.0		MH	Clayey Silt (weathered shale), gray brown, hard, laminated, dry		
							Shale, very dark gray, hard, laminated, dry		
440									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 5/4/17

RAMBOLL ENVIRON

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: TMW-21	Date(s): **10/10/2017**
Location: **Fort Smith, Arkansas**	
Logged By: **J. Pavlowsky**	Checked By: **M. Wilson, PG**
Contractor: **McCray Drilling, LLC**	Purpose: **Temporary Monitoring Well**
Drilling Method: **Hollow Stem Auger**	GS Elevation: **460.26 ft amsl** / TOC Elevation: **460.01 ft amsl**
Sampling Method: **HSA Continuous Sampler**	North: **369958.89** / East: **592081.57**
Well Construction:	Borehole Dia.: **8.25 inches** / Total Depth: **20.0 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 10 FT	Project Number: **3437500S**
Screen: Sch. 40 2 Inch 0.010 PVC 10 FT to 20 FT	Project Name: **Whirlpool Corporation**
Annular Fill: Bentonite 0 FT to 8 FT; Sand 8 FT to 20 FT	Remarks:

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
460	0	5					Topsoil, with root hairs		Flush Mount
						MH	Clayey Silt, light grayish brown, trace reddish brown, trace sand, coarse, stiff, cohesive, dry		
						CL	Silty Clay, orange and gray, with black nodules, with gravel, fine, trace sand, coarse, plastic, stiff, slightly moist		
455	5	5				MH	Clayey Silt, brownish orange, with black nodules, with sand, fine to coarse, cohesive moist		
450	10	4	TMW-21-SL(14.0-14.5FT)-101017			SC	Clayey Sand, gray, fine, soft, slightly cohesive, wet		
						GC	Clayey Gravel, reddish brown, with silt, stiff, cohesive, moist		
445	15	5					Shale, brownish gray, stiff, laminated, more competent with depth		
440	20								
435	25								

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 11/21/17

RAMBOLL ENVIRON

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: TMW-26		Date(s): **10/10/2017**	
Location: **Fort Smith, Arkansas**			
Logged By: **N. Zurweller, RG**	Checked By: **M. Wilson, PG**		
Contractor: **McCray Drilling, LLC**	Purpose: **Temporary Monitoring Well**		
Drilling Method: **Hollow Stem Auger**	GS Elevation: **469.47 ft amsl**	TOC Elevation: **472.10 ft amsl**	
Sampling Method: **HSA Continuous Sampler**	North: **367762.97**	East: **590114.70**	
Well Construction:	Borehole Dia.: **8.25 inches**	Total Depth: **28.0 feet**	
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 18 FT	Project Number: **3437500S**		
Screen: Sch. 40 2 Inch 0.010 PVC 18 FT to 28 FT	Project Name: **Whirlpool Corporation**		
Annular Fill: Bentonite 0 FT to 16 FT; Sand 16 FT to 28 FT	Remarks:		

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
							Topsoil, light brown, with root hairs, loose, dry		Flush Mount
		5				MH	Clayey Silt, light brown, with reddish brown, trace root hairs, slightly cohesive, loose, dry		
465	5					CL	Silty Clay, reddish brown and light grayish brown, trace black nodules, slightly plastic, dry		
		4					Silty Clay, reddish brown, with gray, trace black nodules, trace root hairs, trace sand, very fine, increasing sand with depth, slightly plastic, very stiff, dry		
460	10								
		5							
455	15								
		3.5							
450	20					SC	Clayey Sand, reddish brown, with gray, trace black nodules, very fine, cohesive, moist		
		3.0	TMW-26-SL(23-23.5FT)-101017			GC	Clayey Gravel, reddish brown, with sand, fine to coarse, trave black nodules, gravel, fine to coarse, subrounded to subangular, with cobbles (broken), cohesive, wet		
445	25					MH	Clayey Silt (weathered shale), yellowish brown, slightly cohesive, very stiff, slightly laminated, slightly moist		
		3.0					Shale, very dark gray, hard, laminated, dry		
440									

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 11/21/17

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: TMW-32	Date(s): **4/3/2018**
Location: **Fort Smith, Arkansas**	
Logged By: **J. Pavlowsky**	Checked By: **N. Zurweller, RG**
Contractor: **McCray Drilling, LLC**	Purpose: **Temporary Monitoring Well**
Drilling Method: **Hollow Stem Auger/Direct Push**	GS Elevation: **467.07 ft amsl** / TOC Elevation: **466.90 ft amsl**
Sampling Method: **Direct Push**	North: **367786.67** / East: **590047.76**
Well Construction:	Borehole Dia.: **8.25 inches** / Total Depth: **26.5 feet**
Blank Casing: Sch. 40 PVC 2 Inch 0 FT to 16.5 FT	Project Number: **1690007742**
Screen: Sch. 40 2 Inch 0.010 PVC 16.5 FT to 26.5 FT	Project Name: **Whirlpool Corporation**
Annular Fill: Cement Grout 0 FT to 12.5 FT; Bentonite 12.5 FT to 14.5 FT; Sand 14.5 FT to 26.5 FT	Remarks:

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	USCS Code	Material Description
				9.4		Topsoil
465		2			CL	Silty Clay, brown, with sand, trace black nodules, plastic, soft, moist
				12.8		Silty Clay, brownish gray, with orange mottling, with black nodules, plastic, soft, moist
	5	3		19.8		Silty Clay, light brown, with gray mottling, plastic, very soft, cohesive, moist
460				15.4		Silty Clay, orange, with gray mottling, trace black nodules, slightly plastic, stiff, slightly moist
				15.8		
	10	4		18.8		
455				19.9		
		4			SC	Clayey Sand, gray, with orange, very fine, slightly plastic, soft, cohesive, moist
	15			22.6		
450				25.8		
		4			CL	Sandy Clay, orange, with gray mottling, very fine, plastic, stiff, moist
				20.2		
	20				GC	Clayey Gravel, orange brown, with sand, fine to coarse, gravel, fine to coarse, subrounded to subangular, crumbles, moist
				17.1		
445		4	TMW-32-SL(23-24FT)-040318		SW	Gravelly Sand, dark orange, trace clay, sand, medium to coarse, gravel, fine to coarse, subrounded to subangular, wet
				19.4		
	25					Gravelly Sand as above, with increasing gravel
		2.5		16.5		
				8.4	CL	Silty Clay (weathered shale), very stiff, laminated, dry
440						Shale, dark gray, hard, laminated, dry

Water Level ▼

Well Construction: Flush Mount

1 pipe, in bentonite/cement (volclay/enviroplug)
1 pipe, in bentonite pellets
1 pipe, in filter sand
1 pipe, slotted
▼ Static ground water

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 4/10/18

RAMBOLL

1807 Park 270 Drive Suite 320, St. Louis, MO 63146

Site ID: TMW-33		Date(s): **4/3/2018**	
Location: **Fort Smith, Arkansas**			
Logged By: **J. Pavlowsky**		Checked By: **N. Zurweller, RG**	
Contractor: **McCray Drilling, LLC**		Purpose: **Screen Point Sampler**	
Drilling Method: **Hollow Stem Auger/Direct Push**		GS Elevation: **466.45 ft amsl**	TOC Elevation: **Not available**
Sampling Method: **Direct Push**		North: **367733.45**	East: **590044.20**
Well Construction:		Borehole Dia.: **2.25 inches**	Total Depth: **25.0 feet**
Blank Casing: 0.5" Stainless Steel	0 FT to 15 FT and 19 FT to 21 FT	Project Number: **1690007742**	
Screen: Stainless Steel 0.010	15 FT to 19 FT and 21 FT to 25 FT	Project Name: **Whirlpool Corporation**	
Annular Fill: No Annulus		Remarks: **Geoprobe SP16 goundwater sampling system used to collect samples at 2 seperate depth intervals. Samples were collected from seperate borings approximately 1 ft apart.**	

Elevation (ft)	Depth (ft)	Recovery (feet)	Sample No.	PID (ppm)	Graphic Log	USCS Code	Material Description	Water Level	Well Construction
465		1		2.5		ML	Sandy Silt, light brown, with gray, with sand, fine, soft, crumbles, moist		
	5			4.7		CL	Gravelly Clay, blackish brown and orange, gravel, fine to coarse, rounded to subangular, stiff, moist		
460		4		6.2			Silty Clay, orange, with gray mottling, with black nodules, plastic, stiff, slightly moist		
	10	4		5.1					
455		4		1.8					
	15			5.8					
450		4		6.4			Silty Clay, orange, with gray mottling and banding, with sand, very fine, trace black nodules, slightly stiff, moist, wet in sandy bands		
	20	4	TMW-33-SL(23-24FT)-040318	8.3		SP	Sand, gray, trace clay, soft, slightly cohesive, wet		
445				5.5			Sand, gray, with clay, plastic, cohesive, moist, increasing silty clay with depth		
				8.5		GC	Sandy Gravel, orange brown, with clay, sand, fine to coarse, gravel, fine to coarse, crumbles, moist		
				6.7			Sand, orange tan, with gravel, trace clay, soft, wet		
	25	1		6.4			Sandy Gravel, orange brown, with clay, sand, fine to coarse, gravel, fine to coarse, wet		
440							Shale, dark gray, hard, laminated, dry		

1 pipe, nothing in annulus

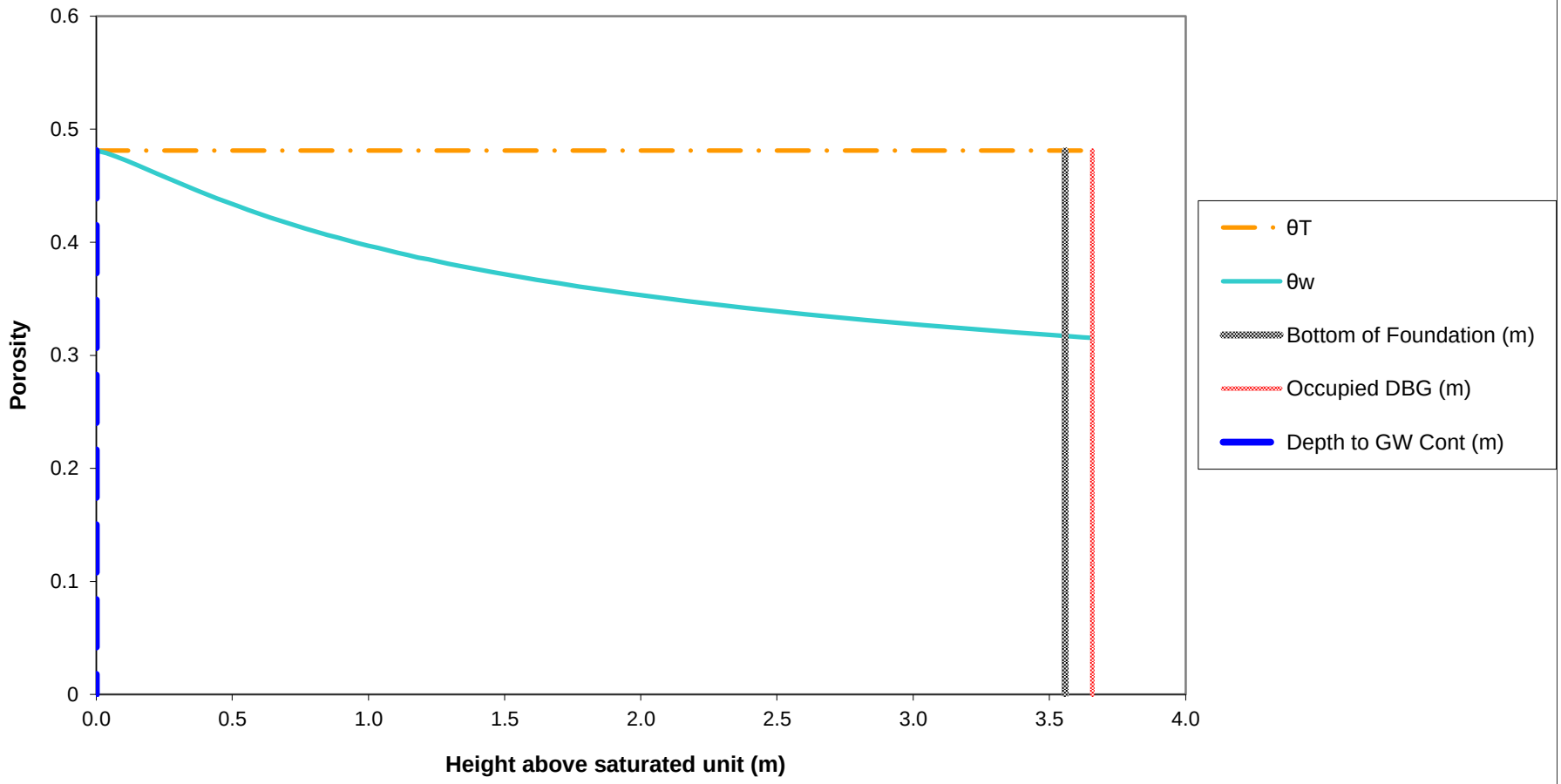
1 pipe, slotted, with nothing in annulus

Report: WELL_LOG_REV_MKE; File: WHIRLPOOL_LOGS (JH_EDITS).GPJ; 4/10/18

Table 1: Physical and Chemical Properties
Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	H (unitless)				D_{air} (m^2/d)		D_{water} (m^2/d)		HENRY Ref Temp (°C)
			Value	Adjusted	Ref	Notes	Value	Ref	Value	Ref	Value
VOC	Methane	74-82-8	2.8E+01	2.8E+01	903		8.0E-02	903	8.0E-06	903	2.5E+01
References:											
903	MDEQ. December 30, 2013. Part 201 Generic Cleanup Criteria and Screening Levels. With errata February 7, 2014.										

Table 2: Soil Moisture Profile for Residential Building (Slab-on-Grade)
Whirlpool, Fort Smith, Arkansas



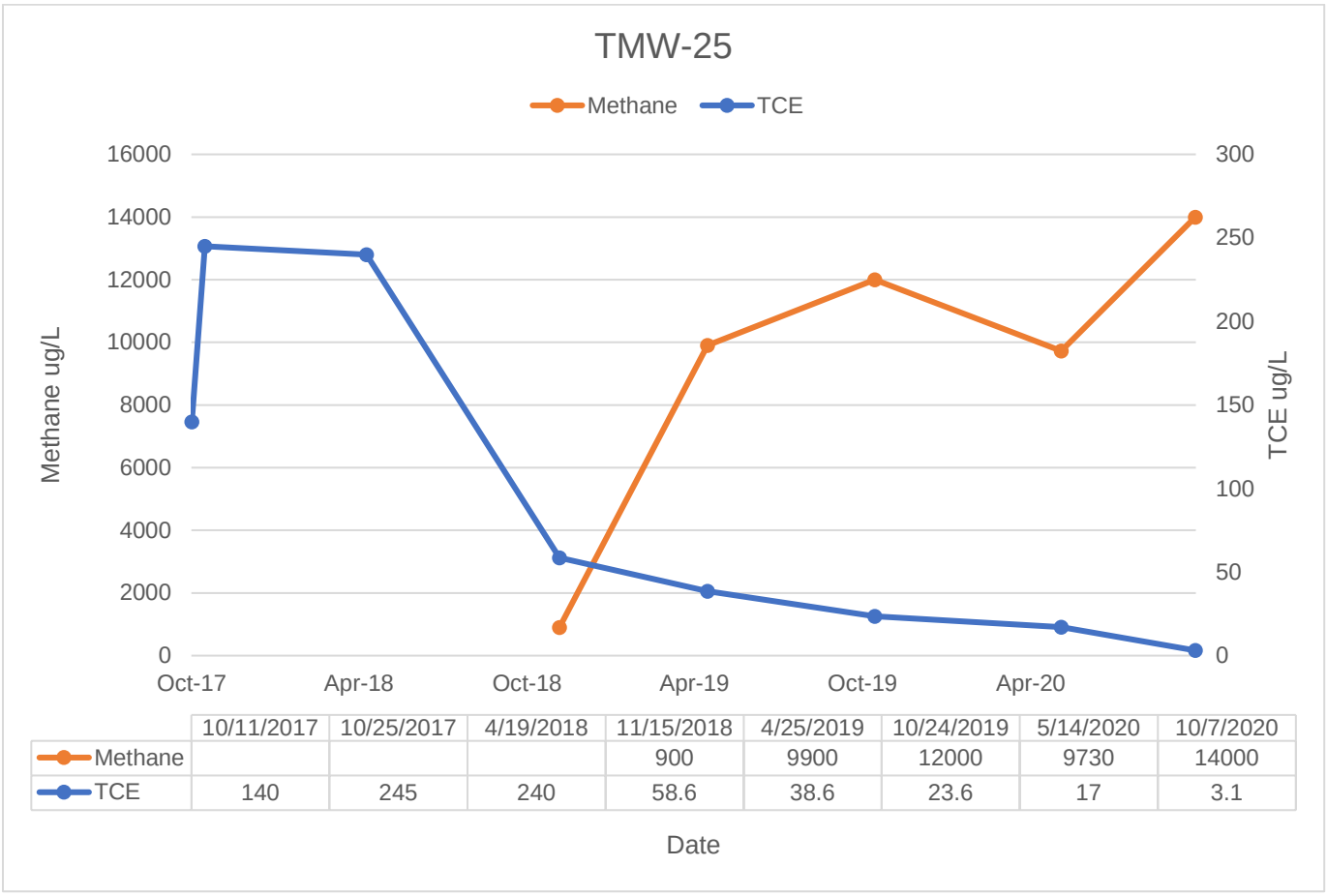
Notes:
The soil-water profile in the vadose zone is estimated using the van Genuchten soil-water retention equation with default water retention parameters appropriate for silt clay, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.

Table 3: Normalized Indoor Air Concentration and Sub Slab Vapor Concentration in a Residential Building (Slab-on-Grade) due to Vapor Intrusion from Groundwater
Whirlpool, Fort Smith, Arkansas

Chem Group	Chemical	CASRN	D_{air} (m^2/day)	D_{water} (m^2/day)	H (unitless)	D_{crack} (m^2/day)	D_{eff}^T (m^2/day)	α_{soil}	α_{slab}	α_{∞}	C_{bldg} (L-water/m^3)	C_{gw} (mg/L)	$C_{building}$ (mg/m^3)	$C_{subslab}$ (mg/m^3)
VOC	Methane	74-82-8	8.00E-02	8.00E-06	2.77E+01	1.28E-02	2.52E-06	9.85E-06	2.73E-03	2.69E-08	7.45E-04	4.50E+02	3.35E-01	1.23E+02
Notes:	**Crack Soil and Building Characteristics**			**Crack Soil**										
	SCS Soil texture class			Sand										
	Bulk density	kg/L	ρ_b	1.66										
	Total porosity	L/L-soil	θ_T	0.375										
	Water-filled porosity	L/L-soil	θ_w	0.054										
	Air-filled porosity	L/L-soil	θ_a	0.321										
	Residual saturation	L/L-soil	θ_r	0.053										
	Hydraulic conductivity	cm/s	K	7.4E-03										
	Dynamic viscosity of water	g/cm-s	μ_w	0.01307										
	Density of water	g/cm^3	ρ_w	1.0										
	Gravitational acceleration	cm/s^2	g	980.7										
	Intrinsic permeability	cm^2	k	9.9E-08										
	Relative saturation	unitless	S_e	0.004										
	van Genuchten N	unitless	N	3.177										
	van Genuchten M	unitless	M	0.685										
	Relative air permeability	unitless	k_{rg}	0.998										
	Permeability to vapor	cm^2	k_v	9.89E-08										
	Distance from building foundation to source	m	L_{T-gw}	3.56										
	Bldg foundation thickness	m	L_{crack}	0.1										
	Bldg foundation length	m		10.00										
	Bldg foundation width	m		10.00										
	Bldg occupied height	m		2.44										
	Bldg occupied volume	m^3		244.00										
	Occupied depth below ground	m		0.0										
	Bldg area for vapor intrusion	m^2	A_B	100.0										
	Ratio of A_{crack} to A_B		η	4E-04										
	Area of cracks	m^2	A_{crack}	4E-02										
	Air exchange rate	$hour^{-1}$	ach	0.45										
	Building ventilation rate	m^3/day	Q_{bldg}	2.64E+03										
	Soil gas flow rate into bldg	m^3/day	Q_{soil}	7.20										
	Indoor air concentrations resulting from groundwater vapor intrusion into a building are estimated using the relationships described by Johnson and Ettinger (Heuristic model for predicting the intrusion rate of contaminant vapors into buildings, 1991), which USEPA recommends for screening level calculations, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Plan, which was used as the basis for the ADEQ Remedial Action Decision.													
	The effective diffusion term DeffT is calculated based on a silty clay soil, as discussed in Appendix A, Section 3.3.1 of the ADEQ-approved Revised Risk Management Program.													

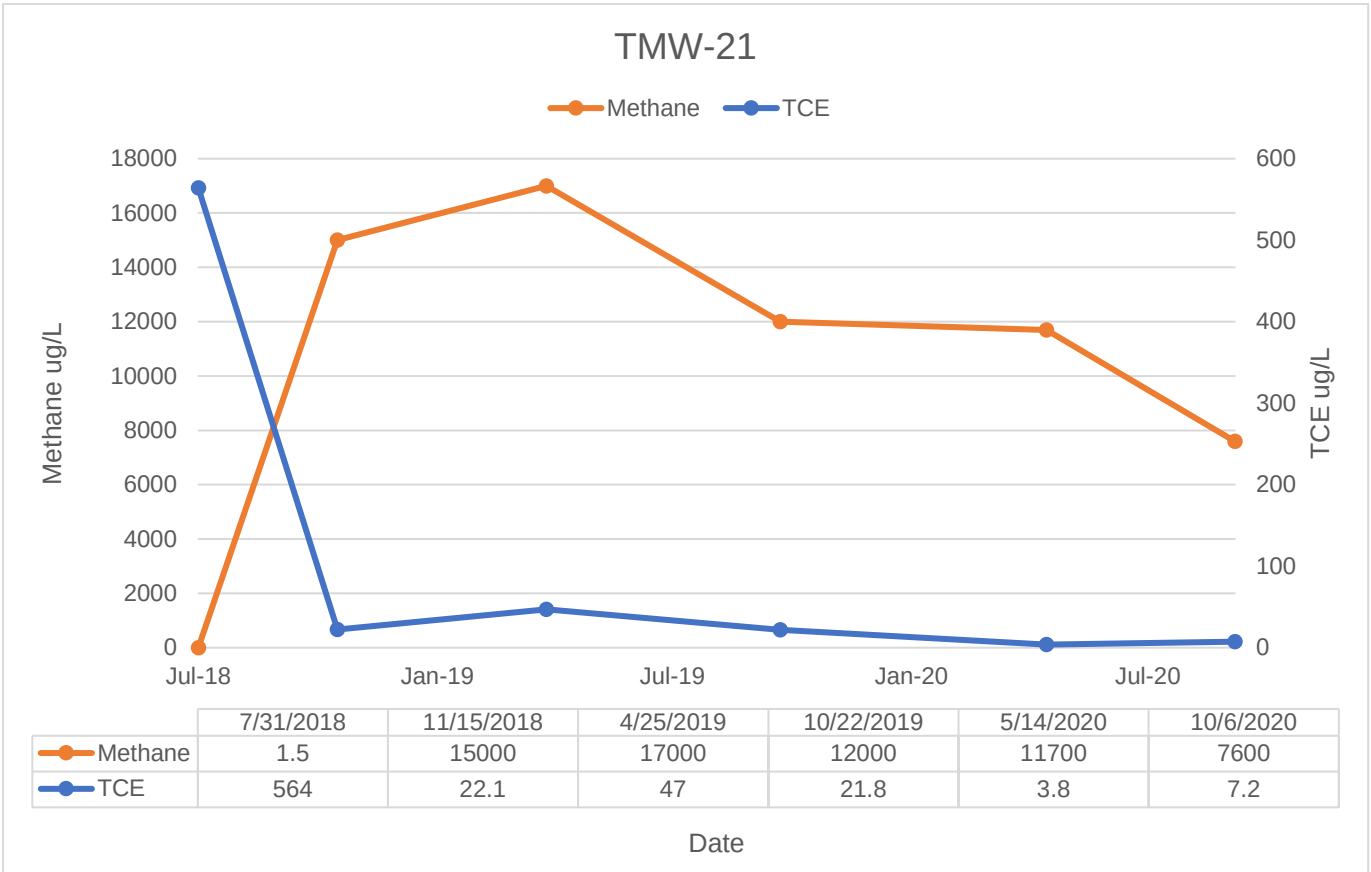
Table 4: Volume Fraction of Methane in Indoor Air and Sub-Slab Vapor Whirlpool, Fort Smith, Arkansas		
Henry's Law Coefficient	m^3atm/mol	0.658
Molecular Weight	g/mol	16.04
Atmospheric Pressure	atm	1.0
Indoor Air		
Concentration in bldg. air	mg/m^3	0.34
Molar Concentration in Indoor air	mol/m^3	0.0000209
Partial Pressure	atm	0.0000138
Mole Fraction in Indoor Air	ppmv	13.8
Mole Fraction in Indoor Air	%	0.00138
Sub-Slab Vapor		
Concentration in sub slab vapor	mg/m^3	122.75
Molar Concentration in Sub-slab Vapor	mol/m^3	0.00765
Partial Pressure in Sub-slab Vapor	atm	0.00504
Mole Fraction in Sub-slab Vapor	ppmv	5035
Mole Fraction in Sub-slab Vapor	%	0.5

Graphical Presentations of TCE and Methane in Select Monitoring Wells



	10/11/2017	10/25/2017	4/19/2018	11/15/2018	4/25/2019	10/24/2019	5/14/2020	10/7/2020
Methane				900	9900	12000	9730	14000
TCE	140	245	240	58.6	38.6	23.6	17	3.1

Date

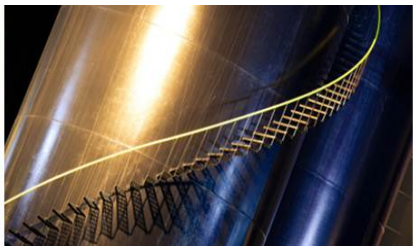


	7/31/2018	11/15/2018	4/25/2019	10/22/2019	5/14/2020	10/6/2020
Methane	1.5	15000	17000	12000	11700	7600
TCE	564	22.1	47	21.8	3.8	7.2

Date

Attachment H

Bench Scale Treatability Study Report


ATTACHMENT H

Bench Scale Treatability Study Report

Whirlpool Facility
Fort Smith, Arkansas

Prepared for:
Whirlpool Corporation

Prepared by:
Ramboll US Consulting, Inc

Date:
February 2021

Project Number:
1690016820

RAMBOLL

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Figure 1: Area 1 Treatability Study Sample Locations

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Appendix A: SiREM Laboratory Biotreatability Study Report
Appendix B: Reagent Information

1 Introduction

Ramboll US Consulting, Inc (Ramboll), on behalf of Whirlpool Corporation (Whirlpool), performed a bench scale treatability study within Area 1/Source Area at the former Whirlpool Facility in Fort Smith, Arkansas. This report presents a summary of results and discussion from the bench scale treatability study conducted by SiREM Laboratories (SiREM) from December 2019 through October 2020. A detailed treatability study report including methods and results as prepared by SiREM is provided within Appendix A of this report.

Area 1/Source Area is located at the exterior northwest corner of the former Whirlpool manufacturing building and was designated in the RADD from 2013 (referred to as Area 1 for the remainder of this report). Area 1 generally represents the location of soil and groundwater impacts that exhibit the highest constituent concentrations at the former Whirlpool Site.

This treatability study involved the setup and management of two control microcosms and three treatment microcosms for the purpose of assessing in-situ chemical reduction (ISCR) treatability to reduce trichloroethylene (TCE) and breakdown constituents in saturated soil and groundwater to non-toxic final degradation products. Initially, only two treatment amended microcosms were setup on December 2, 2019, consisting of treatments with Provect-IR® provided by Provectus Environmental Products, Inc (Provectus) and EOS-ZVI provided by EOS Remediation LLC. Both treatments were bioaugmented with KB-1® microbial culture from SiREM. While monitoring these two treatments, a third treatment microcosm was initiated on April 21, 2020, using ERD65 plus dual-valent iron (DVI), also provided by Provectus. Appendix B provides reagent information for each of the remedial chemistries used within this treatability study.

The focus of this treatability study was on reductive dechlorination processes in saturated soil and groundwater primarily impacted with TCE and breakdown constituents cis-1,2-dichloroethane (cis-1,2-DCE) and vinyl chloride (VC). Reductive dechlorination remedial processes are being considered in Area 1 as this type of remedy has been confirmed effective at the Site along plume boundaries and this remedy is more sustainable and longer lasting than in-situ chemical oxidation (ISCO) which was previously performed in Area 1. For reference, the Provect-IR® product discussed herein has previously been used at the Site over four injection events in six areas along plume boundaries and has been successful in establishing reducing conditions in each of these areas.

1.1 Area 1 Site Conditions

Area 1 generally represents the location of soil and groundwater impacts that exhibit the highest constituent concentrations at the former Whirlpool Site and is considered a source area. As of the October 2020 sampling event, groundwater in Area 1 contained a maximum concentration of TCE at 76,800 micrograms per liter (µg/L), cis-1,2-DCE at 8,340 µg/L and VC at 329 µg/L at IW-147.

Groundwater at the Site is generally within a semi-confined geology with saturated soils at approximately 15-20 feet below ground surface (bgs). The depth to water in Area 1 is generally 10-15 feet bgs. The lithology encountered at the northwest portion of the Site at Area 1 consists predominately of clayey silts and silty clays from the surface to 10-15 feet bgs, followed by fine to medium sandy clays and clayey sands with silt to 18-26 feet bgs, a medium to coarse clayey sand and sub-rounded gravel zone to 22-30 feet bgs and which is occasionally underlain by a silty clay with sand and gravel followed by clayey silt that transitions to underlying shale (i.e., the silty clay which is located 30 feet bgs was not encountered in all borings). Top of shale bedrock was encountered at depths ranging from 27-30 feet bgs.

1.2 Summary of Previous Area 1 Remediation Efforts

Area 1 previously underwent a series of three ISCO treatments and a soil removal effort [i.e., large diameter borings (LDBs)] during remediation efforts in 2014 and 2015. The ISCO reagents injected were base-activated sodium persulfate (BASP), Modified Fenton's Reagent (MFR) (hydrogen peroxide and chelated iron) and MFR-activated sodium persulfate (MASP).

Although the initial concentration reductions were significant, TCE concentrations in select wells have increased. As noted within the 2017 Annual Report, no indication of rebound exists in Areas 1-3 and the Neck Area. Discussion regarding MW-25 and MW-86 indicated rebound was not a concern since no current TCE concentration trend existed (i.e., neither increasing nor decreasing) for MW-25 at that time and the TCE concentration trend at adjacent MW-86 was decreasing.

Groundwater pH (potential for hydrogen) in Area 1 has been improved (i.e., increased) due to the gravel backfill placed in the LDBs performed in October 2014. Groundwater pH measurements at ITMW-18, ITMW-19 and MW-25 were:

- 5.42, 6.08 and 4.83, respectively in 2014 (lowest pH measurement comparing the four quarterly groundwater monitoring events in 2014); and
- 6.78, 6.62 and 6.42, respectively in November 2018.

Comparison of the pH data from these wells indicates the pH of the groundwater in Area 1 is increasing and approaching a more neutral condition. The buffer study was completed to provide additional data to assess sustainable methods for increasing groundwater pH in Area 1.

1.3 Summary of Previous ISCR Remediation Efforts

In October 2015, an ISCR pilot study was performed in the vicinity of MW-61R. Approximately 4,800 gallons of Provect-IR® and municipal water solution were injected into the saturated zone across three permeable reactive barrier (PRB) treatment zones. In the monitoring events following the injections for the pilot study, water quality parameters measured within groundwater indicated that reductive conditions were established in the treatment area (i.e., MW-61R, TMW-10 and TMW-11) and decreasing TCE concentrations in these areas were

observed. However, TCE concentrations in MW-61R started to increase marginally in April 2018 (the TCE concentration increased from 2.3 µg/L in November 2016 to 4.0 µg/L in April 2018). Although the pilot test was successful in reducing conditions for approximately two to three years in the aquifer at MW-61R and TCE concentrations were reduced, supplemental ISCR injections were performed upgradient from MW-61R in the area of TMW-11 in July and August 2018 (as discussed below) for treatment in the area of TMW-11 and tomaintain reducing conditions.

In July and August of 2018, ISCR injections were performed at 133 temporary injection points (65 in the North Plume {including near 9 injection points upgradient from MW-61R near TMW-10 and TMW-11}, 64 points in the southwest portion of the South Plume and four points in the southeast area of the South Plume). A total of nearly 22,000 gallons of ISCR reagent and municipal water were injected into the saturated zones in these areas. In the monitoring events following the injections, water quality parameters showed that reductive conditions were established in all wells. Additionally, TCE concentrations in these areas were observed to decrease in both subsequent monitoring events in nearly all wells [concentrations at TMW-26 near the southwest boundary of the South Plume have varied, but reducing conditions were present at TMW-26 based on water quality measurements collected from groundwater in April 2019 with a dissolved oxygen (DO) concentration of 0.07 milligrams per liter (mg/L) and oxidation-reduction potential (ORP) of -108.3 millivolts (mV)].

Groundwater data collected at the Site indicates concentrations of Dehalococcoides (Dhc) are low with concentrations at 101 cells per milliliters (c/mL) or less where no bioaugmentation has occurred. Dhc is one of the only organisms known to completely biodegrade TCE to ethene. Concentrations of 104 c/mL[1] are desired for “generally useful” biological reduction (sub-optimal concentration for complete degradation). Abiotic approaches without specific bioaugmentation were the initial focus of the treatability test. Bioaugmentation was attempted during the ISCR injection event at MW-61R in 2015. Concentrations of Dhc approximately 13 months following bioaugmentation were 163 and 715 c/mL respectively in MW-61R and TMW-11 (Dhc was also detected at TMW-10 at 158 c/mL but, TMW-10 was outside the estimated area of influence of the Pilot ISCR injections and water quality information was generally not reducing, the ORP was positive at 187 mV). The results of the bioaugmentation effort suggested limited effectiveness; however, bioaugmentation may have occurred prematurely (i.e., before anaerobic and strong reducing conditions were present) and low groundwater pH conditions may have further reduced bioaugmentation effectiveness. Concentrations of Dhc at MW-61R were non-detect (< 1.1 c/mL) in October of 2017 approximately 24 months following bioaugmentation, 100 c/mL in TMW-11 and 555 c/mL in TMW-10 (the ORP in TMW-10 was 55 mV). Concentrations of Dhc approximately three years following the Pilot injection bioaugmentation were non-detect (< 2 c/mL) in TMW-10 and TMW-11 (MW-61R was not sampled for Dhc). The results of the bioaugmentation effort suggested limited effectiveness; however, bioaugmentation may have

[1] Lu X, Wilson JT, Kampbell DH (2006) Relationship between DHC DNA in groundwater and rates of reductive dechlorination at field scale. Water Research 40 (16):3131-3140. doi:10.1016/j.watres.2006.05.030.

occurred prematurely (i.e., before anaerobic and strong reducing conditions were present) and low groundwater pH conditions may have further reduced bioaugmentation effectiveness.

As described above, ISCR work has been successful in other areas of the Site. This study will focus on optimizing the combination of ISCR reagents/amendments to facilitate sustainable ISCR conditions for the degradation of the chlorinated compounds in Area 1.

2 Sample Collection and Handling

Soil for the bench scale testing was collected during the week of November 18, 2019, using direct push drilling methods at soil boring SBTS-1 from the 22-27 feet bgs interval within the saturated zone. Soil boring SBTS-1 is located in the vicinity of LDB-11 and IW-141 (abandoned in June 2019). SBTS-1 is also located near soil probe DP-08 where the historic high soil concentration of TCE collected at a depth of 22-27 feet bgs.

Groundwater for the bench scale testing was collected from IW-147 using low flow sampling methods. Figure 1 provides an Area 1/Source Area Site map with treatability sampling locations and other Site features.

Soil and groundwater samples collected for the treatability study were shipped under chain-of-custody via overnight courier to SiREM in Ontario, Canada, for setup of the microcosm treatment studies apart of the treatability study.

Soil and groundwater samples collected from Area 1 were received intact and preserved (cooler temperature 1°C) at the SiREM laboratory facility in Guelph, Ontario, November 28, 2019. Upon receipt of samples collected for the treatability testing, the lab performed an initial analysis of VOCs of the groundwater to determine the concentration of the constituents of interest (COIs) as well as water quality parameters.

3 Bench Scale Laboratory Treatability Study

This bench scale treatability study consisted of five studies including two control microcosms and three treatment microcosms for the purpose of assessing the efficacy of ISCR to reduce TCE and breakdown constituents in saturated soil and groundwater to non-toxic final degradation products. The following section of this report contains a brief outline of how SiREM conducted the treatability study. The attached SiREM report (Appendix A) contain a more thorough detailing of the protocols and actions taken by SiREM.

The controls and treatments performed as part of this treatability study were run in triplicate and are outlined below:

- Anaerobic Sterile Control – Microcosms 1-3 – Constructed to quantify potential abiotic and experimental cVOC losses from the microcosms.
- Anaerobic Active Control – Microcosms 4-6 – Constructed to quantify potential natural attenuation and experimental cVOC losses from the microcosms
- Provect-IR® and KB-1® – Microcosms 7-9 – Constructed to assess efficacy for complete reductive dechlorination of Site COIs. Amended with 0.18 grams (g) of Provect-IR® to target 0.3% of geologic material on Day 0 and bioaugmented with 0.5 milliliter (mL) of KB-1® on Day 98.
- EOS-ZVI and KB-1® – Microcosms 10-12 – Constructed to assess efficacy for complete reductive dechlorination of Site COIs. Amended with 0.18 g of EOS-ZVI to target 0.3% of geologic material on Day 0 and bioaugmented with 0.5 mL of KB-1® on Day 98.
- ERD65 plus DVI and KB-1® – Microcosms 13-15 – Constructed to assess efficacy for complete reductive dechlorination of Site COIs. Amended with 1 mL of ERD65 and 0.3 g of DVI to target 0.5% of solution on Day 0 and bioaugmented with 0.5 mL of KB-1® on Day 14.

Table 1 of the attached SiREM report (Appendix A) provides a completed summary of the 15 microcosms, material volumes and dosing.

The bench scale laboratory treatability study also consisted of a buffer study to further assess a sustainable method to increase groundwater pH to a more neutral condition (i.e., pH near or slightly above 7).

3.1 Buffer Study

A buffering evaluation test was completed December 2-10, 2019, to determine the buffering demand of the groundwater and geologic material required to obtain the groundwater pH of 7 ± 0.2. Details and results of the buffering evaluation are presented in Appendix B of the SiREM Report.

As noted by SiREM within their report, the microcosms were constructed by combining Site soil (i.e., soil sample from SBTS-1) and groundwater (i.e., groundwater sample from IW-147). All microcosms were sampled for pH analysis at Time 0 and after 1, 2, 3 and 7 days of incubation. The control microcosms did not receive amendments. The amended microcosms were amended with a sodium bicarbonate solution incrementally to reach a target pH of 7.0 ± 0.2 and adjusted where necessary during incubation to maintain the target pH. The initial amendment of sodium bicarbonate was used to calculate the mass of calcium carbonate that would offer an equivalent buffering potential. This mass of calcium carbonate amendment was added as a solid at Time 0 and was repeated on Day 1 and Day 3, allowing time after each amendment for the solid calcium carbonate to dissolve. Control reactors did not receive pH adjustment and the pH was monitored at the same frequency as the sample reactors.

Results of the buffer demand tests indicate a buffer demand of 2.8 grams per kilograms (g/kg) for the reactors dosed with sodium bicarbonate to reach a final average pH of 6.94 up from the average initial pH of 6.38. A buffer demand of 2.5 g/kg was determined for reactors dosed with calcium carbonate to reach a final average pH of 6.69 up from the average initial pH of 6.4. Within the seven days of pH testing, the sodium bicarbonate doses reactors were able to obtain a pH within the target range of 6.8 to 7.2. Calcium carbonate dosed reactors were less reactive to pH adjustment and although an increase in pH was observed, the target pH range was not achieved within the monitoring period of this study.

As a result of the findings from this pH buffer study, treatment microcosms requiring initial and periodic pH adjustments were adjusted using a sodium bicarbonate solution.

3.2 Microcosm Study

Initial anaerobic microcosms (1-12) were constructed on December 2, 2019 (Day 10) by filling 250 mL glass bottles with approximately 200 mL of Site groundwater (i.e., groundwater sample from IW-147) and 60 g of homogenized Site soil (i.e., soil sample from SBTS-1). Microcosms 13-15 with the ERD65 and DVI treatments were created in the same manner as the previous microcosms on April 1, 2020 (Day 20 for these microcosms). COI concentrations within the initial microcosms were representative of Site concentrations and required no COI adjustment. COI concentrations within the ERD65 and DVI microcosms; however, did not represent Site COI concentrations and were therefore spiked with TCE and cis-1,2-DCE on Day -4 to establish COI concentrations more indicative of those at Site.

On Day 0 (December 12, 2019, for microcosms 7-12 and April 21, 2020, microcosms 13-15) the treatment microcosms were dosed with the respective remedial products. The concentration of electron donors was based on vendor recommendations (0.3% of soil mass for microcosms 7-12 and 0.5% of solution for microcosms 13-15). One replicate of each anaerobic control and treatment was amended with Resazurin to visibly monitor redox conditions. Resazurin is used as an oxidation-reduction indicator in cell viability assays for both aerobic and anaerobic respiration. Microcosms 7-15 were initially and periodically as needed, buffered to a target pH of 7 with a sodium bicarbonate solution.

Groundwater analytical results from microcosms 7-9 for the Provect-IR® treatments on Day 98 were reported as non-detect for volatile fatty acids (VFAs). In response to the lack of measured VFA concentrations, Provect-IR® amended treatments were amended with an additional dose of the electron donor component (0.108 g) on Day 127 to ensure enough electron donor was available for reductive dechlorination of Site COIs.

The Provect-IR® and EOS-ZVI treatability microcosms were incubated for a period of 155 days, while the ERD65 and DVI amended microcosm study was incubated for a period of 171 days.

Bioaugmentation was not originally planned to be performed during this study. As the study progressed it was determined that the treatments within microcosms 7-12 should be bioaugmented due to the apparent degradation process stalling at cis-1,2-DCE by Day 76. Bioaugmentation of the Provect-IR® and EOS-ZVI microcosms occurred on Day 98. As bioaugmentation was now a part of the study, observations from the supplementary ERD65 and DVI amended treatment noted ORP results indicative of reducing conditions early on and was bioaugmented on Day 14.

Aqueous samples were collected from the control and treatment microcosms every two to three weeks for analysis of TCE, cis-1,2-DCE, VC and dissolved gases (e.g., acetylene, ethane, ethene, methane). Additionally, periodic groundwater samples from electron donor amended microcosms were sampled and analyzed for VFAs (e.g., lactate, acetate and propionate), anions, pH, ORP and microbial genetic testing [e.g., Dhc and function gene analysis (FGA)]. Control microcosms were also analytically tested as appropriate for comparison to treated microcosms. Tables 2-7 of the attached SiREM report (Appendix A) provide summary tables for all analytical results and COI half-life determinations for this treatability study.

4 Summary of Results

During the performance of this treatability study, SiREM monitored the redox processes, pH, VFAs, Dhc culture and functional genes and COI degradation. Observations and findings regarding these topics are discussed within this section.

4.1 Redox Processes

The sequence of redox reactions in groundwater begins with a reduction in oxygen (aerobic to anaerobic conditions) and then followed by reducing of nitrate to nitrite, ferric iron (Fe[III]) to ferrous iron (Fe[II]), manganese reduction of Mn[III] and Mn[IV] to Mn[II], sulfate to sulfide and finally methanogenesis. Dechlorination of chlorinated solvents typically occurs in the range of sulfate reducing to methanogenic conditions.

Analysis of measurements related to ORP, methane, nitrate and sulfate are indicative that reducing conditions were not established within the sterile or active control microcosms. Tables 2 and 3 from the SiREM report show neither an increase in methane over the course of the study, nor reduction in sulfate which remained present and relatively stable. ORPs for the two controls (as presented in Table 5 of the SiREM report) were above +200 millivolts (mV) through the study period. Additionally, Table 6 of the SiREM report presents that the microbial Dhc population was non-detect on Day 155.

With regards to the treatment microcosms, strongly reducing conditions (i.e., ORP < -75 mV) were noted in microcosms 7-15 by Days 35 (Provect-IR® microcosms), 49 (EOS-ZVI microcosms) and 14 (ERD65 and DVI). ORP measurements for each treatment study remained reducing over the duration of the treatability study once reducing conditions were reached.

Sulfate concentrations initially averaged approximately 600 mg/L during baseline testing for the treated microcosms and were reduced to an average of 62 mg/L for the Provect-IR® microcosms (7-9) and to non-detect for the EOS-ZVI and ERD65 and DVI microcosms (10-15). Sulfate concentrations within the Provect-IR® and EOS-ZVI microcosms (7-12) remained above 400 mg/L[2] until Day 98, whereas the microcosms for the ERD65 and DVI treatment (13-15) observed sulfate drop to below 400 mg/L by Day 35. The Provect-IR® and EOS-ZVI microcosms were dosed with the KB-1® culture on Day 98 while the ERD65 and DVI treatment microcosms were dosed with KB-1® culture on Day 14. In all cases, the next sampling event where sulfate was analyzed after dosing with KB-1® sulfate was reported at significantly reduced concentrations.

In conjunction with sulfate reduction, a visual darkening of the treated microcosms was noted as the treatability study progressed from light brown to dark black. This color change is most likely a result of iron reacting with sulfide (from the sulfate reduction process) and precipitating out of

[2] Dhc dechlorinating bacteria are not able to thrive in the presence of sulfate concentrations greater than 400 mg/L (Panagiotakis et al, 2014. See SiREM report Section 5 for full reference)

solution as iron sulfide. The presence of iron sulfides likely contributes to the abiotic degradation of the COIs.

Methane was produced within the treatment microcosms by Days 155 (Provect-IR® microcosms), 119 (EOS-ZVI microcosms) and 150 (ERD65 and DVI). The production of methane is an indicator that highly reducing conditions have been established and degradation of organic carbon.

4.2 pH

Reductive dechlorination can occur at pH ranges between 6 and 8.5, although the optimum pH range is 6.8-7.5[3]. The pH within all control microcosms was measured between 6.24 and 6.52 throughout the duration of treatability study. All of the treated microcosms (7-15) were initially buffered with a saturated sodium bicarbonate solution to increase their pH to the target pH of 7.0 ± 0.2. The EOS-ZVI microcosms (10-12) did not require further pH buffering during the study. The Provect-IR® and ERD65 and DVI microcosms (7-9 and 13-15, respectively) required periodic pH buffering on Days 18 and 49 for Provect-IR® microcosms and Days 1 and 14 for ERD65 and DVI microcosms.

4.3 Volatile Fatty Acids

Provect-IR®, EOS-ZVI and ERD65 contain fermentable electron donor sources that result in the production of hydrogen which is the ultimate electron donor used by dechlorinator microbial organisms. The VFA acetate was detected by Day 18 in all the treatments, but at lower concentrations in the EOS-ZVI amended treatment as compared to the Provect-IR® and ERD65 treatments. However, from Day 18 to Day 98 the concentration of acetate increased in the EOS-ZVI amended treatment and decreased to low concentrations in the Provect-IR® amended treatment. The Provect-IR® amended treatment was amended with additional Provect-IR® donor formulation on Day 127 to ensure enough electron donor was available for dechlorination and the concentration of acetate rebounded by Day 155. Within the ERD65 treatment, acetate increased from Day 14 to Day 29 and remained relatively stable throughout the remainder of the study.

In addition to acetate, the Provect IR® microcosms were reported with low-level detections of lactate and propionate within early monitoring events although by Day 98 these VFAs were no longer detectable. Within the ERD65 microcosms lactate, propionate and butyrate were detected at increasing concentrations.

4.4 Genetic Testing

Water samples from the microcosms were submitted for analysis of Dhc and functional genes related to anaerobic chlorinated ethenes reduction as a baseline test and twice during the treatability testing. Results of the Dhc testing can be found in Table 6 of the attached SiREM

[3] Middledorp et al., 1999. See SiREM report Section 5 for full reference.

report. Initial baseline groundwater results were non-detect for the presence of Dhc and by Day 49 Dhc analysis results for the Provect-IR® and EOS-ZVI amended treatments were still non-detect. It is generally accepted that for complete dechlorination of TCE to ethene to occur, Dhc with the VC reductases (vcrA) gene must be greater than $1x10^7$ enumerations/L (Lu et al. 2006). Therefore, these results suggest that biological dechlorination is potentially unlikely to occur by microorganisms native to the Site.

Based upon apparent degradation process stalling at cis-1,2-DCE by Day 76, The Provect-IR® and EOS-ZVI amended treatments were bioaugmented with KB-1® on Day 98. Further Gene-Trac testing was conducted on Day 155 and the Dhc and functional gene counts for the Provect-IR® and EOS-ZVI amended treatments were detected at concentrations equal to or greater than $3x10^8$ enumerations/L.

The later initiated treatment microcosm (i.e., ERD65 and DVI) was bioaugmented with KB-1® on Day 14 and on Day 29 Gene-Trac testing indicated that greater than $1x10^7$ enumerations/L of Dhc and functional gene counts were achieved in this treatment as well. By Day 157, the ERD65 and DVI microcosms treatment increased Dhc and functional gene counts to greater than $1x10^9$ enurmerations/L.

The increase in Dhc and functional genes suggest that Dhc with the appropriate genes for complete reductive dechlorination were not present in microbial populations native to the Site (or at least in the samples submitted for the study),but could be introduced and stimulated when using the electron donors combined with KB-1® bioaugmentation.

4.5 Constituents of Interest Degradation

Within the control microcosms, all COI concentrations remained relatively stable over the duration of the treatability study and with no increases in degradation breakdown products. However, parent COI TCE was remediated via biotic and biotic pathways for all three treatment microcosms (7-15) and degradation breakdown products were generated as is typical for both biotic (e.g., cis-1,2-DCE, VC and ethene) and abiotic (e.g., acetylene).

The following discussion details key degradation observations noted during this treatability study:

Provect-IR® Treatment

- Initial average concentrations of TCE, cis-1,2-DCE and VC were 31 mg/L, 4.3 mg/L and 0.23 mg/L, respectively. Final average concentrations of TCE, cis-1,2-DCE and VC at Day 155 were 0.21 mg/L, 3.4 mg/L and 0.28 mg/L, respectively.
- Approximately 90% average reduction in TCE was observed by Day 63 and approximately 95% average reduction by Day 98.

- As TCE concentrations decreased, cis-1,2-DCE concentrations began to increase to an average maximum concentration of 15 mg/L by Day 49. cis-1,2-DCE concentrations were relatively stable through the Day 119 sampling event prior to a noticeable decrease on Day 155.
- As cis-1,2-DCE concentrations decreased, VC concentrations temporarily increased from near baseline concentrations to an average of 0.79 mg/L on Day 119 before decreasing to near baseline average concentrations by Day 155.
- Ethene production was observed as early as the Day 18 sampling event; however, more significant ethene production was observed by Day 119. This more substantial increase in ethene production later within the study is likely attributed to bioaugmentation on Day 98 which ultimately led to cis-1,2-DCE reduction and VC generation.
- An increase in concentration of both cis-1,2-DCE and acetylene is indicative that partial dechlorination of TCE to cis-1,2-DCE can occur in the Site material with the addition of Provect-IR® and the sustained concentration of acetylene suggests that abiotic degradation following the β-elimination pathway was occurring over the duration of the treatability study.

EOS-ZVI Treatment

- Initial average concentrations of TCE, cis-1,2-DCE and VC were 27 mg/L, 4.1 mg/L and 0.23 mg/L, respectively. Final average concentrations of TCE, cis-1,2-DCE and VC at Day 155 were 0.04 mg/L, 0.74 mg/L and <0.02 mg/L, respectively.
- Approximately 99% average reduction in TCE was observed by Day 53.
- As TCE concentrations decreased, cis-1,2-DCE concentrations began to increase to an average maximum concentration of 14 mg/L by Day 49. cis-1,2-DCE concentrations were relatively stable through the Day 98 sampling event prior to a decreasing trend to Day 155.
- As cis-1,2-DCE concentrations decreased, VC concentrations temporarily increased from near baseline concentrations to an average of 1.2 mg/L on Day 105 before decreasing to non-detect concentrations by Day 155.
- Ethene production was observed as early as the Day 35 sampling event, however more significant ethene production was observed after Day 98. This increase in ethene production later within the study is likely attributed to bioaugmentation on Day 98 which led to cis-1,2-DCE reduction and VC generation.
- An increase in concentration of both cis-1,2-DCE and acetylene is indicative that partial dechlorination of TCE to cis-1,2-DCE can occur in the Site material with the addition of EOS-ZVI. Similar to the Provect-IR® treatment study, the increase in acetylene suggests that abiotic degradation following the β-elimination pathway was occurring, although in

the EOS-ZVI amended treatment the acetylene decreased quickly suggesting the β-elimination pathway was not as prevalent as in the Provect-IR® amended treatment.

ERD65 and DVI Treatment

- Initial average concentrations of TCE, cis-1,2-DCE and VC were 34 mg/L, 4.7 mg/L and 0.2 mg/L, respectively. Final average concentrations of TCE, cis-1,2-DCE and VC at Day 171 were <0.02 mg/L, <0.02 mg/L and 5.9 mg/L, respectively.
- 100% average reduction in TCE was observed by Day 29, although slight rebound starting at Day 63 through Day 113 up to a maximum average concentration of 0.027 mg/L. TCE concentrations were again non-detect by Day 150 and remained non-detect within the Day 171 sampling event.
- As TCE concentrations decreased, cis-1,2-DCE concentrations began to increase to an average maximum concentration of 31 mg/L by Day 35 prior to a decreasing trend to near baseline average concentrations by Day 171.
- As cis-1,2-DCE concentrations decreased, VC concentrations temporarily increased to an average of 7.3 mg/L on Day 113. This concentration remained relatively stable to Day 150 with a decrease to an average of 5.9 mg/L at Day 171. Regarding VC trends, microcosms 13 and 14 of this treatment study were analyzed and found to be non-detect for VC by Day 150. Increasing ethene concentrations within microcosm 16 indicates that with time this replicate would likely reach non-detect as the other two replicates within this study did.
- Ethene production was observed by Day 113 as cis-1,2-DCE concentrations were reduced and VC generation was increasing.
- Acetylene was not detected within this treatment study.

Half-lives for each Site COI were calculated based on the average dechlorination observed within the microcosms of this treatability study. The table below provides a summary of thee COI half-lives. Table 7 of and the narrative from, SiREMs report provide additional details regarding the COI half-lives identified within this treatability study.

COI	PROVECT-IR®	EOS-ZVI	ERD65 and DVI
TCE	22 days	8.4 days	2.5 days
cis-1,2-DCE[a]	26 days	14 days	5.7 days
VC[a]	24 days	7.3 days	68[b] days

Note:
a: Half-life determined after bioaugmentation of KB-1 culture.
b: Replicate 3 had a half-life of 63 days compared to 3.7 days in replicates 1 and 2.

5 Treatability Study Conclusions

This bench scale treatability study consisted of five studies including two control microcosms and three treatment microcosms for the purpose of assessing the efficacy of ISCR to reduce TCE and breakdown constituents in saturated soil and groundwater to non-toxic final degradation products. The results from these microcosms are indicative the following conclusions:

- The native bacterial populations at the Site from the source area do not appear to be suitable for facilitating complete dechlorination of TCE to ethene.
- Provect-IR®, EOS-ZVI, or ERD65 and DVI amendments can establish and sustain the geochemical conditions conducive for reductive dechlorination of chlorinated ethenes.
- Evidence of the β-elimination pathway and the reductive dechlorination pathway in the Provect-IR® and EOS-ZVI treatments indicate that a combination of abiotic and biotic mechanisms occurred.
- High sulfate concentrations were reduced to below 400 mg/L prior to the onset of cis-1,2-DCE dechlorination to VC and ethene. The formation of iron sulfide, as evident by the black precipitates in the microcosms, likely also contributed to the degradation of the chlorinated compounds.
- Complete dechlorination of TCE to ethene was achieved within all treatment microcosms, however bioaugmentation with KB-1® was required to advance the reductive dechlorination passed cis-1,2-DCE within the Provect-IR® and EOS-ZVI treatment microcosms.
- The pH in the Site material was below the range for optimal reductive dechlorination and the treatments were adjusted with a sodium bicarbonate pH buffer to adjust and maintain the pH in the optimal dechlorination range (6.8-7.5).

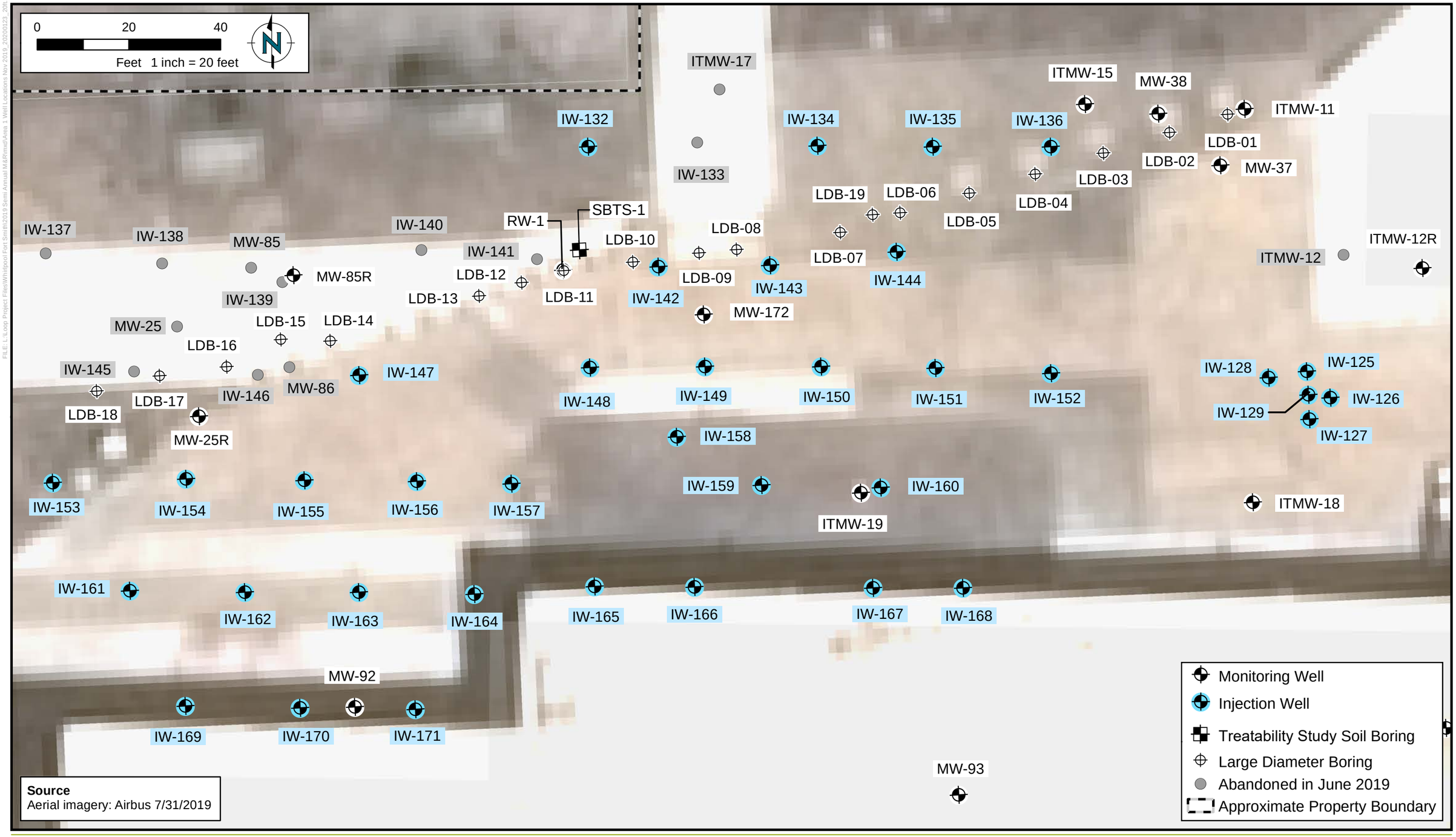
The results of this study indicate that ERD with bioaugmentation combined an electron donor has the potential to be an effective remedial approach for the Site. In this treatability study, all of the treatment microcosms showed at least 95% reduction of TCE within the first 100 days, temporary increases of degradation breakdown products and generation of non-toxic end breakdown products such as ethene and acetylene. The rate of reactions may have varied between each of the treatment chemistries; however they were each successful at demonstrating effective remediation of Site COI's. Given the success of each treatment microcosm, the selection of a remedial chemistry to implement at the Site will likely focus more on characteristics relating to potential for reapplication, sub-surface distribution (solubility, viscosity, particle size, etc.), onsite handling (mixing procedures, health and safety considerations, etc.) and cost.

The study microcosms were initially amended with the equivalent of 0.3% of soil mass of the Provect-IR® and EOS-ZVI products. ISCR injections previously completed at the Site have

utilized Provect-IR® products with injection dosing less than 0.3% of the soil mass. The 0.3% of soil mass dose can, based on Site geology, be a challenge to emplace due to surfacing and channeling in many areas. It should also be noted that concentrations of sulfate and COI's are more elevated in Area 1 and that the saturated zone is somewhat thicker in this area as well.

Figure

FILE: L:\Loon Project Files\Whirlpool Fort Smith\2019 Semi Annual M&R\mxd\Area 1 Well Locations Nov 2019_20200123_20ft.mxd



RAMBOLL

DRAFTED BY: FK | DATE: 01/23/2020

AREA 1 LOCATIONS, NOVEMBER 2019

Whirlpool Facility - Fort Smith, Arkansas

Figure
1

PROJECT: 1690009230

Appendix A
SiREM Laboratory Biotreatability Study Report

Prepared for:

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Laboratory Biotreatability Study to Evaluate In-Situ Bioremediation of Chlorinated VOCs in Groundwater

Former Whirlpool Facility - Fort Smith, AR

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28 October 2020

siremlab.com

SiREM

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LIST OF ABBREVIATIONS

%	percent
<	less than
>	greater than
°C	degrees Celsius
°C/min	degrees Celsius per minute
µg/L	micrograms per liter
µL	microliter
bvcA	BAV1 vinyl chloride reductase
*c*DCE	*cis*-1,2-dichloroethene
CO_2	carbon dioxide
cVOC	chlorinated volatile organic compound
Dhc	*Dehalococcoides*
DHG	dissolved hydrocarbon gases
DI	deionized
enumerations/L	enumerations per liter
ERD	enhanced reductive dechlorination
FeS	iron sulfide
FGA	functional gene analysis
FID	flame ionization detector
g	grams
GC	gas chromatograph
gene copies/L	gene copies per liter
h	hour
IC	ion chromatograph
mg/L	milligrams per liter
min	minutes
mL	milliliters
mL/min	milliliters per minute
mM	millimolar
mmol/bottle	millimoles per bottle
mV	millivolts
ORP	oxidation reduction potential
PCE	tetrachloroethene
psi	pounds per square inch
QL	quantitation limit
qPCR	quantitative polymerase chain reaction
Ramboll	Ramboll Group A/S
RPM	revolutions per minute
rRNA	ribosomal ribonucleic acid
SiREM	SiREM Laboratory

LIST OF ABBREVIATIONS
CONTINUED

TCE	trichloroethene
tceA	trichloroethene reductive dehalogenase
VC	vinyl chloride
vcrA	vinyl chloride reductase
VFA	volatile fatty acid
VOC	volatile organic compound
ZVI	zero-valent iron
VOC	volatile organic compound

1 INTRODUCTION

Ramboll Group A/S (Ramboll) retained SiREM Laboratory (SiREM) to perform a laboratory biotreatability study to assess the potential for in situ remediation of chlorinated volatile organic compounds (cVOCs) in groundwater at the Former Whirlpool Facility site in Fort Smith, Arkansas (the Site). The purpose of the study was to assess anaerobic biodegradation and abiotic degradation of the target compounds, namely chlorinated ethenes (trichloroethene [TCE], cis-1,2-dichloroethene [cDCE], and vinyl chloride [VC]).

The geologic materials labelled SBTS-1-SL(22-27ft)-201911 were collected by Ramboll personnel on 22 November 2019 and received by SiREM on 28 November 2019. Groundwater labelled IW-147-201911 was also collected on 22 November 2019 and received by SiREM on 28 November 2019. All materials were received in good condition at a temperature of 1 degree Celsius (°C). Refer to Appendix A for the chain of custody documentation received with the materials.

The remainder of this report contains a summary of key biodegradation processes (Section 1.1), summary of zero valent iron (ZVI) degradation processes (Section 1.2), the experimental materials and methods (Section 2), the results and discussion of the study (Section 3), conclusions (Section 4), and report references (Section 5).

1.1 Summary of Biodegradation Processes

Biological degradation products of TCE include cDCE, VC, and the fully dechlorinated product ethene as shown in Figure 1.

Natural attenuation processes can occur in situ and are often mediated by indigenous microbial populations present at chlorinated solvent sites. Enhanced reductive dechlorination (ERD), can in certain cases, be achieved by stimulating the indigenous microbial populations through the addition of electron donors. Bioaugmentation is the process in which a microbial population known to promote ERD or other biodegradation processes is introduced to groundwater to enhance the rate or extent of biodegradation. KB-1® is a natural microbial consortium containing microorganisms (including *Dehalococcoides* [*Dhc*]) known to be responsible for mediating the complete dechlorination of tetrachloroethene (PCE), TCE, *c*DCE and VC to ethene (Major et al., 2002; Duhamel et al., 2002). KB-1® is used to introduce *Dhc* and complete dechlorination activity to sites exhibiting slow or incomplete dechlorination of chlorinated ethene compounds.

1.2 Summary of ZVI Degradation Processes

Two dominant pathways for the degradation of chlorinated ethene compounds by zero-valent iron (ZVI) include hydrogenolysis and reductive β-elimination (Gillham et al., 2010). In the hydrogenolysis reaction, a chlorine atom is replaced by a hydrogen atom, accompanied by the addition of two electrons (from the iron). Reductive β-elimination involves release of two chlorine atoms and the formation of an additional carbon-carbon bond. Both pathways are thought to occur simultaneously (Arnold and Roberts, 2000). Figure 2 illustrates those pathways for the chlorinated ethene sequence starting from PCE, through TCE, the dichloroethene-isomers, VC and finally

ethene and ethane. Both the chlorinated acetylenes are highly unstable and degrade rapidly, primarily through reductive dechlorination to acetylene (Arnold and Roberts, 2000). Another ZVI-mediated transformation mechanism, hydrogenation, involves the addition of two hydrogen atoms across two carbon atoms with the removal of a carbon-carbon bond (e.g., reduction of acetylene to ethene, and ethene to ethane as shown in Figure 2).

2 MATERIALS AND METHODS

The following sections describe the materials and methods used for microcosm construction and incubation (Section 2.1), and microcosm sampling and analysis (Section 2.2).

2.1 Microcosm Construction and Incubation

2.1.1 Buffering Capacity Test

From 3 December 2019 to 10 December 2019, a 7-day buffering evaluation test was completed to determine the buffering demand of the groundwater and geologic material. Details and results of the buffering evaluation are presented in Appendix B.

2.1.2 Microcosm Construction

Biotreatability microcosms were constructed in a disposable anaerobic glove bag containing the Site geologic materials, groundwater and all materials required to construct the treatment and control microcosms. The glove bag was purged with nitrogen gas to create an anaerobic environment and to protect any microorganisms present in the site materials from oxygen exposure. All geologic materials were combined and homogenized by manual mixing.

Microcosms were constructed on 2 December 2019 (Day -10) by filling sterile 250 milliliter (mL) (nominal volume) screw cap Boston round clear glass bottles (Systems Plus, New Hamburg, ON) with 60 grams (g) of homogenized soil and 200 mL of Site groundwater. The microcosms for the additional treatment (ERD65 and DVI amended/KB-1® Bioaugmented) were constructed following the same protocol on 1 April 2020 (Day -20).

The bottles were capped with Mininert™ closures to allow repetitive sampling with minimal cVOC loss throughout the incubation period. All control and treatment groups were constructed in triplicate. Table 1 summarizes the details of microcosm construction and the amendments used for the treatment and control microcosms.

Anaerobic sterile control microcosms were constructed to quantify potential abiotic and experimental cVOC losses from the microcosms. The sterile controls were constructed by autoclaving the Site geologic materials at 121 °C and 15 pounds per square inch (psi) pressure for 45 minutes (min). After autoclaving the sterile control microcosms were returned to the anaerobic chamber, filled with 200 mL of Site groundwater, and amended with mercuric chloride and sodium azide as described in Tables 1 and 2.

2.1.3 Microcosm Amendments and Incubation

All microcosms were sampled and incubated in an anaerobic chamber (Coy Laboratory Products, Grass Lake, MI) filled with an atmosphere of approximately 80 percent (%) nitrogen, 10% carbon dioxide (CO_2) and 10% hydrogen (Linde Gases, Guelph, ON). Hydrogen in the anaerobic chamber functions to scavenge trace oxygen via a palladium catalyst. Anaerobic conditions in the anaerobic chamber were verified using an indicator containing resazurin (Sigma, St. Louis, MO) in a mineral medium, which turns pink in the presence of oxygen. During quiescent incubation, all microcosms were covered to minimize photodegradation, and stored horizontally to minimize volatile organic compound (VOC) losses via the (submerged) Mininert™ closure. Microcosms were incubated for a period of up to 171 days at approximately 22 °C (room temperature).

Ramboll stated that the concentrations of cVOCs in the microcosms were representative of Site conditions, so addition of cVOCs was not required. The microcosms for the ERD65/DVI amended and KB-1® Bioaugmented treatment that were constructed at a later date did not have concentrations representative of Site conditions and therefore were spiked with TCE and cDCE on 17 April 2020 (Day -4) to achieve the target concentrations (Table 1 and Table 2).

Provect-IR® (Provectus, Freeport, IL), and EOS-ZVI (Durham, Philadelphia, PA) were the selected remediation products evaluated in the original scope of the study. Treatment microcosms were amended with Provect-IR® and EOS-ZVI on 12 December 2019 (Time 0). In response to measured volatile fatty acid (VFA) concentrations during the incubation period (Table 4) and after consultation with Ramboll, the Provect-IR® amended treatment was amended with an additional dose of the electron donor component of Provect-IR® independently from the ZVI component on 17 April 2020 (Day 127).

ERD65 and DVI (Provectus, Freeport, IL) were the selected remediation products evaluated in the additional treatment. The microcosms were amended with ERD65 and DVI on 21 April 2020 (Time 0 for this treatment).

The optimal pH range for dehalorespiring bacteria is known to be 6.8 to 7.5 (Middledorp et al., 1999). Based on the results of the buffering test, sodium bicarbonate was selected as the buffer and was used to maintain a pH of approximately 7.0 in the treatment microcosms. Details of microcosm buffering are provided in Table 5.

Bioaugmentation may improve the extent and rate of TCE dechlorination. Microcosms are typically bioaugmented after reducing conditions required by the KB-1® culture are achieved. Suitable reducing conditions are typically achieved after electron donor addition and are assessed by changes in the resazurin indicator colour (from pink to colorless), the on-set of sulfate reduction, and a decrease in oxidation-reduction potential (ORP) to below -75 millivolts (mV). The ORP results indicated that conditions may have been suitable as early as 16 January 2020 (Day 35). As the study progressed, and after consultation with Ramboll, it was determined that the treatments should be bioaugmented with KB-1® culture. The subsequent bioaugmentation occurred on 19 March 2020 (Day 98). For the ERD65 and DVI amended treatment, the ORP results indicated that conditions were reducing on 5 May 2020 (Day 14) so the microcosms were

bioaugmented on that day. It should be noted that in all treatments sulfate was not completely reduced and relatively high concentrations remained at the time of bioaugmentation (Table 3). Details of bioaugmentation can be found in Tables 1 and 2.

2.2 Microcosm Sampling and Analysis

2.2.1 Microcosm Sampling Schedules

Aqueous samples were collected from the control and treatment microcosms at varying frequencies for analysis of cVOCs, dissolved hydrocarbon gases (DHGs – ethene, ethane, and methane) and pH. The frequency of sampling was determined based on the expected rate of dechlorination. Aqueous samples were also collected less frequently for analysis of, ORP, VFAs (lactate, acetate, propionate, formate, butyrate and pyruvate), and anions (sulfate, nitrate, nitrite, chloride, and phosphate). Aqueous samples were collected from the bulk groundwater for baseline Gene-Trac® testing. Additional Gene-Trac® samples were collected from microcosms before the decision to bioaugment was made and at endpoint. For the ERD65 and DVI amended treatment, additional Gene-Trac® samples were collected after bioaugmentation and at endpoint.

The microcosms were sampled using gas-tight 1 mL Hamilton glass syringes. Separate sets of syringes were used for the bioaugmented and non-bioaugmented treatments to minimize the potential for transfer of KB-1® microorganisms from bioaugmented to non-bioaugmented treatments. Syringes were cleaned with acidified water (pH ~2) and rinsed 10 times with DI water between samples to ensure that VOCs and microorganisms were not transferred between different samples or treatments.

2.2.2 Analysis of cVOCs and DHGs

This section describes the methods used to quantify the VOCs and DHGs. The quantitation limits (QL) for the VOCs and DHGs are 20 micrograms per liter (µg/L) in the microcosms based on the sample dilution factor used and the lowest concentration standards that are included in the linear calibration trend.

Aqueous VOC and DHG concentrations in the microcosms are measured using an Agilent 7890 gas chromatograph (GC) equipped with an Agilent G1888 headspace autosampler programmed to heat each sample vial to 75 °C for 45 min prior to headspace injection into a GSQ Plot column (0.53 millimeters x 30 meters, J&W) with a flame ionization detector (FID). Sample vials are heated to ensure that all VOCs in the aqueous sample partition into the headspace. The injector temperature is 200 °C, and the detector temperature is 250 °C. The oven temperature is programmed as follows: 35 °C for 2 min, increased to 100 °C at 50 degrees Celsius per minute (°C/min), then increased to 185 °C at 25 °C/min and held at 185 °C for 6.80 min. The helium carrier gas is to flow at a rate of 11 milliliters per minute (mL/min).

After withdrawing a sample (as described in Section 2.2.1) from the microcosms, the sample is injected into a 10 mL auto sampler vial containing acidified DI water (pH ~2). The sample volume is added to the vial containing acidified DI water to bring the total volume up to 6 mL. The water is acidified to inhibit microbial activity between microcosm sampling and GC analysis. The vial is

sealed with an inert Teflon™-lined septum and aluminum crimp cap for automated injection of 3 mL of headspace onto the GC. One VOC standard is analyzed with each set of samples to verify the instrument five-point calibration curve using methanolic stock solutions containing known concentrations of the target analytes. Calibration was performed using external standards purchased as standard solutions (Sigma, St Louis, Missouri), where known volumes of standard solutions were added to acidified water in auto sampler vials and analyzed as described above for microcosm samples. Data are integrated using Chemstation Software (Agilent Technologies, Santa Clara, California).

2.2.3 Analysis of Anions and Total VFAs

Anions and total VFA analysis was performed on a Thermo-Fisher ICS-2100 ion chromatograph (IC) equipped with a Thermo-Fisher AS-DV autosampler and an AS18 column. An isocratic separation was performed using 33 millimolar (mM) reagent grade sodium hydroxide eluent generator cartridge (Thermo Scientific, Burlington, ON) eluent for 13 min. One standard was analysed with each set of samples tested in order to verify the seven-point calibration using external standards of known concentrations. External standards were prepared gravimetrically using chemicals of the highest purity available (Sigma St Louis, MO or Bioshop, Burlington, ON). Data were integrated using Chromeleon 7® Chromatography software (Thermo-Fisher, Burlington, ON). The QLs were as follows: 0.07 mg/L total VFA, 0.07 mg/L chloride, 0.09 mg/L nitrite, 0.09 mg/L nitrate, 0.07 mg/L sulfate, 0.07 mg/L phosphate and 0.08 mg/L bromide. The total VFA value was initially calibrated as lactate, but includes lactate, formate, acetate, propionate, pyruvate and butyrate (valerate has not been confirmed). The VFA method described below (Section 2.2.4) is used to quantify individual VFAs.

A 0.5 mL sample was withdrawn (as described in section 2.2.1), after which the sample was placed in a 1.5 mL micro-centrifuge tube. Samples were centrifuged for five minutes at 13,000 revolutions per minute (RPM) to remove solids. The supernatant was removed, diluted 50-fold in DI water and placed in a Thermo-Fisher autosampler vial with a cap that filters the sample during automated injection onto the IC through a 25 microliter (µL) sample loop.

2.2.4 Analysis of VFAs

Individual VFAs (lactate, acetate, propionate, formate, butyrate and pyruvate) analysis was performed on a Thermo-Fisher ICS-2100 IC equipped with a Thermo-Fisher AS-DV autosampler and an AS11-HC column. A gradient separation was performed using the following eluent profile; 1.0 mM sodium hydroxide for 8.0 min to 15 mM at 18.0 min and proceeding to 30 mM at 28.0 min with a flow rate of 0.25 mL/min. Calibration was performed using external standards of known concentrations. One standard was analysed with each set of samples to verify the instrument's seven-point calibration curve produced using external standards of known concentrations. External standards were prepared gravimetrically using chemicals of the highest purity available (Sigma St Louis, MO or Bioshop, Burlington, ON). Data were integrated using Chromeleon 7® Chromatography software (Thermo-Fisher, Burlington, ON). The QLs were as follows: lactate 0.40 mg/L, acetate 0.54 mg/L, propionate 0.31 mg/L, formate 0.23 mg/L, butyrate 0.41 mg/L and pyruvate 0.69 mg/L.

A 0.5 mL sample was withdrawn (as described in section 2.2.1), after which the sample was placed in a 1.5 mL micro-centrifuge tube. Samples were centrifuged for five minutes at 13,000 RPM in a micro-centrifuge to remove solids. The supernatant was removed, diluted 50-fold in DI water and placed in a Thermo-Fisher autosampler vial with a cap that filters the sample during automated injection onto the IC through a 25 µL sample loop.

2.2.5 Analysis of pH

The pH measurements were performed using an Oakton pH spear with a combination pH electrode (Oakton, Vernon Hills, IL). A 0.5 mL sample was collected (as described in section 2.2.1), the vial was removed from the glove box and the pH was measured on the lab bench. The pH spear was calibrated at each sampling event according to the manufacturer's instructions using pH 4.0, 7.0 and 10 standards.

2.2.6 Analysis of ORP

The ORP measurements were performed using an YSI Multilab IDS Meter with YSI 4210 ORP glass electrode (Mandel Scientific, Guelph, ON). A 1.0 mL sample was collected (as described in Section 2.2.1) and taken out of the glove box. The sample was transferred to a 5 mL Thermo-Fisher vial and the ORP measured on the lab bench. The ORP probe was tested weekly according to the manufacturer's instructions using Zobell's solution.

2.2.7 Analysis of Gene-Trac® *Dhc* and Functional Gene Testing

Gene-Trac® quantitative polymerase chain reaction (qPCR) testing was performed in this study to quantify and characterize *Dhc* microorganisms known to facilitate the dechlorination of chlorinated ethenes to ethene. Gene-Trac® *Dhc* tests quantify the total *Dhc* population by targeting their 16S ribosomal ribonucleic acid (rRNA) genes, whereas the Gene-Trac® functional gene analysis (FGA) test targets the *Dhc* functional genes trichloroethene reductive dehalogenase (*tceA*), BAV1 vinyl chloride reductase (*bvcA*) and vinyl chloride reductase (*vcrA*). The *vcrA* and *bvcA* genes are present in only a subset of *Dhc* populations and are functional genes responsible for complete dechlorination of cDCE and VC to ethene (Müller et al., 2004). There is a strong correlation between the presence of *vcrA* or *bvcA* and complete dechlorination of chlorinated ethenes to non-toxic ethene.

3 RESULTS AND DISCUSSION

The following sections present and discuss the results of the biotreatability study:

- Redox processes (Section 3.1),
- VFAs (Section 3.2),
- pH (Section 3.3)
- Gene-Trac® (Section 3.4)

- Chlorinated ethenes degradation results (Section 3.5),

Tables 2, 3, 4, 5, and 6 provide cVOC, ethene, ethane, methane, anion, VFA, pH, ORP, and Gene-Trac® data from the control and treatment microcosms over the incubation period for the study. All cVOC, ethene, ethane, and methane concentrations are presented in units of mg/L and millimoles per microcosm bottle (mmol/bottle) to demonstrate mass balances on a molar basis. Concentrations were converted from mg/L to mmol/bottle using Henry's Law as demonstrated in Appendix D. All anion and VFA concentrations are reported in mg/L. ORP results are reported in mV. Gene-Trac® results are presented as enumerations of the target microbe per liter of groundwater (enumerations/L) or as the number of gene copies per liter (gene copies/L) The original Gene-Trac® reports are presented in Appendix C. Figures 3 through 8 present trends in the concentrations of chlorinated ethenes, ethene and sulfate in the control and treatment microcosms over the incubation period for the study.

3.1 Redox Processes

The addition of electron donor typically results in microbial activity that promotes changes in the redox conditions in groundwater. Aerobic or mildly reducing redox conditions will be reduced, resulting in more strongly reducing conditions required to support anaerobic degradation of cVOCs.

The sequence of redox reactions in groundwater is well known (Appelo and Postma, 1994). Oxygen is first consumed, followed by nitrate (denitrification), iron, manganese, and sulfate reduction. The final step is CO_2 reduction producing methane (methanogenesis). The consumption of each species in sequence indicates that conditions are becoming increasingly reducing. Dechlorination of chlorinated solvents typically occurs in the range of sulfate reducing to methanogenic conditions.

In the sterile control microcosms, low concentrations of nitrate remained stable, but decreased to non-detect in the active control microcosms (Table 3). Sulfate was present and remained relatively stable throughout the incubation period in both sterile and active control microcosms (Table 3). Methane concentrations also did not increase (Table 2), which suggests that reducing conditions were not established in the sterile or active control microcosms. This is supported by the measured ORP values in the sterile and active controls, which were above +200 mV throughout the incubation period (Table 5). These observations are consistent with low levels of microbial activity expected in control microcosms.

ORP results indicate that the establishment of strongly reducing conditions for the Provect-IR®, EOS-ZVI, and ERD65 and DVI amended treatments occurred by Days 35, 49, and 14, respectively (Table 5). After strongly reducing conditions were established, the ORP results for the Provect-IR®, EOS-ZVI, and ERD65 and DVI amended treatments remained reducing over the incubation period with average values of -108, -131, and -100 respectively on Day 155 (Day 150 for the ERD65 and DVI treatment).

The sulfate concentrations in the groundwater at time zero were relatively high at approximately 650 mg/L (Table 3). Panagiotakis et al., 2014 reported that Dhc dechlorinating bacteria are not

able to thrive in the presence of sulfate concentrations greater than 400 mg/L. In the Provect-IR® and EOS-ZVI amended treatments, decreases in sulfate concentrations were observed by Day 98, but several hundred milligrams per liter (mg/L) were still present. At endpoint on Day 155, complete sulfate reduction was observed in the EOS-ZVI amended treatment and sulfate decreased to an average of 62 mg/L in the Provect-IR® amended treatment. In the ERD65 and DVI amended treatment, sulfate concentrations remained stable to Day 14 and then decreased to 262 mg/L on Day 29. The concentrations continued to decrease over the incubation period and on Day 150 sulfate was non-detect in all replicates.

Sulfate reduction was accompanied by a visual darkening of the materials in the treatment microcosms (Appendix E). As the study progressed the appearance of the solids in the treatment microcosms changed from light brown to dark black. This is due to sulfide produced from sulfate reduction reacting with iron produced from iron reduction to form black iron sulfide (FeS) precipitates as per the following reactions:

1) Sulfate reduction

   $SO_4^{2-} + 9H^+ + 8e^- = HS^- + 4H_2O$

2) Iron reduction

   $FeOOH + 3H^+ + e^- = Fe^{2+} + 2H_2O$

3) Precipitation of iron sulfide

   $HS^- + Fe^{2+} = FeS + H^+$

FeS minerals mediate the reductive transformation of a variety of halogenated organic compounds and the transformation of PCE and TCE by FeS is well documented in the literature (USEPA, 2009). The formation of FeS in these microcosms likely contributed to the abiotic degradation of the chlorinated compounds. Methane was produced by Day 155 in the Provect-IR® amended treatment, by Day 119 in the EOS-ZVI amended treatment, and by Day 150 in the ERD65 and DVI amended treatment. The production of methane is an indicator that highly reducing conditions have been achieved.

These results suggest that all electron donors can support the reducing conditions necessary for ERD of chlorinated ethenes to occur.

3.2 VFAs

Provect-IR®, EOS-ZVI, and ERD65 contain fermentable electron donor sources to promote microbial activity. The fermentation results in the production of hydrogen, which is the ultimate electron donor used by dechlorinators.

Acetate was detected by Day 18 (Table 4) in all the treatments, but at lower concentrations in the EOS-ZVI amended treatment compared to the Provect-IR® and ERD65 amended treatments.

From Day 18 to Day 98 the concentration of acetate increased in the EOS-ZVI amended treatment and decreased to low concentrations in the Provect-IR® amended treatment. The Provect-IR® amended treatment was amended with additional Provect-IR® donor formulation on Day 127 to ensure enough electron donor was available for dechlorination and the concentration of acetate rebounded by Day 155. In the ERD65 amended treatment, acetate increased from Day 14 to Day 29. From Day 29 to Day 150 the concentration of acetate remained relatively stable and there were increases observed in the concentrations of propionate and butyrate indicating further fermentation was occurring.

These results indicate that the fermentable portions of the electron donors were being actively consumed and fermented throughout the incubation period.

3.3 pH

The optimum pH for reductive dechlorination is 6.8 to 7.5 (Middledorp et al., 1999) with dechlorination occurring at reasonable rates in the 6.0 to 8.5 pH range (SiREM, unpublished data). The pH in all control microcosms was measured to be between 6.24 and 6.52 throughout the incubation period (Table 5). The treatments were buffered with a saturated sodium bicarbonate solution at Time 0 and when necessary during the incubation period to increase the pH to 7.0 ± 0.2. The Provect-IR® amended treatment required buffering at Days 0, 18, and 49 with a cumulative total of 2 mL of saturated sodium bicarbonate solution. The EOS-ZVI amended treatment required buffering at Day 0 with 1.25 mL of saturated sodium bicarbonate and the pH gradually increased to an average of 7.25 at the end of the incubation period. The ERD65 and DVI amended treatment required buffering on Days 1 and 14 with a cumulative total of 4 mL of saturated sodium bicarbonate. In the EOS-ZVI amended and ERD65 and DVI amended treatments there was a gradual increase in pH over the incubation period.

These results suggest that a buffering agent may be required at the Site to maintain the pH in the optimal range for reductive dechlorination.

3.4 Gene-Trac®

Samples from the bulk groundwater and microcosms were submitted for analysis of *Dhc* and functional genes related to anaerobic chlorinated ethenes reduction at baseline (Table 6 and Appendix C). The baseline groundwater results, which were used to represent the time zero conditions in all the treatments and controls, were reported as being below the detection limit of 5×10^3 enumerations/L of *Dhc*. Similarly, Day 49 results for the Provect-IR® and EOS-ZVI amended treatments were below the detection limit of 9×10^4 enumerations/L of *Dhc*. Since *Dhc* was not detected the functional gene analysis was not conducted.

It is generally accepted that for complete dechlorination of TCE to ethene to occur, *Dhc* with the *vcrA* gene must be greater than (>) 1×10^7 enumerations/L (Lu et al. 2006). Therefore, these results suggest that biological dechlorination was unlikely to occur by microorganisms native to the site.

On Day 98 the Provect-IR® and EOS-ZVI amended treatments were bioaugmented with KB-1®. Further Gene-Trac testing was conducted on day 155 and the *Dhc* and functional gene counts had increased to > 3 x 10^8 enumerations/L. The ERD65 and DVI amended treatment was bioaugmented with KB-1® on Day 14. Gene-Trac testing on Day 29 indicated that > 4 x 10^7 enumerations/L of Dhc and functional gene counts had been achieved. On Day 157 all *Dhc* and functional gene counts had increased to > 1 x 10^9 enumerations/L.

These results suggest that *Dhc* with the appropriate genes for complete reductive dechlorination were not present in microbial populations native to the Site but could be introduced and stimulated when using the electron donors combined with KB-1® bioaugmentation.

3.5 Chlorinated Ethenes Biodegradation Results

3.5.1 Degradation Half-Lives for Chlorinated Ethenes

Laboratory half-lives were calculated based on the average dechlorination observed in the treatment microcosms as indicated in Table 7. First order reaction kinetics was assumed for all calculations as described in Newell et al, 2002. The half-lives were calculated using the following relationship:

$$Half - life = \frac{\ln(2)}{\left[\frac{\ln\left(\frac{C_2}{C_1}\right)}{t_2 - t_1}\right]}$$

where,

C_1 is the concentration at early time (t_1 days)

C_2 is the concentration at later time (t_2 days)

Based on the data collected, the calculated dechlorination half-lives for TCE, cDCE, and VC were determined (Table 7). Half-lives were not determined for compounds in some treatments where the concentration remained stable or increased throughout the study period.

3.5.2 Anaerobic Sterile and Active Control Microcosms

All cVOC concentrations in the sterile and active control microcosms remained relatively stable over the incubation period with no increases in degradation products (Table 2 and Figures 3 and 4). The half-lives for the chlorinated ethene compounds were incalculable, as the concentrations remained stable (Table 7). These results are consistent with the limited microbial activity suggested by the lack of observed sulfate reduction (Table 3) and methanogenesis measured in these control microcosms.

3.5.3 Provect-IR® Amended/KB-1® Bioaugmented Microcosms

In the Provect-IR® amended/KB-1 Bioaugmented treatment, the concentration of TCE decreased until it was at an average concentration of 0.54 mg/L on Day 155 (Table 2 and Figure 5). Much of this decrease occurred before bioaugmentation. A corresponding increase in the concentration of cDCE and acetylene suggests that partial dechlorination of TCE to cDCE can occur in the Site material with the addition of Provect-IR® and the sustained concentration of acetylene suggests that abiotic degradation following the β-elimination pathway was occurring over the incubation period. After bioaugmentation on Day 98 the concentration of cDCE decreased with a corresponding increase in VC and ultimately ethene, indicating that bioaugmentation resulted in complete dechlorination. Sulfate concentrations also decreased more rapidly after bioaugmentation with KB-1®. As discussed above, the formation of FeS likely also contributed to the degradation of the chlorinated compounds. Half-lives of TCE, cDCE, and VC were calculated to be 22, 26, and 24 days, respectively (Table 7).

These results suggest that complete degradation of chlorinated ethenes in the Site material may possible when using Provect-IR® in combination with KB-1® bioaugmentation.

3.5.4 EOS-ZVI amended/KB-1® Bioaugmented Microcosms

In the EOS-ZVI amended/KB-1 Bioaugmented treatment, the concentration of TCE decreased until it was non-detect on Day 63 (Table 2 and Figure 6). A corresponding increase in the concentration of cDCE and acetylene suggests that partial dechlorination of TCE to cDCE can occur in the Site material with the addition of EOS-ZVI. Similar to the Provect-IR® amended treatment the increase in acetylene suggests that abiotic degradation following the β-elimination pathway was occurring. After bioaugmentation the concentration of cDCE decreased with a corresponding increase in VC and ultimately ethene, indicating that bioaugmentation resulted in complete dechlorination. Sulfate concentrations continued to decrease after bioaugmentation with KB-1®. As discussed above, the formation of FeS likely also contributed to the degradation of the chlorinated compounds. Half-lives of TCE, cDCE, and VC were calculated to be 8.4, 14, and 7.3 days, respectively (Table 7).

These results suggest that complete degradation of chlorinated ethenes in the Site material may possible when using EOS-ZVI in combination with KB-1® bioaugmentation.

3.5.5 ERD65 and DVI Amended/KB-1® Bioaugmented Microcosms

In the ERD65 and DVI amended/KB-1 Bioaugmented treatment, the concentration of TCE decreased to non-detect by Day 29 with a corresponding increase in the concentration of cDCE (Table 2 and Figure 7). Acetylene was not detected in this treatment. The concentration of cDCE decreased to non-detect by Day 150 with corresponding increases in the concentrations of VC and ethene, indicating that bioaugmentation resulted in complete dechlorination. VC in Replicates 1 and 2 was completely dechlorinated to ethene by the end of the incubation period, whereas, Replicate 3 still showed a decreasing trend in VC with corresponding increases in ethene. With more time it is likely that complete dechlorination to ethene would also have been achieved in

Replicate 3. . The concentration of sulfate decreased sharply after bioaugmentation with KB-1® on Day 14 and continued to decrease until all replicates were non-detect by Day 150. As discussed above, the formation of FeS likely also contributed to the degradation of the chlorinated compounds. Half-lives of TCE, cDCE, and VC were calculated to be 2.5, 5.7, and 68 days, respectively (Table 7). When the half-life of VC is calculated for individual replicates, replicate 3 has a much higher half life at 63 days compared to 3.7 days in replicates 1 and 2.

These results suggest that complete degradation of chlorinated ethenes in the Site material may be possible when using ERD65 and DVI in combination with KB-1® bioaugmentation.

4 CONCLUSIONS

The laboratory biotreatability study results suggest the following conclusions:

1. The native bacterial populations at the Site do not appear to be suitable for facilitating complete dechlorination of TCE to ethene.

2. Provect-IR®, EOS-ZVI, or ERD65 and DVI amendments can promote the appropriate geochemical conditions for reductive dechlorination of chlorinated ethenes.

3. Evidence of the β-elimination pathway and the reductive dechlorination pathway in the Provect-IR® and EOS-ZVI treatments indicate that a combination of abiotic and biotic mechanisms occurred.

4. High sulfate concentrations were reduced to below 400 mg/L prior to the onset of cDCE dechlorination to VC and ethene. Also, the formation of FeS as evident by the black precipitates in the microcosms likely contributed to the degradation of the chlorinated compounds.

5. Complete dechlorination of TCE to ethene was achieved after KB-1® bioaugmentation with Provect-IR®, EOS-ZVI, or ERD65 and DVI as the electron donor.

6. The pH in the Site material was below the range for optimal reductive dechlorination and the treatments were adjusted with a sodium bicarbonate pH buffer to adjust and maintain the pH in the optimal dechlorination range (6.8-7.5).

The results of this study indicate that ERD using KB-1® bioaugmentation combined with Provect-IR®, EOS-ZVI, or ERD65 and DVI as an electron donor has the potential to be an effective remedial approach for the Site.

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TABLES

TABLE 1: SUMMARY OF MICROCOSM CONTROLS, TREATMENTS AND AMENDMENTS
Former Whirlpool Facility - Fort Smith, AR

Treatment/Control	Assigned Microcosm Number	Number of Microcosms	Geological Material (g)	Groundwater (mL)	Headspace (mL)	Sodium Azide	Mercuric Chloride	Resazurin	VOCs	Amendment Dosing	Bioaugmentation
Anaerobic Sterile Control	1 to 3	3	60	200	20	Amended with 0.5 mL of a 5 % solution on Day -13.	Amended with 2.8 mL of a 2.7% solution on Day -13.	Amended the first replicate with 100 µL of a 1,000 mg/L solution on Day -13.	--	--	--
Anaerobic Active Control	4 to 6	3	60	200	20	--	--			--	--
Provect-IR® Amended/KB-1® Bioaugmented	7 to 9	3	60	200	20	--	--			Amended with 0.18 g of Provect-IR® to target 0.3% of geologic material as Provect-IR® on Day 0 and with 0.108 g of Provect-IR® donor component on Day 127.	Bioaugmented with 0.5 mL of KB-1® on Day 98.
EOS-ZVI Amended/KB-1® Bioaugmented	10 to 12	3	60	200	20	--	--			Amended with 0.18 g of EOS-ZVI to target 0.3% of geologic material as EOS-ZVI on Day 0.	Bioaugmented with 0.5 mL of KB-1® on Day 98.
ERD65 and DVI Amended/KB-1® Bioaugmented	13 to 15	3	60	200	20	--	--		Spiked with 3 µL neat TCE and 38 µL of a saturated cDCE solution on Day -4 to target final concentrations of 35 mg/L and 4.5 mg/L respectively.	Amended with 0.3 g of DVI as directed by Provectus and 1 mL of ERD65 to target 0.5% of solution as oil on Day 0.	Bioaugmented with 0.5 mL of KB-1® on Day 14.

Notes:

-- - not applicable
% - percent
µL - microliter
cDCE - cis-1,2-dichloroethene
DVI - dual-valent iron
ERD - enhanced reductive dechlorination
g - grams
mg/L - milligrams per liter
mL - milliliters
TCE - trichloroethene
VOCs - volatile organic compounds
ZVI - zero valent iron

TABLE 2: SUMMARY OF MICROCOSM cVOC AND DHG RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
Anaerobic Sterile Control	02-Dec-19	-10										Poisoned with mercuric chloride and sodium azide.
												Amended the first replicate with 100 µL of resazurin.
	12-Dec-19	0	ANSC-1	31	4.1	0.23	<0.040	--	<0.0040	<0.040	<0.20	
			ANSC-2	30	4.1	0.22	<0.040	--	<0.0040	<0.040	<0.20	
			ANSC-3	33	4.4	0.24	<0.040	--	<0.0040	<0.040	<0.20	
			Average Concentration (mg/L)	31	4.2	0.23	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	1.9E-03	3.7E-04	2.6E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.050**	**0.0089**	**0.00081**	**ND**	**6.0E-02**	**ND**	**ND**	**ND**	
	30-Dec-19	18	ANSC-1	36	4.6	0.25	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-2	35	4.6	0.25	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-3	34	4.4	0.26	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	35	4.6	0.25	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	9.6E-04	2.0E-04	1.7E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.056**	**0.0097**	**0.00088**	**ND**	**6.7E-02**	**ND**	**ND**	**ND**	
	30-Jan-20	49	ANSC-1	36	4.8	0.25	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-2	36	4.6	0.25	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-3	37	4.6	0.26	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	36	4.7	0.25	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	8.0E-04	1.7E-04	3.0E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.058**	**0.010**	**0.00088**	**ND**	**6.9E-02**	**ND**	**ND**	**ND**	
	26-Feb-20	76	ANSC-1	31	4.4	0.21	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-2	30	4.3	0.21	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-3	33	4.5	0.23	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	31	4.4	0.22	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	2.3E-03	2.7E-04	5.4E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.050**	**0.0093**	**0.00076**	**ND**	**6.0E-02**	**ND**	**ND**	**ND**	
	15-May-20	155	ANSC-1	37	4.9	0.23	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-2	34	4.7	0.22	<0.020	--	<0.0020	<0.020	<0.10	
			ANSC-3	37	4.8	0.24	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	36	4.8	0.23	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	2.2E-03	2.5E-04	3.3E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.058**	**0.010**	**0.00081**	**ND**	**6.9E-02**	**ND**	**ND**	**ND**	
Anaerobic Active Control	02-Dec-19	-10										Amended the first replicate with 100 µL of resazurin.
	12-Dec-19	0	ANAC-1	31	4.2	0.23	<0.040	--	<0.0040	<0.040	<0.20	
			ANAC-2	32	4.3	0.23	<0.040	--	<0.0040	<0.040	<0.20	
			ANAC-3	32	4.3	0.22	<0.040	--	<0.0040	<0.040	<0.20	
			Average Concentration (mg/L)	32	4.2	0.23	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	6.0E-04	1.1E-04	4.5E-06	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.051**	**0.0090**	**0.00079**	**ND**	**6.1E-02**	**ND**	**ND**	**ND**	
	30-Dec-19	18	ANAC-1	31	4.1	0.030	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-2	32	4.1	0.037	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-3	34	4.5	0.074	<0.020	--	0.0021	<0.020	<0.10	
			Average Concentration (mg/L)	32	4.2	0.047	ND	--	0.0007	ND	ND	
			Standard Deviation (mmoles)	2.5E-03	4.2E-04	8.3E-05	0.0E+00	--	1.1E-05	0.0E+00	0.0E+00	
			Average Total mmoles	**0.052**	**0.0090**	**0.00016**	**ND**	**6.1E-02**	**0.0000062**	**ND**	**ND**	

TABLE 2: SUMMARY OF MICROCOSM cVOC AND DHG RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
Anaerobic Active Control Continued	30-Jan-20	49	ANAC-1	35	4.4	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-2	32	4.0	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-3	35	4.5	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	34	4.3	ND	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	3.1E-03	5.5E-04	0.0E+00	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.054**	**0.0092**	**ND**	**ND**	**6.3E-02**	**ND**	**ND**	**ND**	
	26-Feb-20	76	ANAC-1	30	4.1	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-2	29	3.9	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-3	30	4.2	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	29	4.1	ND	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	9.1E-04	2.9E-04	0.0E+00	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.047**	**0.0087**	**ND**	**ND**	**5.6E-02**	**ND**	**ND**	**ND**	
	15-May-20	155	ANAC-1	33	4.4	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-2	32	4.2	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			ANAC-3	34	4.5	<0.020	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	33	4.4	ND	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	2.2E-03	3.2E-04	0.0E+00	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.053**	**0.0093**	**ND**	**ND**	**6.2E-02**	**ND**	**ND**	**ND**	
Provect-IR® Amended/KB-1® Bioaugmented	02-Dec-19	-10										Amended the first replicate with 100 µL of resazurin.
	12-Dec-19	0										Amended with 0.18 g of Provect-IR® to target 0.3% of geologic material.
			Provect-IR/KB-1-1	32	4.4	0.22	<0.040	--	<0.0040	<0.040	<0.20	
			Provect-IR/KB-1-2	32	4.3	0.23	<0.040	--	<0.0040	<0.040	<0.20	
			Provect-IR/KB-1-3	30	4.3	0.23	<0.040	--	<0.0040	<0.040	<0.20	
			Average Concentration (mg/L)	31	4.3	0.23	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	1.4E-03	8.0E-05	1.4E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.050**	**0.0092**	**0.00079**	**ND**	**6.0E-02**	**ND**	**ND**	**ND**	
	30-Dec-19	18	Provect-IR/KB-1-1	24	4.3	0.22	0.044	--	0.68	<0.020	<0.10	
			Provect-IR/KB-1-2	26	7.7	0.24	0.070	--	0.72	<0.020	<0.10	
			Provect-IR/KB-1-3	27	7.6	0.23	0.053	--	0.58	<0.020	<0.10	
			Average Concentration (mg/L)	26	6.5	0.23	0.055	--	0.66	ND	ND	
			Standard Deviation (mmoles)	2.0E-03	4.1E-03	3.7E-05	1.7E-04	--	6.6E-04	0.0E+00	0.0E+00	
			Average Total mmoles	**0.041**	**0.014**	**0.00080**	**0.00073**	**5.7E-02**	**0.0059**	**ND**	**ND**	
	16-Jan-20	35	Provect-IR/KB-1-1	20	4.9	0.24	0.074	--	1.4	<0.020	<0.10	
			Provect-IR/KB-1-2	16	12	0.25	0.081	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	16	14	0.25	0.071	--	0.10	<0.020	<0.10	
			Average Concentration (mg/L)	17	10	0.24	0.075	--	0.49	ND	ND	
			Standard Deviation (mmoles)	3.7E-03	1.0E-02	2.3E-05	6.8E-05	--	6.8E-03	0.0E+00	0.0E+00	
			Average Total mmoles	**0.028**	**0.022**	**0.00085**	**0.00099**	**5.2E-02**	**0.0044**	**ND**	**ND**	
	30-Jan-20	49	Provect-IR/KB-1-1	15	5.0	0.24	0.12	--	1.8	<0.020	<0.10	
			Provect-IR/KB-1-2	7.8	16	0.24	0.084	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	0.54	24	0.24	0.068	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	7.7	15	0.24	0.089	--	0.59	ND	ND	
			Standard Deviation (mmoles)	1.1E-02	2.0E-02	1.4E-05	3.2E-04	--	9.1E-03	0.0E+00	0.0E+00	
			Average Total mmoles	**0.012**	**0.032**	**0.00084**	**0.0012**	**4.6E-02**	**0.0053**	**ND**	**ND**	

TABLE 2: SUMMARY OF MICROCOSM cVOC AND DHG RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
Provect-IR® Amended/KB-1® Bioaugmented Continued	13-Feb-20	63	Provect-IR/KB-1-1	9.9	4.9	0.22	0.12	--	2.0	<0.020	<0.10	
			Provect-IR/KB-1-2	<0.020	18	0.23	0.073	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	<0.020	22	0.23	0.063	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	3.3	15	0.23	0.086	--	0.66	ND	ND	
			Standard Deviation (mmoles)	9.2E-03	1.9E-02	2.6E-05	4.2E-04	--	1.0E-02	0.0E+00	0.0E+00	
			Average Total mmoles	**0.0053**	**0.032**	**0.00080**	**0.0011**	**3.9E-02**	**0.0059**	**ND**	**ND**	
	26-Feb-20	76	Provect-IR/KB-1-1	6.3	4.7	0.20	0.14	--	2.1	<0.020	<0.10	
			Provect-IR/KB-1-2	<0.020	20	0.21	0.068	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	<0.020	23	0.20	0.049	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	2.1	16	0.20	0.084	--	0.70	ND	ND	
			Standard Deviation (mmoles)	5.8E-03	2.0E-02	2.4E-05	6.1E-04	--	1.1E-02	0.0E+00	0.0E+00	
			Average Total mmoles	**0.0033**	**0.033**	**0.00072**	**0.0011**	**3.8E-02**	**0.0062**	**ND**	**ND**	
	19-Mar-20	98										Bioaugmented with KB-1®.
			Provect-IR/KB-1-1	3.4	4.7	0.21	0.19	--	2.3	<0.020	<0.10	
			Provect-IR/KB-1-2	<0.020	19	0.22	0.070	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	<0.020	22	0.21	0.054	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	1.1	15	0.21	0.10	--	0.76	ND	ND	
			Standard Deviation (mmoles)	3.2E-03	2.0E-02	1.7E-05	9.7E-04	--	1.2E-02	0.0E+00	0.0E+00	
			Average Total mmoles	**0.0018**	**0.033**	**0.00075**	**0.0014**	**3.7E-02**	**0.0067**	**ND**	**ND**	
	26-Mar-20	105	Provect-IR/KB-1-1	2.7	4.8	0.21	0.18	--	2.3	<0.020	<0.10	
			Provect-IR/KB-1-2	<0.020	20	0.31	0.060	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	<0.020	22	0.27	0.049	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.90	16	0.26	0.095	--	0.75	ND	ND	
			Standard Deviation (mmoles)	2.5E-03	2.0E-02	1.7E-04	9.2E-04	--	1.2E-02	0.0E+00	0.0E+00	
			Average Total mmoles	**0.0014**	**0.033**	**0.00092**	**0.0012**	**3.7E-02**	**0.0067**	**ND**	**ND**	
	09-Apr-20	119	Provect-IR/KB-1-1	1.6	4.9	0.24	0.25	--	2.4	<0.020	<0.10	
			Provect-IR/KB-1-2	0.033	17	1.2	0.079	--	<0.0020	<0.020	<0.10	
			Provect-IR/KB-1-3	<0.020	20	0.96	0.061	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.54	14	0.79	0.13	--	0.79	ND	ND	
			Standard Deviation (mmoles)	1.5E-03	1.7E-02	1.7E-03	1.3E-03	--	1.2E-02	0.0E+00	0.0E+00	
			Average Total mmoles	**0.00087**	**0.030**	**0.0028**	**0.0017**	**3.5E-02**	**0.007**	**ND**	**ND**	
	17-Apr-20	127										Amended with 0.108 g of Provect-IR® donor component to replicate Time 0 donor amendment.
	15-May-20	155	Provect-IR/KB-1-1	0.34	4.3	0.85	0.31	--	1.9	<0.020	<0.10	
			Provect-IR/KB-1-2	0.13	3.1	<0.020	1.1	--	<0.0020	<0.020	0.27	
			Provect-IR/KB-1-3	0.16	2.7	<0.020	1.1	--	<0.0020	<0.020	0.10	
			Average Concentration (mg/L)	0.21	3.4	0.28	0.85	--	0.64	ND	0.12	
			Standard Deviation (mmoles)	1.9E-04	1.8E-03	1.7E-03	6.2E-03	--	9.9E-03	0.0E+00	6.4E-03	
			Average Total mmoles	**0.00034**	**0.0072**	**0.00099**	**0.011**	**2.0E-02**	**0.0057**	**ND**	**0.0058**	
EOS-ZVI Amended/KB-1® Bioaugmented	02-Dec-19	-10										Amended the first replicate with 100 µL of resazurin.
	12-Dec-19	0										Amended with 0.18 g of EOS-ZVI to target 0.3% of geologic material.
			EOS-ZVI/KB-1-1	26	4.1	0.22	<0.040	--	<0.0040	<0.040	<0.20	
			EOS-ZVI/KB-1-2	28	4.0	0.23	<0.040	--	<0.0040	<0.040	<0.20	
			EOS-ZVI/KB-1-3	28	4.1	0.25	<0.040	--	<0.0040	<0.040	<0.20	
			Average Concentration (mg/L)	27	4.1	0.23	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	1.8E-03	6.9E-05	4.4E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.044**	**0.0087**	**0.00081**	**ND**	**5.4E-02**	**ND**	**ND**	**ND**	

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
EOS-ZVI Amended/KB-1® Bioaugmented Continued	30-Dec-19	18	EOS-ZVI/KB-1-1	28	7.5	0.24	<0.020	--	0.059	<0.020	<0.10	
			EOS-ZVI/KB-1-2	30	4.5	0.25	<0.020	--	0.017	<0.020	<0.10	
			EOS-ZVI/KB-1-3	28	4.3	0.25	<0.020	--	0.0067	<0.020	<0.10	
			Average Concentration (mg/L)	29	5.4	0.25	ND	--	0.027	ND	ND	
			Standard Deviation (mmoles)	1.8E-03	3.9E-03	2.0E-05	0.0E+00	--	2.4E-04	0.0E+00	0.0E+00	
			Average Total mmoles	**0.046**	**0.012**	**0.00086**	**ND**	**5.9E-02**	**0.00024**	**ND**	**ND**	
	16-Jan-20	35	EOS-ZVI/KB-1-1	13	8.8	0.26	0.26	--	1.3	0.063	<0.10	
			EOS-ZVI/KB-1-2	26	4.8	0.26	0.050	--	0.51	<0.020	<0.10	
			EOS-ZVI/KB-1-3	29	4.8	0.28	0.040	--	0.41	<0.020	<0.10	
			Average Concentration (mg/L)	23	6.1	0.27	0.12	--	0.75	0.021	ND	
			Standard Deviation (mmoles)	1.4E-02	4.9E-03	4.6E-05	1.6E-03	--	4.5E-03	7.3E-04	0.0E+00	
			Average Total mmoles	**0.036**	**0.013**	**0.00093**	**0.0015**	**5.1E-02**	**0.0067**	**0.00042**	**ND**	
	30-Jan-20	49	EOS-ZVI/KB-1-1	1.1	11	0.26	0.44	--	<0.0020	0.086	<0.10	
			EOS-ZVI/KB-1-2	4.7	16	0.28	0.090	--	<0.0020	0.022	<0.10	
			EOS-ZVI/KB-1-3	4.4	16	0.27	0.12	--	<0.0020	0.026	<0.10	
			Average Concentration (mg/L)	3.4	14	0.27	0.22	--	ND	0.044	ND	
			Standard Deviation (mmoles)	3.1E-03	5.9E-03	3.8E-05	2.5E-03	--	0.0E+00	7.1E-04	0.0E+00	
			Average Total mmoles	**0.0054**	**0.031**	**0.00095**	**0.0028**	**4.0E-02**	**ND**	**0.00088**	**ND**	
	03-Feb-20	53	EOS-ZVI/KB-1-1	0.02	7.7	0.22	0.36	--	<0.0020	0.073	<0.10	
			EOS-ZVI/KB-1-2	1.1	16	0.24	0.063	--	<0.0020	<0.020	<0.10	
			EOS-ZVI/KB-1-3	<0.020	17	0.25	0.096	--	<0.0020	0.021	<0.10	
			Average Concentration (mg/L)	0.36	14	0.24	0.17	--	ND	0.031	ND	
			Standard Deviation (mmoles)	9.8E-04	1.1E-02	5.6E-05	2.2E-03	--	0.0E+00	7.5E-04	0.0E+00	
			Average Total mmoles	**0.00058**	**0.029**	**0.00083**	**0.0023**	**3.3E-02**	**ND**	**0.00062**	**ND**	
	13-Feb-20	63	EOS-ZVI/KB-1-1	<0.020	9.0	0.23	0.38	--	<0.0020	0.076	<0.10	
			EOS-ZVI/KB-1-2	<0.020	17	0.28	0.083	--	<0.0020	<0.020	<0.10	
			EOS-ZVI/KB-1-3	<0.020	17	0.30	0.10	--	<0.0020	0.023	<0.10	
			Average Concentration (mg/L)	ND	14	0.27	0.19	--	ND	0.033	ND	
			Standard Deviation (mmoles)	0.0E+00	1.0E-02	1.3E-04	2.1E-03	--	0.0E+00	7.7E-04	0.0E+00	
			Average Total mmoles	**ND**	**0.031**	**0.00094**	**0.0025**	**3.4E-02**	**ND**	**0.00065**	**ND**	
	26-Feb-20	76	EOS-ZVI/KB-1-1	<0.020	11	0.22	0.38	--	<0.0020	0.077	<0.10	
			EOS-ZVI/KB-1-2	<0.020	16	0.26	0.08	--	<0.0020	0.020	<0.10	
			EOS-ZVI/KB-1-3	<0.020	15	0.27	0.094	--	<0.0020	0.022	<0.10	
			Average Concentration (mg/L)	ND	14	0.25	0.19	--	ND	0.04	ND	
			Standard Deviation (mmoles)	0.0E+00	5.6E-03	8.9E-05	2.2E-03	--	0.0E+00	6.4E-04	0.0E+00	
			Average Total mmoles	**ND**	**0.029**	**0.00087**	**0.0024**	**3.2E-02**	**ND**	**0.00078**	**ND**	
	19-Mar-20	98										Bioaugmented with KB-1®.
			EOS-ZVI/KB-1-1	<0.020	11	0.22	0.37	--	<0.0020	0.08	<0.10	
			EOS-ZVI/KB-1-2	<0.020	15	0.26	0.083	--	<0.0020	0.026	0.11	
			EOS-ZVI/KB-1-3	<0.020	14	0.27	0.093	--	<0.0020	0.029	0.10	
			Average Concentration (mg/L)	ND	13	0.25	0.18	--	ND	0.045	0.071	
			Standard Deviation (mmoles)	0.0E+00	5.1E-03	9.0E-05	2.1E-03	--	0.0E+00	6.0E-04	2.8E-03	
			Average Total mmoles	**ND**	**0.029**	**0.00088**	**0.0024**	**3.2E-02**	**ND**	**0.00089**	**0.0033**	
	26-Mar-20	105	EOS-ZVI/KB-1-1	<0.020	4.0	2.6	0.68	--	<0.0020	0.065	<0.10	
			EOS-ZVI/KB-1-2	<0.020	15	0.59	0.078	--	<0.0020	<0.020	<0.10	
			EOS-ZVI/KB-1-3	<0.020	15	0.41	0.10	--	<0.0020	0.023	<0.10	
			Average Concentration (mg/L)	ND	11	1.2	0.29	--	ND	0.029	ND	
			Standard Deviation (mmoles)	0.0E+00	1.3E-02	4.3E-03	4.5E-03	--	0.0E+00	6.5E-04	0.0E+00	
			Average Total mmoles	**ND**	**0.024**	**0.0042**	**0.0038**	**3.2E-02**	**ND**	**0.00058**	**ND**	

TABLE 2: SUMMARY OF MICROCOSM cVOC AND DHG RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
EOS-ZVI Amended/KB-1® Bioaugmented Continued	09-Apr-20	119	EOS-ZVI/KB-1-1	<0.020	1.7	<0.020	0.88	--	<0.0020	0.075	0.35	
			EOS-ZVI/KB-1-2	<0.020	15	1.4	0.094	--	<0.0020	0.021	<0.10	
			EOS-ZVI/KB-1-3	<0.020	14	1.3	0.12	--	<0.0020	0.025	<0.10	
			Average Concentration (mg/L)	ND	10	0.89	0.36	--	ND	0.041	0.12	
			Standard Deviation (mmoles)	0.0E+00	1.5E-02	2.7E-03	5.9E-03	--	0.0E+00	6.0E-04	9.5E-03	
			Average Total mmoles	**ND**	**0.021**	**0.0031**	**0.0048**	**2.9E-02**	**ND**	**0.00080**	**0.0055**	
	15-May-20	155	EOS-ZVI/KB-1-1	0.12	2.2	<0.020	0.91	--	<0.0020	0.084	1.6	
			EOS-ZVI/KB-1-2	<0.020	0.078	<0.020	1.2	--	<0.0020	0.022	0.21	
			EOS-ZVI/KB-1-3	<0.020	<0.020	<0.020	1.2	--	<0.0020	0.026	0.57	
			Average Concentration (mg/L)	0.040	0.74	ND	1.1	--	ND	0.044	0.8	
			Standard Deviation (mmoles)	1.1E-04	2.6E-03	0.0E+00	2.2E-03	--	0.0E+00	6.8E-04	3.4E-02	
			Average Total mmoles	**0.000064**	**0.0016**	**ND**	**0.014**	**1.6E-02**	**ND**	**0.00087**	**0.037**	
ERD65 and DVI Amended/ KB-1® Bioaugmented	17-Apr-20	-4										Spiked with TCE and cDCE to target concentratations of 35 mg/L and 4.5 mg/L respectively.
	21-Apr-20	0										Amended the first replicate with 100 µL of resazurin.
												Amended with 0.3 g of DVI as directed by Provectus.
												Amended with 1 mL of ERD65 to target 0.5% of solution as oil.
			ERD65&DVI/KB-1-1	40	4.8	0.22	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	37	4.9	0.20	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	25	4.4	0.19	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	34	4.7	0.20	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	1.2E-02	5.9E-04	4.8E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.054**	**0.010**	**0.00070**	**ND**	**0.0647**	**ND**	**ND**	**ND**	
	05-May-20	14										Bioaugmented with KB-1®.
			ERD65&DVI/KB-1-1	16	3.9	0.18	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	16	4.0	0.15	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	17	4.0	0.17	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	16	4.0	0.16	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	1.2E-03	1.5E-04	4.8E-05	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.026**	**0.0085**	**0.00057**	**ND**	**3.5E-02**	**ND**	**ND**	**ND**	
	20-May-20	29	ERD65&DVI/KB-1-1	<0.020	30	0.89	<0.020	--	0.0022	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	31	0.80	<0.020	--	0.0025	<0.020	<0.10	
			ERD65&DVI/KB-1-3	<0.020	33	0.38	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	ND	31	0.69	ND	--	0.0015	ND	ND	
			Standard Deviation (mmoles)	0.0E+00	2.5E-03	9.6E-04	0.0E+00	--	1.2E-05	0.0E+00	0.0E+00	
			Average Total mmoles	**ND**	**0.067**	**0.0024**	**ND**	**6.9E-02**	**0.000014**	**ND**	**ND**	
	04-Jun-20	44	ERD65&DVI/KB-1-1	<0.020	29	1.00	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	26	0.78	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	<0.020	27	0.38	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	ND	28	0.73	ND	--	ND	ND	ND	
			Standard Deviation (mmoles)	0.0E+00	2.8E-03	1.1E-03	0.0E+00	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**ND**	**0.059**	**0.0025**	**ND**	**6.2E-02**	**ND**	**ND**	**ND**	
	23-Jun-20	63	ERD65&DVI/KB-1-1	0.026	30	1.8	0.01	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	28	1.1	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	0.018	28	0.45	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.015	29	1.1	0.0034	--	ND	ND	ND	
			Standard Deviation (mmoles)	2.2E-05	2.1E-03	2.4E-03	7.7E-05	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.000024**	**0.061**	**0.004**	**0.000044**	**6.5E-02**	**ND**	**ND**	**ND**	

TABLE 2: SUMMARY OF MICROCOSM cVOC AND DHG RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
ERD65 and DVI Amended/ KB-1® Bioaugmented Continued	15-Jul-20	85	ERD65&DVI/KB-1-1	0.049	28	3.4	0.024	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	27	1.9	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	0.03	29	0.49	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.026	28	1.9	0.0081	--	ND	ND	ND	
			Standard Deviation (mmoles)	3.9E-05	1.7E-03	5.0E-03	1.8E-04	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.000042**	**0.06**	**0.0068**	**0.00011**	**6.7E-02**	**ND**	**ND**	**ND**	
	12-Aug-20	113	ERD65&DVI/KB-1-1	0.052	16	10	0.34	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	13	11	0.33	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	0.029	26	0.49	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.027	18	7.3	0.22	--	ND	ND	ND	
			Standard Deviation (mmoles)	4.2E-05	1.5E-02	2.1E-02	2.6E-03	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.000043**	**0.039**	**0.025**	**0.003**	**6.7E-02**	**ND**	**ND**	**ND**	
	18-Sep-20	150	ERD65&DVI/KB-1-1	<0.020	<0.020	<0.020	1.9	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	<0.020	<0.020	1.5	--	<0.0020	<0.020	0.39	
			ERD65&DVI/KB-1-3	<0.020	<0.020	22	0.27	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	ND	ND	7.4	1.2	--	ND	ND	0.13	
			Standard Deviation (mmoles)	0.0E+00	0.0E+00	4.5E-02	1.1E-02	--	0.0E+00	0.0E+00	1.1E-02	
			Average Total mmoles	**ND**	**ND**	**0.026**	**0.016**	**4.2E-02**	**ND**	**ND**	**0.0061**	
	09-Oct-20	171	ERD65&DVI/KB-1-1	<0.020	<0.020	<0.020	1.7	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	<0.020	<0.020	1.3	--	<0.0020	<0.020	3.7	
			ERD65&DVI/KB-1-3	<0.020	<0.020	18	0.68	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	ND	ND	5.9	1.2	--	ND	ND	1.2	
			Standard Deviation (mmoles)	0.0E+00	0.0E+00	3.6E-02	6.9E-03	--	0.0E+00	0.0E+00	9.8E-02	
			Average Total mmoles	**ND**	**ND**	**0.021**	**0.016**	**3.7E-02**	**ND**	**ND**	**0.057**	

Notes:

-- - not applicable
% - percent
< - compound not detected, the associated value is the detection limit
µL - microliters
ANAC - anaerobic active control
ANSC - anaerobic sterile control
cDCE - cis-1,2-dichloroethene
cVOC - chlorinated volatile organic compound
DHG - dissolved hydrocarbon gas
DVI - dual-valent iron
ERD - enhanced reductive dechlorination
mg/L - milligrams per liter
mmoles - millimoles
ND - not detected
TCE - trichloroethene
VC - vinyl chloride
VOC - volatile organic compounds
ZVI - zero valent iron

TABLE 2: SUMMARY OF MICROCOSM cVOC AND DHG RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	Chlorinated Ethenes and Ethene					DHGs			Comment
				TCE	cDCE	VC	Ethene	Total Ethenes	Acetylene	Ethane	Methane	
				mg/L	mg/L	mg/L	mg/L	mmol/bottle	mg/L	mg/L	mg/L	
ERD65 and DVI Amended/ KB-1® Bioaugmented Continued	15-Jul-20	85	ERD65&DVI/KB-1-1	0.049	28	3.4	0.024	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	27	1.9	<0.020	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	0.03	29	0.49	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.026	28	1.9	0.0081	--	ND	ND	ND	
			Standard Deviation (mmoles)	3.9E-05	1.7E-03	5.0E-03	1.8E-04	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.000042**	**0.06**	**0.0068**	**0.00011**	**6.7E-02**	**ND**	**ND**	**ND**	
	12-Aug-20	113	ERD65&DVI/KB-1-1	0.052	16	10	0.34	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	13	11	0.33	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-3	0.029	26	0.49	<0.020	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	0.027	18	7.3	0.22	--	ND	ND	ND	
			Standard Deviation (mmoles)	4.2E-05	1.5E-02	2.1E-02	2.6E-03	--	0.0E+00	0.0E+00	0.0E+00	
			Average Total mmoles	**0.000043**	**0.039**	**0.025**	**0.003**	**6.7E-02**	**ND**	**ND**	**ND**	
	18-Sep-20	150	ERD65&DVI/KB-1-1	<0.020	<0.020	<0.020	1.9	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	<0.020	<0.020	1.5	--	<0.0020	<0.020	0.39	
			ERD65&DVI/KB-1-3	<0.020	<0.020	22	0.27	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	ND	ND	7.4	1.2	--	ND	ND	0.13	
			Standard Deviation (mmoles)	0.0E+00	0.0E+00	4.5E-02	1.1E-02	--	0.0E+00	0.0E+00	1.1E-02	
			Average Total mmoles	**ND**	**ND**	**0.026**	**0.016**	**4.2E-02**	**ND**	**ND**	**0.0061**	
	09-Oct-20	171	ERD65&DVI/KB-1-1	<0.020	<0.020	<0.020	1.7	--	<0.0020	<0.020	<0.10	
			ERD65&DVI/KB-1-2	<0.020	<0.020	<0.020	1.3	--	<0.0020	<0.020	3.7	
			ERD65&DVI/KB-1-3	<0.020	<0.020	18	0.68	--	<0.0020	<0.020	<0.10	
			Average Concentration (mg/L)	ND	ND	5.9	1.2	--	ND	ND	1.2	
			Standard Deviation (mmoles)	0.0E+00	0.0E+00	3.6E-02	6.9E-03	--	0.0E+00	0.0E+00	9.8E-02	
			Average Total mmoles	**ND**	**ND**	**0.021**	**0.016**	**3.7E-02**	**ND**	**ND**	**0.057**	

Notes:

-- - not applicable
% - percent
< - compound not detected, the associated value is the detection limit
µL - microliters
ANAC - anaerobic active control
ANSC - anaerobic sterile control
cDCE - cis-1,2-dichloroethene
cVOC - chlorinated volatile organic compound
DHG - dissolved hydrocarbon gas
DVI - dual-valent iron
ERD - enhanced reductive dechlorination
mg/L - milligrams per liter
mmoles - millimoles
ND - not detected
TCE - trichloroethene
VC - vinyl chloride
VOC - volatile organic compounds
ZVI - zero valent iron

TABLE 3: SUMMARY OF MICROCOSM ANION RESULTS
Former Whirlpool Facility, Fort Smith, Arkansas

Treatment	Date	Day	Replicate	Total VFAs mg/L	Chloride mg/L	Nitrite-N mg/L	Nitrate-N mg/L	Sulfate mg/L	Phosphate mg/L
Anaerobic Sterile Control	12-Dec-19	0	ANSC-1	<0.07	441	<0.09	0.35	635	<0.07
			ANSC-2	<0.07	443	<0.09	0.37	648	<0.07
			ANSC-3	<0.07	478	<0.09	0.43	654	<0.07
			Average	**ND**	**454**	**ND**	**0.38**	**646**	**ND**
	30-Dec-19	18	ANSC-1	<0.07	374	<0.09	0.28	526	<0.07
			ANSC-2	<0.07	418	<0.09	0.27	611	<0.07
			ANSC-3	<0.07	414	<0.09	0.34	562	<0.07
			Average	**ND**	**402**	**ND**	**0.30**	**566**	**ND**
	30-Jan-20	49	ANSC-1	<0.07	387	<0.09	<0.09	542	<0.07
			ANSC-2	<0.07	387	<0.09	<0.09	569	<0.07
			ANSC-3	<0.07	453	<0.09	<0.09	651	<0.07
			Average	**ND**	**409**	**ND**	**ND**	**587**	**ND**
	15-May-20	155	ANSC-1	<0.07	452	<0.09	0.26	620	<0.07
			ANSC-2	<0.07	474	<0.09	0.29	666	<0.07
			ANSC-3	<0.07	502	<0.09	0.31	693	<0.07
			Average	**ND**	**476**	**ND**	**0.29**	**660**	**ND**
Anaerobic Active Control	12-Dec-19	0	ANAC-1	<0.07	358	<0.09	0.26	676	<0.07
			ANAC-2	<0.07	365	<0.09	0.18	637	<0.07
			ANAC-3	<0.07	354	<0.09	0.30	610	<0.07
			Average	**ND**	**359**	**ND**	**0.25**	**641**	**ND**
	30-Dec-19	18	ANAC-1	<0.07	356	<0.09	<0.09	679	<0.07
			ANAC-2	<0.07	319	<0.09	<0.09	541	<0.07
			ANAC-3	<0.07	345	<0.09	<0.09	587	<0.07
			Average	**ND**	**340**	**ND**	**ND**	**603**	**ND**
	30-Jan-20	49	ANAC-1	<0.07	344	<0.09	<0.09	655	<0.07
			ANAC-2	<0.07	330	<0.09	<0.09	573	<0.07
			ANAC-3	<0.07	383	<0.09	<0.09	597	<0.07
			Average	**ND**	**353**	**ND**	**ND**	**608**	**ND**
	15-May-20	155	ANAC-1	<0.07	374	<0.09	<0.09	677	<0.07
			ANAC-2	<0.07	385	<0.09	<0.09	643	<0.07
			ANAC-3	<0.07	389	<0.09	<0.09	654	<0.07
			Average	**ND**	**383**	**ND**	**ND**	**658**	**ND**
Provect-IR® Amended/KB-1® Bioaugmented	12-Dec-19	0	Provect-IR/KB-1-1	11	340	<0.09	0.21	590	<0.07
			Provect-IR/KB-1-2	11	362	<0.09	0.21	625	<0.07
			Provect-IR/KB-1-3	10	353	<0.09	0.30	608	<0.07
			Average	**11**	**352**	**ND**	**0.24**	**608**	**ND**
	30-Dec-19	18	Provect-IR/KB-1-1	117	341	<0.09	<0.09	500	<0.07
			Provect-IR/KB-1-2	104	300	<0.09	<0.09	433	<0.07
			Provect-IR/KB-1-3	125	314	<0.09	<0.09	455	<0.07
			Average	**115**	**318**	**ND**	**ND**	**463**	**ND**
	16-Jan-20	35	Provect-IR/KB-1-1	136	346	<0.09	<0.09	477	<0.07
			Provect-IR/KB-1-2	175	377	<0.09	<0.09	527	<0.07
			Provect-IR/KB-1-3	160	331	<0.09	<0.09	480	<0.07
			Average	**157**	**351**	**ND**	**ND**	**495**	**ND**
	30-Jan-20	49	Provect-IR/KB-1-1	114	387	<0.09	<0.09	553	<0.07
			Provect-IR/KB-1-2	143	330	<0.09	<0.09	423	<0.07
			Provect-IR/KB-1-3	111	305	<0.09	<0.09	390	<0.07
			Average	**123**	**341**	**ND**	**ND**	**455**	**ND**
	19-Mar-20	98	Provect-IR/KB-1-1	<0.07	365	<0.09	<0.09	398	<0.07
			Provect-IR/KB-1-2	<0.07	366	<0.09	<0.09	320	<0.07
			Provect-IR/KB-1-3	14	367	<0.09	<0.09	428	<0.07
			Average	**4.8**	**366**	**ND**	**ND**	**382**	**ND**

TABLE 3: SUMMARY OF MICROCOSM ANION RESULTS
Former Whirlpool Facility, Fort Smith, Arkansas

Treatment	Date	Day	Replicate	Total VFAs mg/L	Chloride mg/L	Nitrite-N mg/L	Nitrate-N mg/L	Sulfate mg/L	Phosphate mg/L
Provect-IR® Amended/KB-1® Bioaugmented Continued	15-May-20	155	Provect-IR/KB-1-1	84	401	<0.09	<0.09	65	<0.07
			Provect-IR/KB-1-2	86	399	<0.09	<0.09	68	<0.07
			Provect-IR/KB-1-3	91	468	<0.09	<0.09	54	<0.07
			Average	**87**	**423**	**ND**	**ND**	**62**	**ND**
EOS-ZVI Amended/KB-1® Bioaugmented	12-Dec-19	0	EOS-ZVI/KB-1-1	<0.07	336	<0.09	<0.09	572	<0.07
			EOS-ZVI/KB-1-2	<0.07	349	<0.09	0.54	600	<0.07
			EOS-ZVI/KB-1-3	<0.07	344	<0.09	0.20	604	<0.07
			Average	**ND**	**343**	**ND**	**0.25**	**592**	**ND**
	30-Dec-19	18	EOS-ZVI/KB-1-1	<0.07	355	<0.09	<0.09	603	<0.07
			EOS-ZVI/KB-1-2	<0.07	321	<0.09	<0.09	525	<0.07
			EOS-ZVI/KB-1-3	<0.07	263	<0.09	<0.09	430	<0.07
			Average	**ND**	**313**	**ND**	**ND**	**519**	**ND**
	16-Jan-20	35	EOS-ZVI/KB-1-1	20	332	<0.09	<0.09	528	<0.07
			EOS-ZVI/KB-1-2	15	341	<0.09	<0.09	530	<0.07
			EOS-ZVI/KB-1-3	11	330	<0.09	<0.09	539	<0.07
			Average	**15**	**334**	**ND**	**ND**	**532**	**ND**
	30-Jan-20	49	EOS-ZVI/KB-1-1	34	397	<0.09	<0.09	550	<0.07
			EOS-ZVI/KB-1-2	34	335	<0.09	<0.09	491	<0.07
			EOS-ZVI/KB-1-3	21	342	<0.09	<0.09	528	<0.07
			Average	**30**	**358**	**ND**	**ND**	**523**	**ND**
	19-Mar-20	98	EOS-ZVI/KB-1-1	126	452	<0.09	<0.09	<0.07	<0.07
			EOS-ZVI/KB-1-2	92	374	<0.09	<0.09	361	<0.07
			EOS-ZVI/KB-1-3	116	358	<0.09	<0.09	255	<0.07
			Average	**111**	**395**	**ND**	**ND**	**205**	**ND**
	15-May-20	155	EOS-ZVI/KB-1-1	193	417	<0.09	<0.09	<0.07	<0.07
			EOS-ZVI/KB-1-2	173	378	<0.09	<0.09	<0.07	<0.07
			EOS-ZVI/KB-1-3	133	383	<0.09	<0.09	<0.07	<0.07
			Average	**166**	**393**	**ND**	**ND**	**ND**	**ND**
ERD65 and DVI Amended/KB-1® Bioaugmented	21-Apr-20	0	ERD65&DVI/KB-1-1	205	362	<0.09	<0.09	637	<0.07
			ERD65&DVI/KB-1-2	246	354	<0.09	<0.09	625	<0.07
			ERD65&DVI/KB-1-3	229	357	<0.09	<0.09	616	<0.07
			Average	**226**	**358**	**ND**	**ND**	**626**	**ND**
	5-May-20	14	ERD65&DVI/KB-1-1	988	406	<0.09	<0.09	707	<0.07
			ERD65&DVI/KB-1-2	860	357	<0.09	<0.09	621	<0.07
			ERD65&DVI/KB-1-3	991	386	<0.09	0.14	664	<0.07
			Average	**946**	**383**	**ND**	**ND**	**664**	**ND**
	20-May-20	29	ERD65&DVI/KB-1-1	597	377	<0.09	<0.09	431	<0.07
			ERD65&DVI/KB-1-2	518	388	<0.09	<0.09	158	<0.07
			ERD65&DVI/KB-1-3	535	400	<0.09	<0.09	199	<0.07
			Average	**550**	**388**	**ND**	**ND**	**262**	**ND**
	23-Jun-20	63	ERD65&DVI/KB-1-1	478	349	<0.09	<0.09	257	<0.07
			ERD65&DVI/KB-1-2	403	366	<0.09	<0.09	21	<0.07
			ERD65&DVI/KB-1-3	444	375	<0.09	<0.09	62	<0.07
			Average	**442**	**363**	**ND**	**ND**	**113**	**ND**
	12-Aug-20	113	ERD65&DVI/KB-1-1	581	424	<0.09	<0.09	199	<0.07
			ERD65&DVI/KB-1-2	433	473	<0.09	<0.09	<0.07	<0.07
			ERD65&DVI/KB-1-3	451	387	<0.09	<0.09	12	<0.07
			Average	**488**	**428**	**ND**	**ND**	**71**	**ND**
	18-Sep-20	150	ERD65&DVI/KB-1-1	664	432	<0.09	<0.09	<0.07	<0.07
			ERD65&DVI/KB-1-2	471	388	<0.09	<0.09	<0.07	<0.07
			ERD65&DVI/KB-1-3	471	365	<0.09	<0.09	<0.07	<0.07
			Average	**535**	**395**	**ND**	**ND**	**ND**	**ND**

Notes:

TABLE 3: SUMMARY OF MICROCOSM ANION RESULTS
Former Whirlpool Facility, Fort Smith, Arkansas

Treatment	Date	Day	Replicate	Total VFAs mg/L	Chloride mg/L	Nitrite-N mg/L	Nitrate-N mg/L	Sulfate mg/L	Phosphate mg/L

< - compound not detected, the associated value is the detection limit
ANAC - anaerobic active control
ANSC - anaerobic sterile control
DVI - dual-valent iron
ERD - enhanced reductive dechlorination
mg/L - milligrams per liter
ND - not detected
Nitrate-N - nitrate-nitrogen
Nitrite-N - nitrite-nitrogen
VFAs - total volatile fatty acids, calibrated as lactate but may include other VFAs such as formate, acetate, propionate, pyruvate and butyrate
ZVI - zero valent iron

TABLE 4: SUMMARY OF MICROCOSM VFA RESULTS
Former Whirlpool Facility, Fort Smith, Arkansas

Treatment	Date	Day	Replicate	Lactate mg/L	Acetate mg/L	Propionate mg/L	Formate mg/L	Butyrate mg/L	Pyruvate mg/L
Provect-IR® Amended/KB-1® Bioaugmented	30-Dec-19	18	Provect-IR/KB-1-1	<0.39	162	5.6	<0.22	<0.41	<0.69
			Provect-IR/KB-1-2	<0.39	133	11	<0.22	<0.41	<0.69
			Provect-IR/KB-1-3	4.8	182	11	<0.22	<0.41	<0.69
			Average	**1.6**	**159**	**8.9**	**ND**	**ND**	**ND**
	30-Jan-20	49	Provect-IR/KB-1-1	<0.39	128	4.3	<0.22	<0.41	<0.69
			Provect-IR/KB-1-2	<0.39	166	0.80	<0.22	<0.41	<0.69
			Provect-IR/KB-1-3	<0.39	169	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**154**	**1.7**	**ND**	**ND**	**ND**
	19-Mar-20	98	Provect-IR/KB-1-1	<0.39	<0.54	<0.31	<0.22	<0.41	<0.69
			Provect-IR/KB-1-2	<0.39	<0.54	<0.31	<0.22	<0.41	<0.69
			Provect-IR/KB-1-3	<0.39	3.0	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**1.0**	**ND**	**ND**	**ND**	**ND**
	15-May-20	155	Provect-IR/KB-1-1	<0.39	92	<0.31	<0.22	<0.41	<0.69
			Provect-IR/KB-1-2	<0.39	95	<0.31	<0.22	<0.41	<0.69
			Provect-IR/KB-1-3	<0.39	88	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**92**	**ND**	**ND**	**ND**	**ND**
EOS-ZVI Amended/KB-1® Bioaugmented	30-Dec-19	18	EOS-ZVI/KB-1-1	<0.39	4.2	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-2	<0.39	3.7	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-3	<0.39	<0.54	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**2.6**	**ND**	**ND**	**ND**	**ND**
	30-Jan-20	49	EOS-ZVI/KB-1-1	<0.39	30	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-2	<0.39	40	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-3	<0.39	21	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**30**	**ND**	**ND**	**ND**	**ND**
	19-Mar-20	98	EOS-ZVI/KB-1-1	<0.39	109	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-2	<0.39	93	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-3	<0.39	124	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**109**	**ND**	**ND**	**ND**	**ND**
	15-May-20	155	EOS-ZVI/KB-1-1	<0.39	217	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-2	<0.39	213	<0.31	<0.22	<0.41	<0.69
			EOS-ZVI/KB-1-3	<0.39	157	<0.31	<0.22	<0.41	<0.69
			Average	**ND**	**196**	**ND**	**ND**	**ND**	**ND**
ERD65 and DVI Amended/KB-1® Bioaugmented	5-May-20	14	ERD65&DVI/KB-1-1	1.2	409	<0.31	299	<0.41	<0.69
			ERD65&DVI/KB-1-2	<0.39	331	33	195	<0.41	<0.69
			ERD65&DVI/KB-1-3	1.0	369	<0.31	259	<0.41	<0.69
			Average	**0.73**	**370**	**11**	**251**	**ND**	**ND**
	20-May-20	29	ERD65&DVI/KB-1-1	<0.39	716	<0.31	<0.22	<0.41	<0.69
			ERD65&DVI/KB-1-2	<0.39	634	<0.31	<0.22	<0.41	<0.69
			ERD65&DVI/KB-1-3	<0.39	586	0.79	0.31	<0.41	<0.69
			Average	**ND**	**645**	**0.26**	**0.10**	**ND**	**ND**
	18-Sep-20	150	ERD65&DVI/KB-1-1	6.4	778	29	<0.22	25	0.78
			ERD65&DVI/KB-1-2	7.7	508	18	<0.22	44	<0.69
			ERD65&DVI/KB-1-3	5.8	557	22	<0.22	38	<0.69
			Average	**6.6**	**614**	**23**	**ND**	**36**	**ND**

Notes:

< - compound not detected, the associated value is the detection limit
DVI - dual-valent iron
ERD - enhanced reductive dechlorination
mg/L - milligrams per liter
ND - not detected
VFA - volatile fatty acids
ZVI - zero valent iron

TABLE 5: SUMMARY OF MICROCOSM pH and ORP RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	pH	ORP mV
Anaerobic Sterile Control	12-Dec-19	0	ANSC-1	6.36	--
			ANSC-2	6.31	--
			ANSC-3	6.30	--
			Average	**6.32**	**--**
	30-Dec-19	18	ANSC-1	6.37	291
			ANSC-2	6.38	312
			ANSC-3	6.37	307
			Average	**6.37**	**303**
	30-Jan-20	49	ANSC-1	6.39	251
			ANSC-2	6.38	290
			ANSC-3	6.39	293
			Average	**6.39**	**278**
	26-Feb-20	76	ANSC-1	6.28	--
			ANSC-2	6.25	--
			ANSC-3	6.24	--
			Average	**6.26**	**--**
	15-May-20	155	ANSC-1	6.47	281
			ANSC-2	6.46	296
			ANSC-3	6.47	300
			Average	**6.47**	**292**
Anaerobic Active Control	12-Dec-19	0	ANAC-1	6.46	--
			ANAC-2	6.35	--
			ANAC-3	6.41	--
			Average	**6.41**	**--**
	30-Dec-19	18	ANAC-1	6.43	259
			ANAC-2	6.46	235
			ANAC-3	6.43	219
			Average	**6.44**	**238**
	30-Jan-20	49	ANAC-1	6.44	252
			ANAC-2	6.46	238
			ANAC-3	6.45	--
			Average	**6.45**	**245**
	26-Feb-20	76	ANAC-1	6.31	--
			ANAC-2	6.33	--
			ANAC-3	6.32	--
			Average	**6.32**	**--**
	15-May-20	155	ANAC-1	6.51	258
			ANAC-2	6.51	234
			ANAC-3	6.52	240
			Average	**6.51**	**244**
Provect-IR® Amended/KB-1® Bioaugmented	12-Dec-19	0	Buffered with 1.25 mL of a saturated NaHCO3 solution.		
			Provect-IR/KB-1-1	7.04	--
			Provect-IR/KB-1-2	6.98	--
			Provect-IR/KB-1-3	7.08	--
			Average	**7.03**	**--**
	30-Dec-19	18	Buffered with 0.25 mL of a saturated NaHCO3 solution.		
			Provect-IR/KB-1-1	6.97	-54
			Provect-IR/KB-1-2	6.97	-47
			Provect-IR/KB-1-3	6.93	-59
			Average	**6.96**	**-53**
	16-Jan-20	35	Provect-IR/KB-1-1	6.85	-87
			Provect-IR/KB-1-2	6.87	-79
			Provect-IR/KB-1-3	6.81	-75
			Average	**6.84**	**-80**
	30-Jan-20	49	Buffered with 0.25 mL of a saturated NaHCO3 solution.		
			Provect-IR/KB-1-1	7.06	-86
			Provect-IR/KB-1-2	7.01	-77
			Provect-IR/KB-1-3	7.01	-80
			Average	**7.03**	**-81**
	13-Feb-20	63	Provect-IR/KB-1-1	6.94	--
			Provect-IR/KB-1-2	6.91	--
			Provect-IR/KB-1-3	6.90	--
			Average	**6.92**	**--**
	26-Feb-20	76	Provect-IR/KB-1-1	6.83	--
			Provect-IR/KB-1-2	6.81	--
			Provect-IR/KB-1-3	6.82	--
			Average	**6.82**	**--**
	19-Mar-20	98	Provect-IR/KB-1-1	7.03	-122
			Provect-IR/KB-1-2	7.08	-97
			Provect-IR/KB-1-3	7.06	-131
			Average	**7.06**	**-117**
	9-Apr-20	119	Provect-IR/KB-1-1	7.05	--
			Provect-IR/KB-1-2	7.09	--
			Provect-IR/KB-1-3	7.05	--
			Average	**7.06**	**--**
	15-May-20	155	Provect-IR/KB-1-1	7.08	-91
			Provect-IR/KB-1-2	7.09	-119
			Provect-IR/KB-1-3	7.14	-114
			Average	**7.10**	**-108**
EOS-ZVI Amended/KB-1® Bioaugmented	12-Dec-19	0	Buffered with 1.25 mL of a saturated NaHCO3 solution.		
			EOS-ZVI/KB-1-1	7.15	--
			EOS-ZVI/KB-1-2	7.11	--
			EOS-ZVI/KB-1-3	7.02	--
			Average	**7.09**	**--**
	30-Dec-19	18	EOS-ZVI/KB-1-1	7.01	26
			EOS-ZVI/KB-1-2	7.01	49
			EOS-ZVI/KB-1-3	6.99	58
			Average	**7.00**	**44**

TABLE 5: SUMMARY OF MICROCOSM pH and ORP RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	Replicate	pH	ORP mV
EOS-ZVI Amended/KB-1® Bioaugmented Continued	16-Jan-20	35	EOS-ZVI/KB-1-1	6.96	-92
			EOS-ZVI/KB-1-2	6.92	-30
			EOS-ZVI/KB-1-3	6.92	-4
			Average	**6.93**	**-42**
	30-Jan-20	49	EOS-ZVI/KB-1-1	7.03	-117
			EOS-ZVI/KB-1-2	6.96	-90
			EOS-ZVI/KB-1-3	6.96	-57
			Average	**6.98**	**-88**
	13-Feb-20	63	EOS-ZVI/KB-1-1	6.95	--
			EOS-ZVI/KB-1-2	6.97	--
			EOS-ZVI/KB-1-3	6.97	--
			Average	**6.96**	**--**
	26-Feb-20	76	EOS-ZVI/KB-1-1	7.10	--
			EOS-ZVI/KB-1-2	6.90	--
			EOS-ZVI/KB-1-3	6.96	--
			Average	**6.99**	**--**
	19-Mar-20	98	EOS-ZVI/KB-1-1	7.24	-139
			EOS-ZVI/KB-1-2	7.09	-135
			EOS-ZVI/KB-1-3	7.14	-131
			Average	**7.16**	**-135**
	9-Apr-20	119	EOS-ZVI/KB-1-1	7.23	--
			EOS-ZVI/KB-1-2	7.12	--
			EOS-ZVI/KB-1-3	7.26	--
			Average	**7.20**	**--**
	15-May-20	155	EOS-ZVI/KB-1-1	7.25	-137
			EOS-ZVI/KB-1-2	7.22	-140
			EOS-ZVI/KB-1-3	7.29	-115
			Average	**7.25**	**-131**
ERD65 and DVI Amended/KB-1® Bioaugmented	21-Apr-20	0	ERD65&DVI/KB-1-1	6.21	29
			ERD65&DVI/KB-1-2	6.12	28
			ERD65&DVI/KB-1-3	6.26	28
			Average	**6.20**	**28**
	22-Apr-20	1	Buffered with 2 mL of a saturated NaHCO3 solution.		
			ERD65&DVI/KB-1-1	6.93	--
			ERD65&DVI/KB-1-2	6.91	--
			ERD65&DVI/KB-1-3	6.97	--
			Average	**6.94**	**--**
	5-May-20	14	Buffered with 2 mL of a saturated NaHCO3 solution.		
			ERD65&DVI/KB-1-1	6.56	-145
			ERD65&DVI/KB-1-2	6.59	-126
			ERD65&DVI/KB-1-3	6.55	-138
			Average	**6.57**	**-136**
	20-May-20	29	ERD65&DVI/KB-1-1	6.85	-10
			ERD65&DVI/KB-1-2	6.88	-11
			ERD65&DVI/KB-1-3	6.84	-81
			Average	**6.86**	**-34**
	4-Jun-20	44	ERD65&DVI/KB-1-1	6.95	--
			ERD65&DVI/KB-1-2	7.06	--
			ERD65&DVI/KB-1-3	6.93	--
			Average	**6.98**	**--**
	23-Jun-20	63	ERD65&DVI/KB-1-1	6.89	-115
			ERD65&DVI/KB-1-2	7.06	-123
			ERD65&DVI/KB-1-3	7.00	-113
			Average	**6.98**	**-117**
	15-Jul-20	85	ERD65&DVI/KB-1-1	6.99	--
			ERD65&DVI/KB-1-2	7.10	--
			ERD65&DVI/KB-1-3	7.01	--
			Average	**7.03**	**--**
	12-Aug-20	113	ERD65&DVI/KB-1-1	6.95	--
			ERD65&DVI/KB-1-2	7.07	--
			ERD65&DVI/KB-1-3	7.03	--
			Average	**7.02**	**--**
	18-Sep-20	150	ERD65&DVI/KB-1-1	7.10	-102
			ERD65&DVI/KB-1-2	7.31	-111
			ERD65&DVI/KB-1-3	7.20	-88
			Average	**7.20**	**-100**

Notes:

-- - not applicable
DVI - dual-valent iron
ERD - enhanced reductive dechlorination
mL - milliliter
mV - millivolts
$NaHCO_3$ - sodium bicarbonate
ORP - oxidation reduction potential
ZVI - zero valent iron

TABLE 6: SUMMARY OF MICROCOSM GENE-TRAC® RESULTS
Former Whirlpool Facility, Fort Smith, AR

Treatment	Date	Day	*Dhc*		*vcrA*		*bvcA*		*tceA*	
			%	Enumerations/L	%	Enumerations/L	%	Enumerations/L	%	Enumerations/L
Baseline Groundwater	11-Dec-19	-1	--	5×10^3 U	--	--	--	--	--	--
Anaerobic Active Control	15-May-20	155	--	9×10^4 U	--	--	--	--	--	--
Provect-IR® Amended/KB-1® Bioaugmented	30-Jan-20	49	--	9×10^4 U	--	--	--	--	--	--
	15-May-20	155	5 - 15%	3×10^9	8 - 22%	4×10^9	3 - 10%	2×10^9	0.7 - 2%	3×10^8
EOS-ZVI Amended/KB-1® Bioaugmented	30-Jan-20	49	--	9×10^4 U	--	--	--	--	--	--
	15-May-20	155	22 - 53%	3×10^8	35 - 74%	1×10^9	27 - 61%	1×10^9	19 - 46%	7×10^8
ERD65 and DVI Amended/KB-1® Bioaugmented	20-May-20	29	0.1 - 0.3%	4×10^7	0.2 - 0.55%	7×10^7	0.1 - 0.4%	6×10^7	0.1 - 0.3%	4×10^7
	25-Sep-20	157	6 - 17%	4×10^9	4 - 13%	3×10^9	2 - 6%	1×10^9	5 - 15%	3×10^9

Notes:

-- - not applicable
% - percent of total detected bacteria or functional genes
bvcA - BAV1 vinyl chloride reductase
Dhc - *dehalococcoides*
Enumerations/L - enumerated bacteria or functional gene per liter
tceA - trichloroethene reductase
U - not detected, the associated value is the quantitation limit
vcrA - vinyl chloride reductase

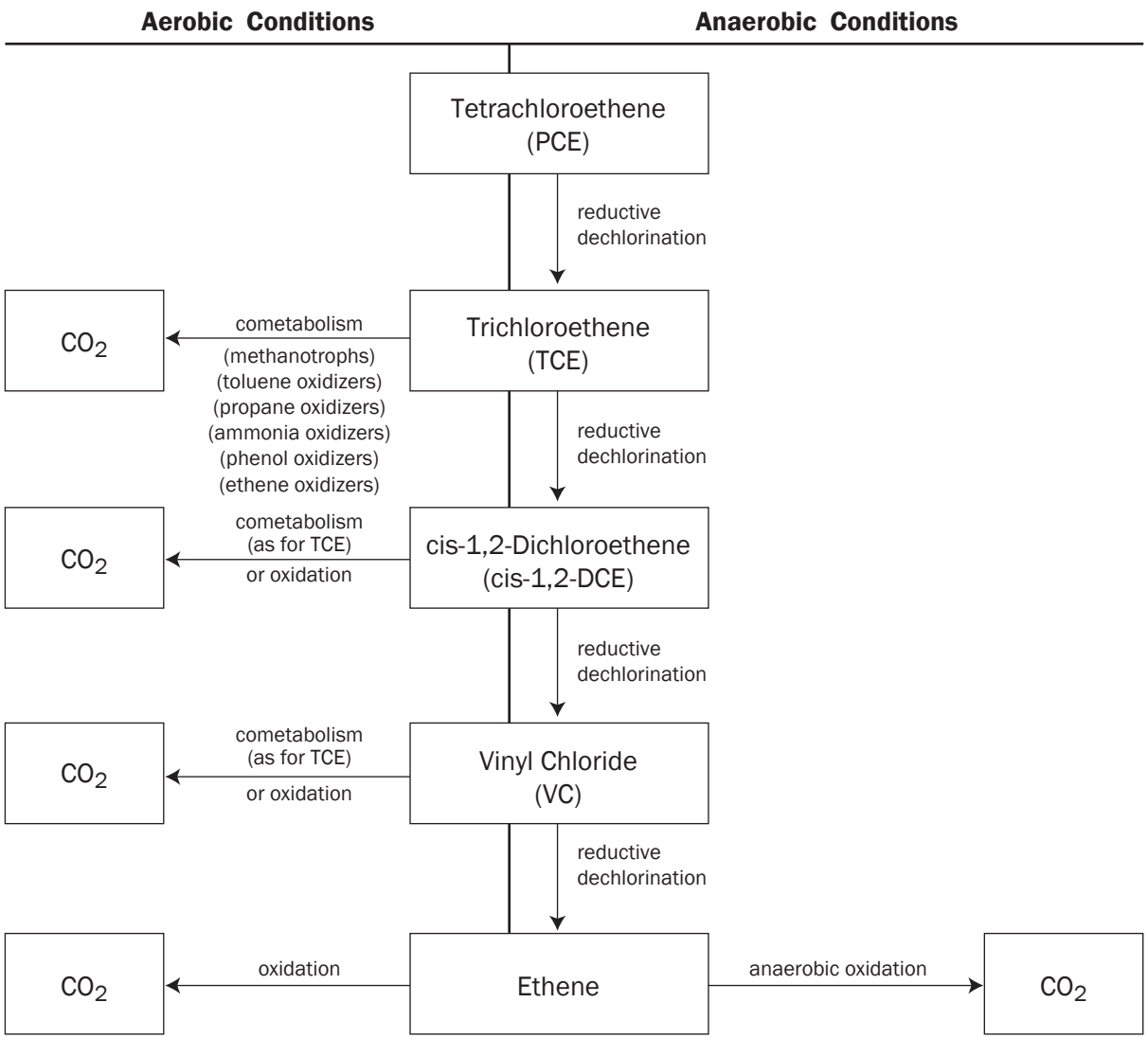
TABLE 7: HALF-LIVES (DAYS) OF CHLORINATED VOCS DETECTED IN MICROCOSMS
Former Whirlpool Facility - Fort Smith, AR

Treatment/Control	TCE			cDCE			VC		
	Half Life (Days)	T_1 (Day)	T_2 (Days)	**Half Life (Days)**	T_1 (Day)	T_2 (Days)	**Half Life (Days)**	T_1 (Day)	T_2 (Days)
Anaerobic Sterile Control	**~**	0	155	**~**	0	155	**~**	0	155
Anaerobic Active Control	**~**	0	155	**~**	0	155	**11**	0	49
Provect-IR® Amended/KB-1® Bioaugmented	**22**	0	155	**26***	98	155	**24***	119	155
EOS-ZVI Amended/KB-1® Bioaugmented	**8.4**	0	53	**14***	98	155	**7.3***	105	155
ERD65 and DVI Amended/KB-1® Bioaugmented	**2.5**	0	29	**5.7***	85	150	**68***	150	171
ERD65 and DVI Amended/KB-1® Bioaugmented Replicate 1	**2.4**	0	29	**5.7***	85	150	**3.7***	113	150
ERD65 and DVI Amended/KB-1® Bioaugmented Replicate 2	**2.4**	0	29	**5.7***	85	150	**3.7***	113	150
ERD65 and DVI Amended/KB-1® Bioaugmented Replicate 3	**2.6**	0	29	**3.2***	113	150	**63***	150	171

Notes:

* half lives determined after the addition of KB-1®
~ - net degradation of compound was not detected over duration of study
cDCE - cis-1,2-dichloroethene
TCE - trichloroethene
VC - vinyl chloride
VOCs - volatile organic compounds

FIGURES



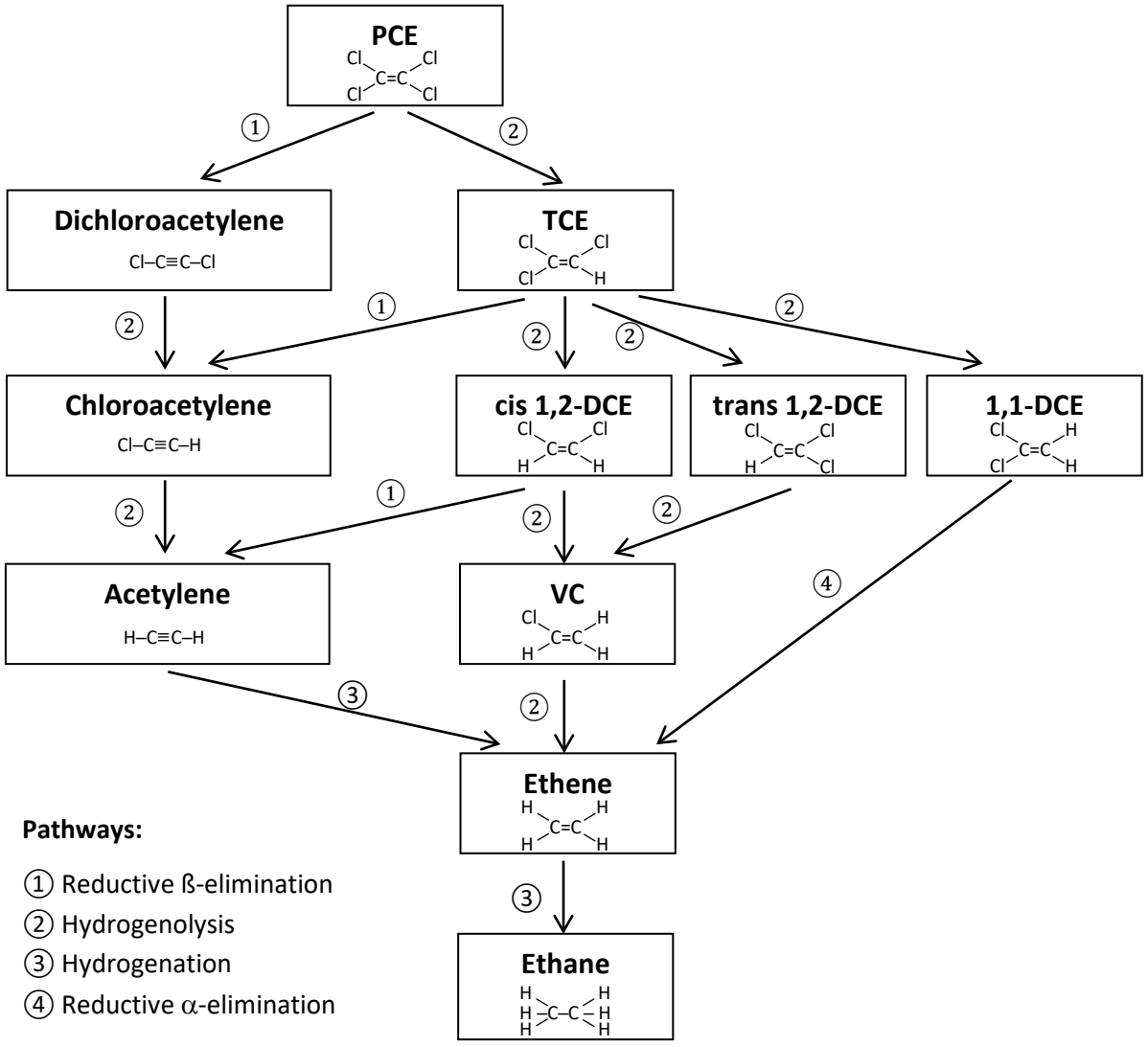
Pathways for the Degradation of Chlorinated Ethenes

SiREM

October 2015

Figure: **1**

00-01 pathways_chlorinated ethenes.ai



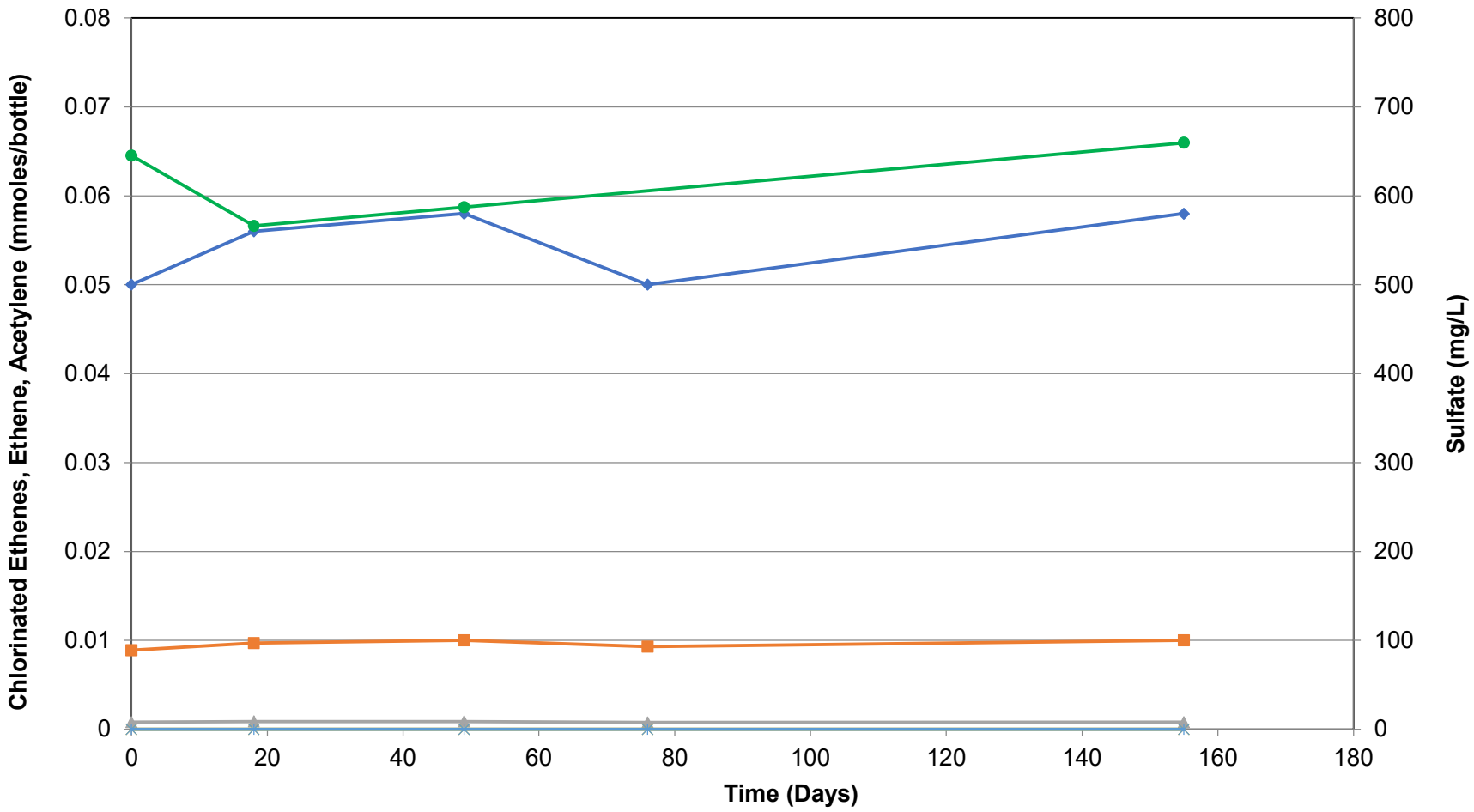
Pathways for the Degradation of Chlorinated Ethenes by *In-Situ* Chemical Reduction

SiREM

January-18

Figure: **2**

(modified from Arnold and Roberts, 2000)



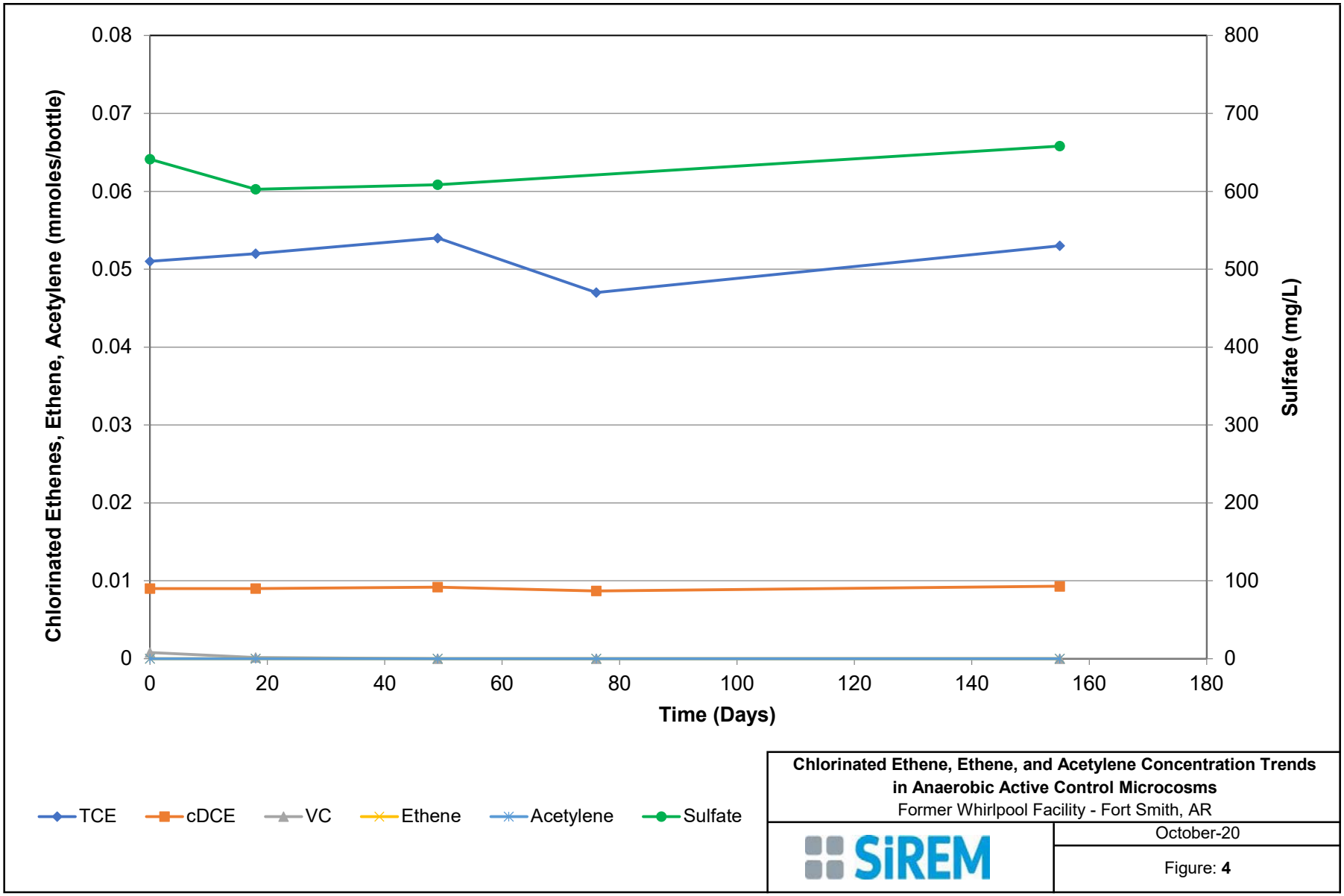
Chlorinated Ethene, Ethene, and Acetylene Concentration Trends in Anaerobic Sterile Control Microcosms

Former Whirlpool Facility - Fort Smith, AR

SiREM

October-20

Figure: **3**



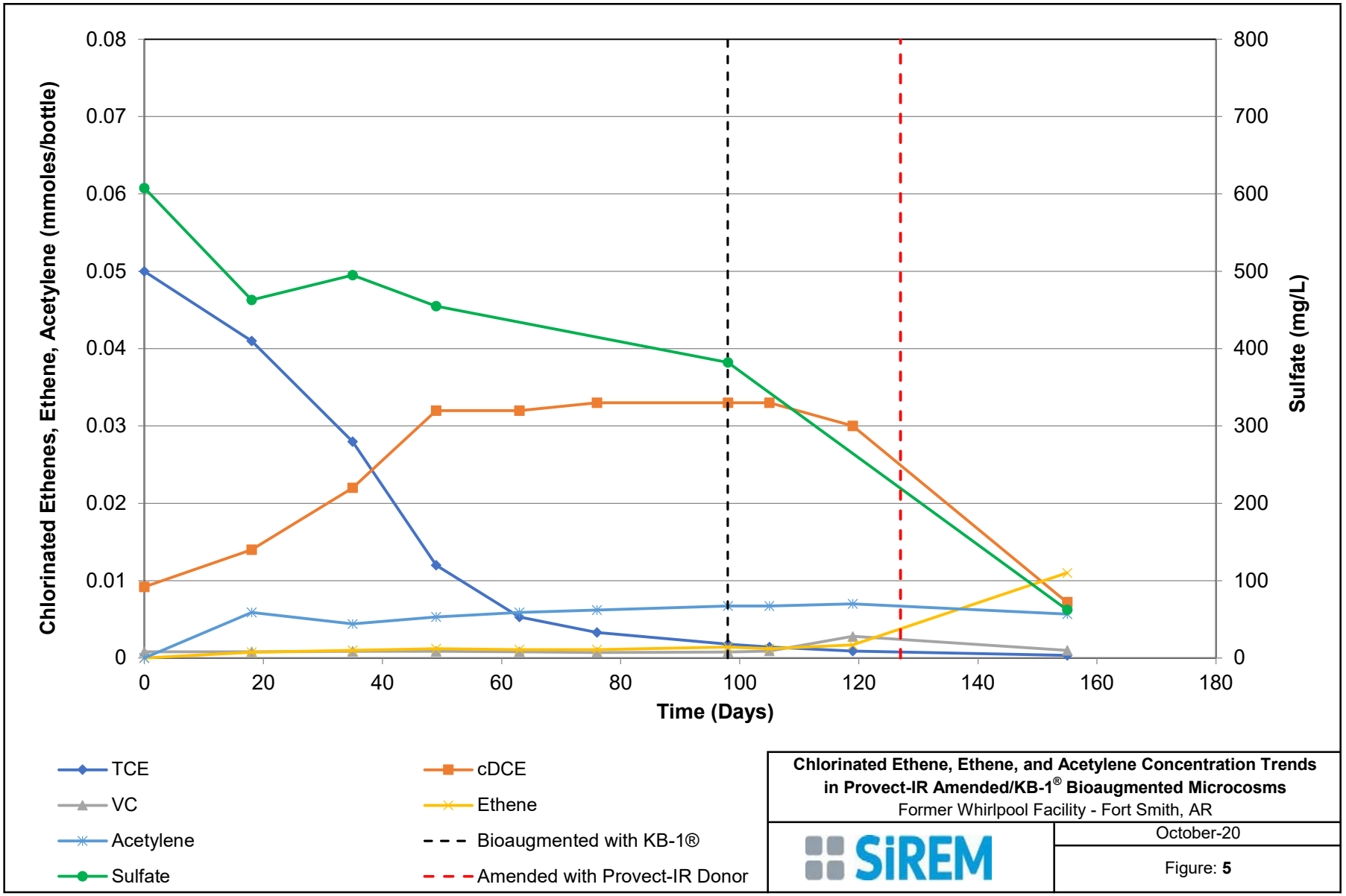
Chlorinated Ethene, Ethene, and Acetylene Concentration Trends in Anaerobic Active Control Microcosms

Former Whirlpool Facility - Fort Smith, AR

SiREM

October-20

Figure: **4**



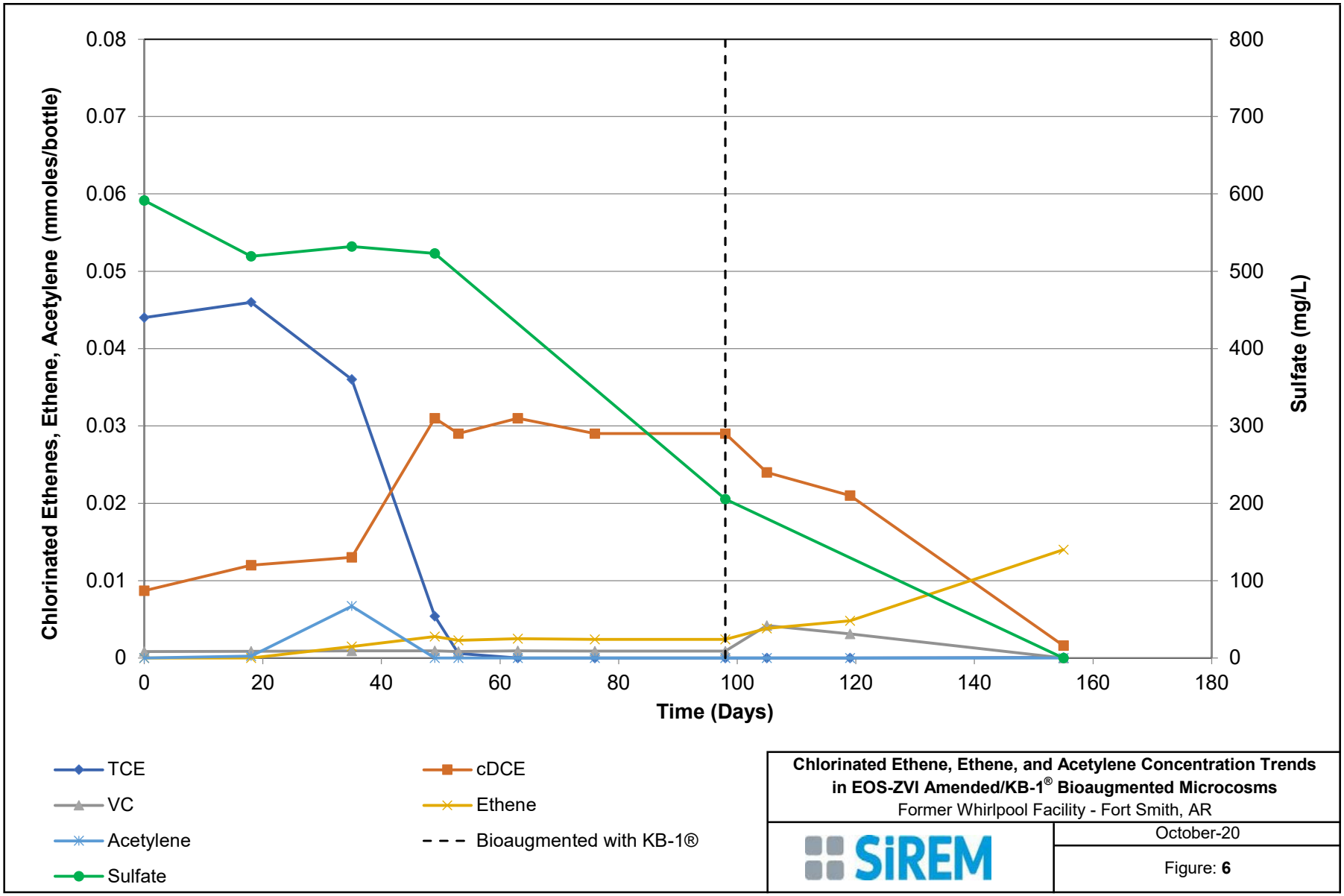
Chlorinated Ethene, Ethene, and Acetylene Concentration Trends in Provect-IR Amended/KB-1® Bioaugmented Microcosms

Former Whirlpool Facility - Fort Smith, AR

SiREM

October-20

Figure: **5**



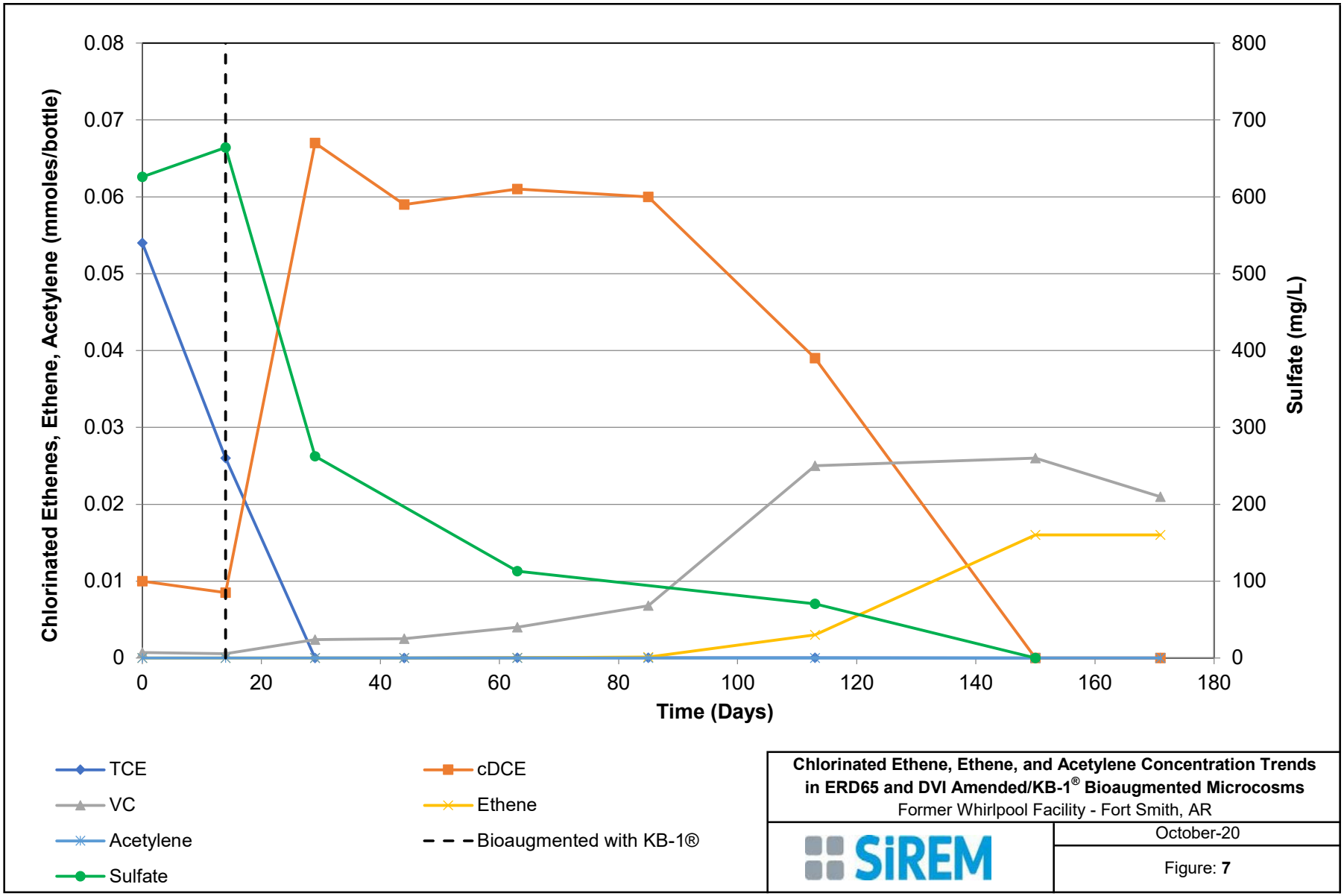
Chlorinated Ethene, Ethene, and Acetylene Concentration Trends in EOS-ZVI Amended/KB-1® Bioaugmented Microcosms

Former Whirlpool Facility - Fort Smith, AR

SiREM

October-20

Figure: **6**



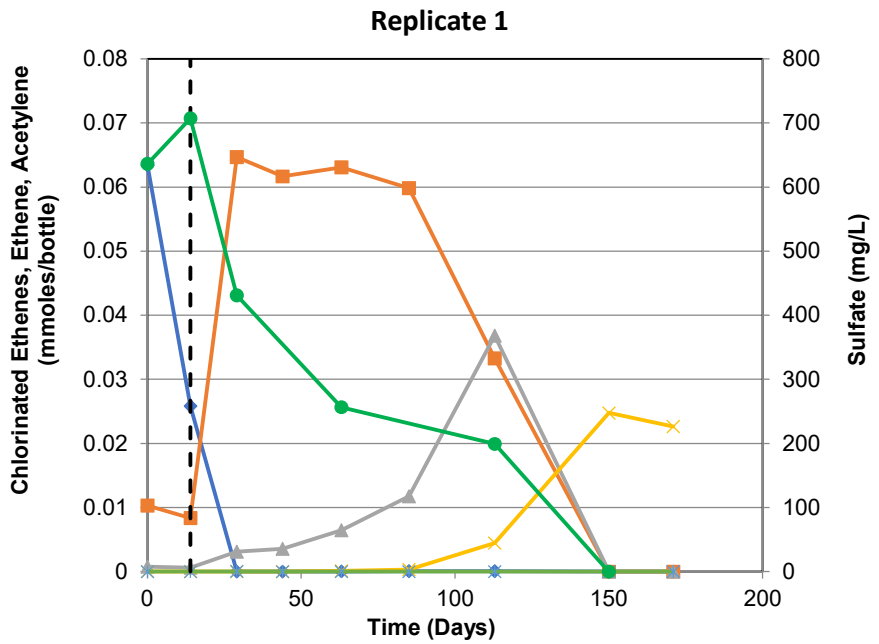
Chlorinated Ethene, Ethene, and Acetylene Concentration Trends in ERD65 and DVI Amended/KB-1® Bioaugmented Microcosms

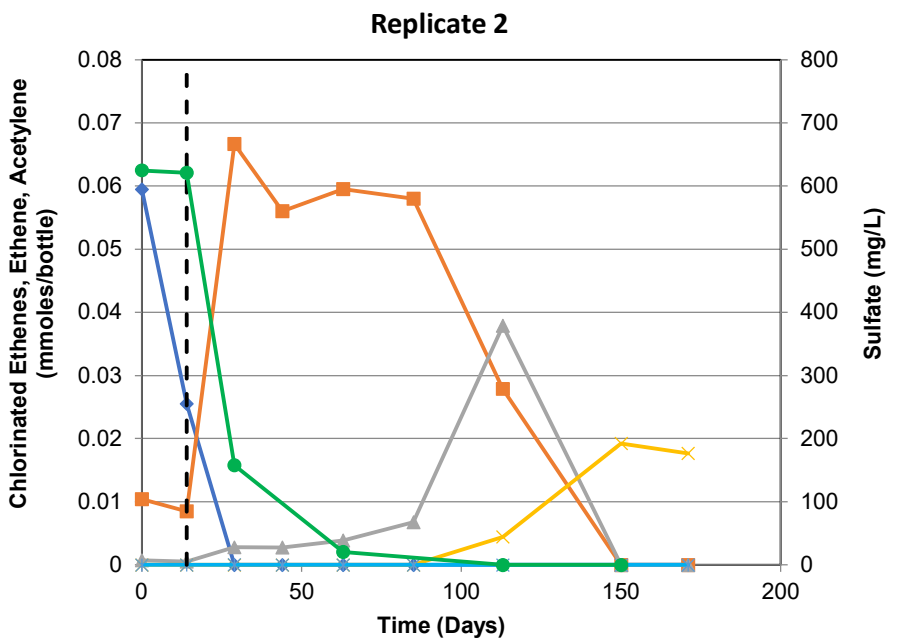
Former Whirlpool Facility - Fort Smith, AR

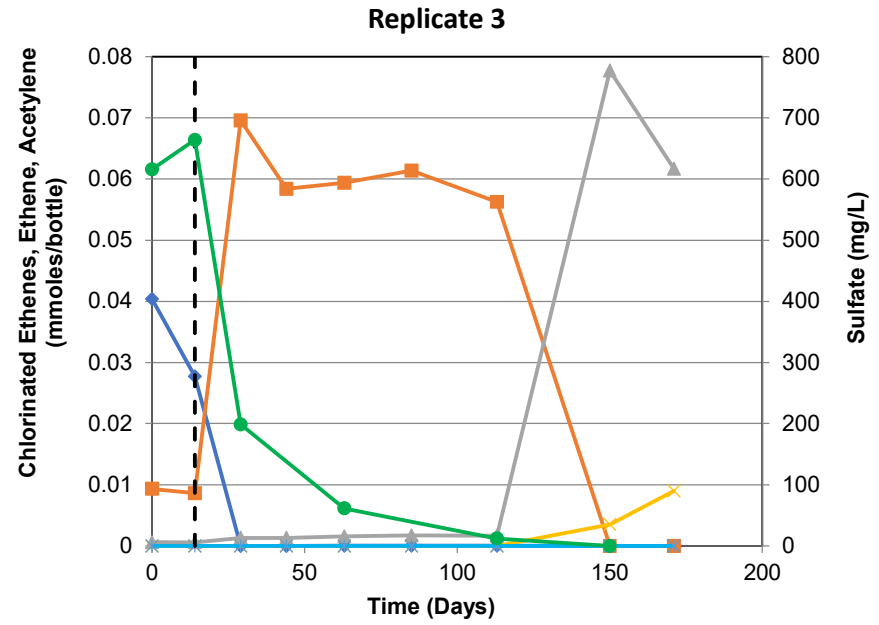
SiREM

October-20

Figure: **7**









Chlorinated Ethene, Ethene, and Acetylene Concentration Trends in ERD65 and DVI Amended/KB-1® Bioaugmented Microcosms by Individiual Replicate

Former Whirlpool Facility - Fort Smith, AR

October-20	Figure: **8**	SiREM

APPENDIX A: Chain of Custody Documentation

SiREM

Chain-of-Custody Form

siremlab.com

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Lab # 5-5626

*Project Name: Whirlpool, Ft. Smith	*Project #: n/a
*Project Manager: Michael Wilson	*Company: Ramboll
*Email Address: mwilson@ramboll.com / hahlers@ramboll.com	
Address (Street): 1801 Park 270 Dr.	
City: St. Louis	State/Province: MO / Country: USA
*Phone #: +1 (618) 530-6935	
*Sampler's Signature: Haley Ahlers	*Sampler's Printed Name: Haley Ahlers

Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Analysis: Treatability Study	Other Information
IW-147-201911	11/22/19	0940	GW	5	X	•run analyses as outlined in proposal
SBTS-1-SL(22-27 ft)-201911	↓	1105	SL	4	X	

Analysis columns: Gene-Trac DHC; Gene-Trac FGA (vcrA, bvcA, tceA); Gene-Trac DHB; Gene-Trac DHG; Gene-Trac tceA; Volatile Fatty Acids; Dissolved hydrocarbon gases; Treatability Study; I&O

Preservative Key: 0. None; 1. HCL; 2. Other ____; 3. Other ____; 4. Other ____; 5. Other ____; 6. Other ____

Billing Information

P.O. #:

*Bill To: US169_vendor@ramboll.com
hahlers@ramboll.com

Turnaround Time Requested

Normal ☒
Rush ☐

For Lab Use Only

Cooler Condition: Good.
Cooler Temperature: 1°C.
Custody Seals: Yes ☒ No ☐

For Lab Use Only

Proposal #: ____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature]	Signature: [signature]	Signature:	Signature:	Signature:	Signature:
Printed Name: Nick Zurweller	Printed Name: D. Nespoli	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: Ramboll	Firm: SiREM	Firm:	Firm:	Firm:	Firm:
Date/Time: 11/25/19 1815	Date/Time: NOV 28/19 1:20pm	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Distribution: White - return to Originator; Yellow - Lab Copy; Pink - Retained by Client

* Mandatory Fields

APPENDIX B: Buffering Capacity Test

Prepared for:

Ramboll Group A/S
1807 Park 270 Drive, Suite 450
St. Louis, MO, 63146

Buffering Capacity Testing

Former Whirlpool Facility - Fort Smith, AR

Prepared by:

130 Stone Road West
Guelph, Ontario N1G 3Z2

SiREM Ref: TL0497

26 June 2020

siremlab.com

INTRODUCTION

Ramboll Group A/S (Ramboll) retained SiREM to perform a buffer capacity test using a saturated sodium bicarbonate ($NaHCO_3$) stock solution and granular calcium carbonate ($CaCO_3$) to obtain a target pH of 7.0 ± 0.2 in groundwater and geologic materials collected from the Former Whirlpool Facility site in Fort Smith, Arkansas. The geologic materials labelled SBTS-1-SL(22-27ft)-201911 and groundwater labelled IW-147-201911 were collected by Ramboll personnel on 22 November 2019. All materials were received by SiREM on 28 November 2019 in good condition at a temperature of 1°C. Refer to Appendix A for the chain of custody documentation received with the materials.

CASE NARRATIVE

On 2 December 2019, Site groundwater and geologic material were transferred into an anaerobic glove bag for microcosm construction. The geologic materials from all cores were manually homogenized in bulk to maximize reproducibility between replicates.

The microcosms were constructed by combining 60 g of Site geologic material (wet weight) and 200 mL of Site groundwater in 250 mL (nominal volume) screw cap Boston round clear glass bottles (Systems Plus, New Hamburg, ON). The bottles were capped with Mininert™ closures to allow repetitive sampling. Control and treatment microcosms were prepared in duplicate.

All microcosms were sampled for pH analysis at Time 0 and after 1, 2, 3 and 7 days of incubation. The pH was measured with an Oakton waterproof pH spear (Oakton Instruments, Vernon Hills, IL). The pH meter was calibrated at each sampling event using pH standards (pH 4.0, 7.0 and 10).

The control microcosms did not receive amendments. The $NaHCO_3$ amended microcosms were amended with a saturated $NaHCO_3$ solution incrementally to reach a target pH of 7.0 ± 0.2 and adjusted where necessary during incubation to maintain the target pH. The initial amendment of $NaHCO_3$ was used to calculate the mass of $CaCO_3$ that would offer an equivalent buffering potential. This mass of $CaCO_3$ amendment was added as a solid at Time 0 and was repeated on day 1 and day 3, allowing time after each amendment for the solid $CaCO_3$ to dissolve.

RESULTS

Table B1 provides a summary of the treatment microcosm buffer demand. The buffer demand was calculated by converting the volume of $NaHCO_3$ and mass of $CaCO_3$ added to the microcosms to millimolar equivalents and dividing by the dry weight of the geological material in the microcosms.

TABLE B1: SUMMARY OF BUFFERING ASSAY RESULTS
Former Whirlpool Facility, Fort Smith, AR

Groundwater and Geologic Material Treatment
Reactors 1 & 2

Average volume of groundwater (mL)	200
Average mass of dry soil (g)	53

Date	Day	pH	
		Reactor 1	Reactor 2
3-Dec-19	0	6.31	6.34
4-Dec-19	1	6.26	6.33
5-Dec-19	2	6.29	6.27
6-Dec-19	3	6.23	6.27
10-Dec-19	7	6.48	6.42

Groundwater and Geologic Material $NaHCO_3$ Buffered Treatment
Reactors 3 & 4

Average volume of groundwater (mL)	200
Average mass of dry soil (g)	53
Concentration of $NaHCO_3$ (g/L)	96
Molecular Weight of $NaHCO_3$ (g/mol)	84.01

Date	Day	pH		Volume of Buffer Solution Added (µL)	Cumulative Buffer Solution Added (µL)	Buffer Demand (g/reactor)	Buffer Demand (g/kg)	Buffer Demand (mmol/g)
		Reactor 3	Reactor 4					
3-Dec-19	0	6.38	6.38	875	875	0.084	1.6	0.019
		6.92	6.95					
4-Dec-19	1	6.62	6.71	375	1,250	0.12	2.2	0.027
		6.90	6.92					
5-Dec-19	2	6.82	6.8	325	1,575	0.15	2.8	0.034
		6.98	7.00					
6-Dec-19	3	6.95	6.98	0.00	1,575	0.15	2.8	0.034
10-Dec-19	7	6.94	6.94	0.00	1,575	0.15	2.8	0.034
		Average Initial pH	6.38					
		Average Final pH	6.94					

Groundwater and Geologic Material $CaCO_3$ Buffered Treatment
Reactors 5 & 6

Average volume of groundwater (mL)	200
Average mass of dry soil (g)	53
Molecular Weight of $CaCO_3$ (g/mol)	100.09

Date	Day	pH		Mass of Buffer Added (g)	Buffer Demand (g/reactor)	Buffer Demand (g/kg)	Buffer Demand (mmol/g)
		Reactor 3	Reactor 4				
3-Dec-19	0	6.40	6.39	0.042	0.042	0.78	0.015
		6.61	6.55				
4-Dec-19	1	6.53	6.54	0.042	0.083	1.6	0.016
		6.63	6.66				
5-Dec-19	2	6.60	6.59	0.000	0.083	1.6	0.0156
6-Dec-19	3	6.63	6.66	0.050	0.13	2.5	0.025
		6.74	6.72				
10-Dec-19	7	6.67	6.71	0.000	0.13	2.5	0.025
		Average Initial pH	6.40				
		Average Final pH	6.69				

Notes:

- - not applicable
µL - microliter
g - grams
g/kg - grams per kilogram
g/L - grams per liter
g/mol - grams per mole
g/reactor - grams per reactor
mL - milliliter
mmol/g - millimoles per gram
CaCO3 - calcium carbonate
$NaHCO_3$ - sodium bicarbonate

APPENDIX C: Gene-Trac® *Dhc* and FGA Laboratory Reports

SiREM
Leading Science · Lasting Solutions

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Haley Ahlers, Ramboll
Project: Whirlpool, Ft. Smith
Customer Reference: Si-4173

SiREM Reference: S-5643
Report Date: 18-Dec-19
Data Files: iQ5B-DHCT-TM-QPCR-1731
iQ5B-DB-DHC-TM-QPCR-1052

Table 1: Test Results

Sample ID	*Dehalococcoides* (Dhc)	
	Percent Dhc[(1)]	Enumeration/Liter[(2)]
Si-4173-baseline	NA	5×10^3 U

See final page for notes.

Analyst: Taylor
Taylor Aris, B.Sc.
Laboratory Technician

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Supervisor

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-5643

Customer Sample ID	Si-4173-baseline
SiREM Dhc Test ID	DHC-18622
Date Sampled [(3)]	11-Dec-19
Matrix	Groundwater
Date Received [(3)]	11-Dec-19
Sample Temperature	NA
Filtration Date [(3)]	16-Dec-19
Volume Used for DNA Extraction	250 mL
DNA Extraction Date	16-Dec-19
DNA Concentration in Sample (extractable)	1200 ng/L (U)
PCR Amplifiable DNA	Detected
Dhc qPCR Date Analyzed	16-Dec-19
Laboratory Controls (see Table 3)	Passed
Comments	FGA testing was not performed as sample was ND for Dhc

See final page for notes

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5643

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	16-Dec-19	Genomic DNA (CSLD-1369)	1.2×10^{7}	7.8×10^{6}	Passed
Positive Control High Concentration	16-Dec-19	Genomic DNA (CSHD-1369)	2.1×10^{9}	1.5×10^{9}	Passed
Extraction Control	16-Dec-19	Extraction Control (KB-0702)	4.9×10^{10}	5.8×10^{10}	Passed
DNA Extraction Blank	16-Dec-19	Sterile Water (FB-3451)	0	2.6×10^{3} U	Passed
Negative Control	16-Dec-19	Reagent Blank (TBD-1328)	0	2.6×10^{3} U	Passed

See final page for notes.

Notes:
Dhc = *Dehalococcoides*
J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantitation limit.
B Analyte was detected in the method blank within an order of magnitude of the test sample.
E Extracted genomic DNA was not detected in the sample.
I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.
ng/L = nanograms per liter
mL = milliliter
NA = not applicable
ND = not detected
DNA = deoxyribonucleic acid
16S rRNA = 16S ribosomal ribonucleic acid
PCR = polymerase chain reaction
qPCR = quantitative PCR
°C = degrees Celsius

[1]Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

[2]Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

[3]Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

Chain-of-Custody Form

SiREM

siremlab.com

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Lab # S-5643

* Sample is a part of whirlpool ~~bi~~ treatability study *

*Project Name: Whirlpool	*Project #: Si-4173
*Project Manager: Michael Healey	*Company: SiREM
*Email Address:	
Address (Street):	
City:	State/Province:	Country:
*Phone #:	
*Sampler's Signature:	*Sampler's Printed Name: Steve Sandoz

Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Gene-Trac DHC	Gene-Trac VC	Gene-Trac DHB	Gene-Trac DHG	Gene-Trac tceA	Volatile Fatty Acids	Dissolved hydrocarbon gases	Treatability Study	FGA			Other Information
Si-4173-baseline	11Dec19		GW	1	X								X			

Analysis

Preservative Key
0. None
1. HCL
2. Other
3. Other
4. Other
5. Other
6. Other

Billing Information	Turnaround Time Requested	For Lab Use Only	For Lab Use Only
P.O. #	Normal ☐	Cooler Condition:	Proposal #: Si-4173
*Bill To:	Rush ☐	Cooler Temperature:	
		Custody Seals: Yes ☐ No ☐	

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Steve Sandoz	Printed Name: Steve Sandoz	Printed Name	Printed Name	Printed Name	Printed Name
Firm: SiREM	Firm: SiREM	Firm	Firm	Firm	Firm
Date/Time: 11Dec19	Date/Time: 11Dec19	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - return to Originator; Yellow - Lab Copy; Pink - Retained by Client

* Mandatory Fields

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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Michael Wilson, Ramboll

Project: Whirlpool

Customer Reference: Si-4173

SiREM Reference: S-5686

Report Date: 5-Feb-20

Data Files: iQ5B-DHCT-TM-QPCR-1744
iQ5B-DB-DHC-TM-QPCR-1064

Table 1: Test Results

Sample ID	*Dehalococcoides* (Dhc)	
	Percent Dhc[(1)]	Enumeration/Liter[(2)]
Si-4173-7/8/9-MID	NA	9×10^4 U
Si-4173-10/11/12-MID	NA	9×10^4 U

See final page for notes.

Analyst: J. Wilkinson
Jen Wilkinson
Senior Laboratory Technician II

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Supervisor

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-5686

Customer Sample ID	Si-4173-7/8/9-MID	Si-4173-10/11/12-MID
SiREM Dhc Test ID	DHC-18823	DHC-18824
Date Sampled [(3)]	30-Jan-20	30-Jan-20
Matrix	Microcosm	Microcosm
Date Received [(3)]	30-Jan-20	30-Jan-20
Sample Temperature	NA	NA
Filtration Date [(3)]	3-Feb-20	3-Feb-20
Volume Used for DNA Extraction	15 mL	15 mL
DNA Extraction Date	3-Feb-20	3-Feb-20
DNA Concentration in Sample (extractable)	19550 ng/L	1950 ng/L (J)
PCR Amplifiable DNA	Detected	Detected
Dhc qPCR Date Analyzed	4-Feb-20	4-Feb-20
Laboratory Controls (see Table 3)	Passed	Passed
Comments	FGA testing not performed as sample was ND for Dhc.	FGA testing not performed as sample was ND for Dhc.

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5686

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	4-Feb-20	Genomic DNA (CSLD-1382)	1.5×10^{7}	1.1×10^{7}	Passed
Positive Control High Concentration	4-Feb-20	Genomic DNA (CSHD-1382)	1.4×10^{9}	1.2×10^{9}	Passed
Extraction Control	4-Feb-20	Extraction Control (KB-0709)	4.9×10^{10}	5.1×10^{10}	Passed
DNA Extraction Blank	4-Feb-20	Sterile Water (FB-3487)	0	2.6×10^{3} U	Passed
Negative Control	4-Feb-20	Reagent Blank (TBD-1341)	0	2.6×10^{3} U	Passed

See final page for notes.

Notes:
Dhc = *Dehalococcoides*
J The associated value is an estimated quantity between the method detection limit and quantitation limit.
U Not detected, associated value is the quantitation limit.
B Analyte was detected in the method blank within an order of magnitude of the test sample.
E Extracted genomic DNA was not detected in the sample.
I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.
ng/L = nanograms per liter
mL = milliliter
NA = not applicable
ND = not detected
DNA = deoxyribonucleic acid
16S rRNA = 16S ribosomal ribonucleic acid
PCR = polymerase chain reaction
qPCR = quantitative PCR
°C = degrees Celsius

[1]Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

[2]Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

[3]Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

Chain-of-Custody Form

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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Lab # S-5686

* Samples a part of Whirlpool treatability study *

*Project Name: Whirlpool	*Project #: S:-4173
*Project Manager: Michael Healey	*Company: SiREM
*Email Address: Mhealey@siremlab.com	
Address (Street)	
City	State/Province / Country
*Phone #	
*Sampler's Signature	*Sampler's Printed Name: Steve Sarbe

Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Gene-Trac DHC /ECA	Gene-Trac VC	Gene-Trac DHB	Gene-Trac DHG	Gene-Trac tceA	Volatile Fatty Acids	Dissolved hydrocarbon gases	Treatability Study				Other Information
S:-4173-7/8/9-MID	30Jan20		GW	1	X											
S:-4173-10/11/12-MID	30Jan20		GW	1	X											

Analysis

Preservative Key
0. None
1. HCL
2. Other
3. Other
4. Other
5. Other
6. Other

Billing Information
P.O. #
*Bill To:

Turnaround Time Requested
Normal ☐
Rush ☐

For Lab Use Only
Cooler Condition:
Cooler Temperature:
Custody Seals: Yes ☐ No ☐

For Lab Use Only
Proposal #: S:-4173

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Steve Sarbe	Printed Name: Steve Sarbe	Printed Name	Printed Name	Printed Name	Printed Name
Firm: SiREM	Firm: SiREM	Firm	Firm	Firm	Firm
Date/Time: 30Jan20	Date/Time: 30Jan20	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - return to Originator; Yellow - Lab Copy; Pink - Retained by Client

* Mandatory Fields

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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Michael Wilson, Ramboll

Project: Whirlpool Faciltiy, Ft. Smith, AR

Customer Reference: Si-4173

SiREM Reference: S-5848

Report Date: 2-Jun-20

Data Files: iQ5A-DHCT-TM-QPCR-1774
iQ5A-DB-DHC-TM-QPCR-1092

Table 1a: Test Results

Sample ID	*Dehalococcoides* (Dhc)	
	Percent Dhc(1)	**Enumeration/Liter(2)**
Si-4173-4/5/6-END	NA	9×10^4 U
Si-4173-7/8/9-END	5 - 15 %	3×10^9
Si-4173-10/11/12-END	22 - 53 %	8×10^8
Si-4505-13/14/15-MID	0.1 - 0.3 %	4×10^7

See final page for notes.

Analyst: Taylor Aris, B.Sc.
Laboratory Technician

Approved: Ximena Druar, B.Sc.
Genetic Testing Supervisor

SiREM
Leading Science · Lasting Solutions

Certificate of Analysis: Gene-Trac® Functional Gene Assay

Customer: Michael Wilson, Ramboll

Project: Whirlpool Faciltiy, Ft. Smith, AR

Customer Reference: Si-4173

SiREM Reference: S-5848

Report Date: 2-Jun-20

Data Files: iQ5A-FGA-QPCR-1166
iQ5A-DB-FGA-QPCR-0859

Table 1b: Test Results

Sample ID	VC Reductase (*vcrA*)		BAV1 VC Reductase (*bvcA*)		TCE Reductase (*tceA*)	
	Percent *vcrA* (3)	Gene Copies/Liter	Percent *bvcA* (3)	Gene Copies/Liter	Percent *tceA* (3)	Gene Copies/Liter
Si-4173-7/8/9-END	8 - 22 %	4×10^9	3 - 10 %	2×10^9	0.7 - 2 %	3×10^8
Si-4173-10/11/12-END	35 - 74 %	1×10^9	27 - 61 %	1×10^9	19 - 46 %	7×10^8
Si-4505-13/14/15-MID	0.2 - 0.5 %	7×10^7	0.1 - 0.4 %	6×10^7	0.1 - 0.3 %	4×10^7

See final page for notes.

Analyst: Taylor Aris, B.Sc.
Laboratory Technician

Approved: Ximena Druar, B.Sc.
Genetic Testing Supervisor

Table 2: Detailed Test Parameters, Gene-Trac Test Reference S-5848

Customer Sample ID	Si-4173-4/5/6-END	Si-4173-7/8/9-END	Si-4173-10/11/12-END	Si-4505-13/14/15-MID
SiREM Dhc Test ID	DHC-19267	DHC-19268	DHC-19269	DHC-19270
SiREM FGA Test ID	NA	FGA-9576	FGA-9577	FGA-9578
Date Sampled [(4)]	15-May-20	15-May-20	15-May-20	15-May-20
Matrix	Groundwater	Groundwater	Groundwater	Groundwater
Date Received [(4)]	20-May-20	20-May-20	20-May-20	20-May-20
Sample Temperature	NA	NA	NA	NA
Filtration Date [(4)]	20-May-20	20-May-20	20-May-20	20-May-20
Volume Used for DNA Extraction	15 mL	15 mL	15 mL	15 mL
DNA Extraction Date	21-May-20	21-May-20	21-May-20	21-May-20
DNA Concentration in Sample (extractable)	20000 ng/L (U)	91100 ng/L	6450 ng/L (J)	82400 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected	Detected
Dhc qPCR Date Analyzed	21-May-20	21-May-20	21-May-20	21-May-20
FGA qPCR Date Analyzed	NA	22-May-20	22-May-20	22-May-20
Laboratory Controls (see Tables 3 & 4)	Passed	Passed	Passed	Passed
Comments	FGA testing was not performed as sample was ND for Dhc	- -	- -	- -

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-5848

Laboratory Control	Analysis Date	Control Description	Spiked Dhc 16S rRNA Gene Copies per Liter	Recovered Dhc 16S rRNA Gene Copies per Liter	Comments
Positive Control Low Concentration	21-May-20	Genomic DNA (CSLD-1412)	6.2×10^{6}	3.1×10^{6} (5)	See note 5
Positive Control High Concentration	21-May-20	Genomic DNA (CSHD-1412)	5.2×10^{8}	4.7×10^{8}	Passed
Extraction Control	25-May-20	Extraction Control (KB-0724)	4.9×10^{10}	3.3×10^{10}	Passed
DNA Extraction Blank	21-May-20	Sterile Water (FB-3547)	0	2.6×10^{3} U	Passed
Negative Control	21-May-20	Reagent Blank (TBD-1371)	0	2.6×10^{3} U	Passed

See final page for notes.

Table 4: Gene-Trac FGA Control Results, Test Reference S-5848

Laboratory Control	Analysis Date	Control Description	*vcrA*		*bvcA*		*tceA*		Comments
			Spiked Gene Copies per Liter	Recovered Gene Copies per Liter	Spiked Gene Copies per Liter	Recovered Gene Copies per Liter	Spiked Gene Copies per Liter	Recovered Gene Copies per Liter	
Positive Control Low Concentration	22-May-20	Genomic DNA (CSLF-1034)	2.1×10^6	2.2×10^6	7.2×10^5	9.6×10^5	1.5×10^6	1.1×10^6	Passed
Positive Control High Concentration	22-May-20	Genomic DNA (CSHF-1034)	3.5×10^8	3.5×10^8	8.6×10^7	1.0×10^8	1.8×10^8	1.4×10^8	Passed
DNA Extraction Blank	22-May-20	Sterile Water (FB-3547)	0	2.6×10^3 U	0	2.6×10^3 U	0	2.6×10^3 U	Passed
Negative Control	22-May-20	Reagent Blank (TBF-1005)	0	2.6×10^3 U	0	2.6×10^3 U	0	2.6×10^3 U	Passed

See final page for notes.

Notes:

Dhc = *Dehalococcoides*

vcrA = VC reductase

bvcA = BAV1 VC reductase

tceA = TCE reductase

FGA = functional gene assay

J The associated value is an estimated quantity between the method detection limit and quantitation limit.

U Not detected, associated value is the quantitation limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

[1]Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

[2]Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

[3]Percent of functional gene in microbial population. This value is calculated by dividing the functional gene copies quantified by the total number of estimated prokaryotes in the sample (based on the total quantity of DNA extracted from the sample). A value of 100% would suggest that all microbes in the sample contain the gene.

[4]Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 7 days of date received or filtration date.

[5]Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls falls within the recovery limit guidelines.

Chain-of-Custody Form

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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Lab # S-5848

* PART OF WHIRLPOOL TREATABILITY STUDY Si-4173 and Si-4505 *

*Project Name: Whirlpool Treatability Study	*Project #: Si-4173 Si-4505
*Project Manager: Michael Healey on behalf of Michael Wilson	*Company: SiREM
*Email Address	
Address (Street)	
City / State/Province / Country	
*Phone #	
*Sampler's Signature	*Sampler's Printed Name: **Steve Sande**

Analysis

Preservative Key

0. None
1. HCL
2. Other _____
3. Other _____
4. Other _____
5. Other _____
6. Other _____

Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	/FGA Gene-Trac DHC	Gene-Trac VC	Gene-Trac DHB	Gene-Trac DHG	Gene-Trac tceA	Volatile Fatty Acids	Dissolved hydrocarbon gases	Treatability Study				Other Information
Si-4173-4/5/6-END	15May20		GW	1	X											
Si-4173-7/8/9-END	15May20		GW	1	X											
Si-4173-10/11/12/END	15May20		GW	1	X											
Si-4505-13/14/15-MID	20May20		GW	1	x											

Billing Information

P.O. #

*Bill To:

Turnaround Time Requested

Normal ☐
Rush ☐

For Lab Use Only

Cooler Condition:

Cooler Temperature:

Custody Seals: Yes ☐ No ☐

For Lab Use Only

Proposal #: _____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Steve Sande	Printed Name: Steve Sande	Printed Name	Printed Name	Printed Name	Printed Name
Firm	Firm	Firm	Firm	Firm	Firm
Date/Time: 20May20	Date/Time: 20May20	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - return to Originator: Yellow - Lab Copy: Pink - Retained by Client

** Mandatory Fields*

Certificate of Analysis: Gene-Trac® *Dehalococcoides* Assay

Customer: Michael Wilson, Ramboll
Project: Whirlpool Faciltiy, Ft. Smith, AR
Customer Reference: Si-4505

SiREM Reference: S-6243
Report Date: 20-Oct-20
Data Files: iQ5B-DHCT-TM-QPCR-1812
iQ5B-DB-DHC-TM-QPCR-1128

Table 1a: Test Results

Sample ID	*Dehalococcoides* (Dhc)	
	Percent Dhc[(1)]	Enumeration/Liter[(2)]
Si-4505-13/14/15-END	6 - 17 %	4×10^9

See final page for notes.

Analyst: J. Wilkinson
Jennifer Wilkinson
Senior Laboratory Technician II

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Supervisor

Certificate of Analysis: Gene-Trac® Functional Gene Assay

Customer: Michael Wilson, Ramboll
Project: Whirlpool Faciltiy, Ft. Smith, AR
Customer Reference: Si-4505

SiREM Reference: S-6243
Report Date: 20-Oct-20
Data Files: iQ5A-FGA-QPCR-1192
iQ5A-DB-FGA-QPCR-0885

Table 1b: Test Results

Sample ID	VC Reductase (*vcrA*)		BAV1 VC Reductase (*bvcA*)		TCE Reductase (*tceA*)	
	Percent *vcrA* (3)	Gene Copies/Liter	Percent *bvcA* (3)	Gene Copies/Liter	Percent *tceA* (3)	Gene Copies/Liter
Si-4505-13/14/15-END	4 - 13 %	3×10^9	2 - 6 %	1×10^9	5 - 15 %	3×10^9

See final page for notes.

Analyst: J. Wilkinson
Jennifer Wilkinson
Senior Laboratory Technician II

Approved: Ximena Druar
Ximena Druar, B.Sc.
Genetic Testing Supervisor

Table 2: Detailed Test Parameters, Test Reference S-6243

Customer Sample ID	Si-4505-13/14/15-END
SiREM Dhc Test ID	DHC-19884
SiREM FGA Test ID	FGA-9765
Date Sampled [(4)]	25-Sep-20
Matrix	Microcosm
Date Received [(4)]	28-Sep-20
Sample Temperature	NA
Filtration Date [(4)]	28-Sep-20
Volume Used for DNA Extraction	15 mL
DNA Extraction Date	2-Oct-20
DNA Concentration in Sample (extractable)	117000 ng/L
PCR Amplifiable DNA	Detected
Dhc qPCR Date Analyzed	2-Oct-20
FGA qPCR Date Analyzed	14-Oct-20
Laboratory Controls (see Tables 3 & 4)	Passed
Comments	- -

See final page for notes.

Table 3: Gene-Trac Dhc Control Results, Test Reference S-6243

Laboratory Control	Analysis Date	Control Description	Dhc 16S rRNA		Comments
			Spiked Gene Copies per Liter	Recovered Gene Copies per Liter	
Positive Control Low Concentration	2-Oct-20	Genomic DNA (CSLD-1450)	3.4×10^{6}	3.3×10^{6}	Passed
Positive Control High Concentration	2-Oct-20	Genomic DNA (CSHD-1450)	7.2×10^{8}	7.8×10^{8}	Passed
Extraction Control	29-Sep-20	Extraction Control (KB-0743)	1.0×10^{11}	1.1×10^{11}	Passed
DNA Extraction Blank	2-Oct-20	Sterile Water (FB-3648)	0	2.6×10^{3} U	Passed
Negative Control	2-Oct-20	Reagent Blank (TBD-1409)	0	2.6×10^{3} U	Passed

See final page for notes.

Table 4: Gene-Trac FGA Control Results, Test Reference S-6243

Laboratory Control	Analysis Date	Control Description	*vcrA*		*bvcA*		*tceA*		Comments
			Spiked Gene Copies per Liter	Recovered Gene Copies per liter	Spiked Gene Copies per liter	Recovered Gene Copies per liter	Spiked Gene Copies per liter	Recovered Gene Copies per liter	
Positive Control Low Concentration	14-Oct-20	Genomic DNA (CSLF-1060)	2.1×10^{6}	3.6×10^{6} (5)	7.2×10^{5}	4.2×10^{5}	8.6×10^{5}	9.2×10^{5}	See Note 5
Positive Control High Concentration	14-Oct-20	Genomic DNA (CSHF-1060)	3.5×10^{8}	4.0×10^{8}	8.6×10^{7}	1.1×10^{8}	1.8×10^{8}	1.3×10^{8}	Passed
DNA Extraction Blank	14-Oct-20	Sterile Water (FB-3648)	0	2.6×10^{3} U	0	2.6×10^{3} U	0	2.6×10^{3} U	Passed
Negative Control	14-Oct-20	Reagent Blank (TBF-1060)	0	2.6×10^{3} U	0	2.6×10^{3} U	0	2.6×10^{3} U	Passed

See final page for notes.

Notes:

Dhc = *Dehalococcoides*

vcrA = VC reductase

bvcA = BAV1 VC reductase

tceA = TCE reductase

FGA = functional gene assay

J The associated value is an estimated quantity between the method detection limit and quantitation limit.

U Not detected, associated value is the quantitation limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

[1] Percent *Dehalococcoides* (Dhc) in microbial population. This value is calculated by dividing the number of Dhc 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in Dhc enumeration.

[2] Based on quantification of Dhc 16S rRNA gene copies. Dhc are generally reported to contain one 16S rRNA gene copy per cell; therefore, this number is often interpreted to represent the number of Dhc cells present in the sample.

[3] Percent of functional gene in microbial population. This value is calculated by dividing the functional gene copies quantified by the total number of estimated prokaryotes in the sample (based on the total quantity of DNA extracted from the sample). A value of 100% would suggest that all microbes in the sample contain the gene.

[4]Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 14 days of date received or filtration date.

[5]Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls fall within the recovery limit guidelines.

SiREM

Chain-of-Custody Form

siremlab.com

* Sample part of Whirlpool Treatability Study Si-4505 *

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Lab # S-6243

*Project Name: Whirlpool	*Project #: Si-4505
*Project Manager: Michael Healey on behalf of Michael Wilson	*Company: SiREM
*Email Address	
Address (Street)	
City / State/Province / Country	
*Phone #	
*Sampler's Signature	*Sampler's Printed Name: **Steve Sande**

Analysis

Preservative Key

0. None
1. HCL
2. Other _____
3. Other _____
4. Other _____
5. Other _____
6. Other _____

Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Gene-Trac DHC	Gene-Trac VC	cfrA Gene-Trac DHB	Gene-Trac DHG	Gene-Trac tceA	Volatile Fatty Acids	Dissolved hydrocarbon gases	Treatability Study				Other Information
Si-4505--13/14/15-END	25Sep20		gw	1	x											

Billing Information

P.O. #

*Bill To:

Turnaround Time Requested

Normal ☐
Rush ☐

For Lab Use Only

Cooler Condition:

Cooler Temperature:

Custody Seals: Yes ☐ No ☐

For Lab Use Only

Proposal #: _____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Steve Sande	Printed Name: Steve Sande	Printed Name	Printed Name	Printed Name	Printed Name
Firm	Firm	Firm	Firm	Firm	Firm
Date/Time: 28Sep20	Date/Time: 28Sep20	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - return to Originator: Yellow - Lab Copy: Pink - Retained by Client

** Mandatory Fields*

APPENDIX D: Henry's Law Calculation

$$Total\ mmoles = \frac{C_{liq} \cdot \left(V_{liq} + H \cdot V_{gas}\right)}{Molecular\ Weight\ (\frac{mg}{mmol})}$$

The following Henry's Law calculation was used to convert aqueous concentrations (Table 2) to total mmoles of each analyte per microcosm bottle (Figures 3 to 8):

Where

C_{liq} = liquid concentration (mg/L)
V_{liq} = liquid volume (0.225 L) per bottle
V_{gas} = headspace volume (0.025 L) per bottle
H = Henry's Law constant (dimensionless)

The Henry's Law constants used are summarized in the table below.

Analyte	Henry's Law Constant [a] (dimensionless)
Tetrachloroethene	0.602
Trichloroethene	0.417
cis-1,2-Dichloroethene	0.184
Vinyl chloride	1.08
Ethene	8.78
Ethane	20.5
Methane	27.3

[a] Source: Montgomery, J.H. 2000. *Groundwater Chemicals Desk Reference, Third Edition.* CRC Press LLC, Boca Raton, FL.

APPENDIX E: Photos of Microcosms



Control and Treatment Microcosm Appearance on Day -10

Former Whirlpool Facility - Fort Smith, AR

SiREM

October-20

Appendix E



ERD65 and DVI Amended/KB-1® Bioaugmented Microcosm Appearance on Day 190

Former Whirlpool Facility - Fort Smith, AR

SiREM

October-20

Appendix E

Appendix B
Reagent Information

EOS ZVI



Technical Information

Iron Based Chemical Reduction Family

Description

EOSZVI is a patent-pending water-mixable vegetable oil based organic substrate with the highest concentration of micron-scale zero valent iron (ZVI) available. This unique product combines the proven reactivity of ZVI with a long lasting source of electron donor for enhanced *in situ* anaerobic, abiotic, and biotic remediation. EOSZVI is shipped as a waterless concentrate; simply add water in the field to instantly create an injection-ready solution.

EOSZVI benefits:

- Ideal for DNAPL sites
- Quickly reduces ORP of aquifers
- Highest ratio of ZVI to carbon on the market; approximately 1:1
- Employs the proven EOS® technology
- Larger droplet size for greater oil retention
- Excellent for barrier and fractured rock applications
- Can be used with other EOS® products
- Engineered iron particle size average 3-4µm

Domestic supply made in the USA with US farmed soybeans.

Chemical & Physical Properties

Oil Concentrate: EOSZVI	Typical
Micron-scale Engineered Iron (ZVI) (% by wt.)	50
Stabilizer (% by wt.)	2
Refined and Bleached US Soybean Oil (% by wt.)	41
Slow Release Organics (% by wt.)	7
Specific Gravity	~1.6
Viscosity (cP)	2,350
Organic Carbon (% by wt.)	48

Packaging

Shipped in 5-gallon pails (net 50 lbs. each), 55-gallon drums or 275-gallon IBC totes.

Handling & Storage

EOSZVI is shipped as concentrated oil and iron slurry that is diluted with water in the field to prepare a solution for easy injection. EOSZVI can be distributed with commonly available pumps. Dilution ratios for EOSZVI typically range from 1:1 to 5:1 (water: EOSZVI) depending on site conditions. EOSZVI injections should be followed with additional chase water to maximize distribution of EOSZVI into the formation.

EOSZVI as shipped, has a shelf-life of ≥ 2 years depending on storage conditions.

+1 919.873.2204
www.eosremediation.com

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EOSZVI

Water-mixable oil and micro-zero valent iron (ZVI) slurry formulation to enhance anaerobic reductive dechlorination



Water-mixable vegetable oil based substrate containing 50% micron-scale engineered iron, soy bean oil, surfactant and stabilizer, providing a long-lasting source for anerobic remediation of DNAPL

Product Advantages

- Waterless concentrate, easy to use formulation
- Effective on DNAPL
- Abiotic and biotic pathways for recalcitrant contaminants
- Highest iron to carbon ratio on the market; greater than 1:1



Experience you can rely on,
Products you can trust™

EOS Remediation

+1 919.873.2204
www.eosremediation.com

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Brad Elkins
BElkins@eosremediation.com

Provect-ERD CH4+™ contains proprietary fermentable carbon sources plus water-soluble, dual-valent iron (DVI) and - where appropriate - Antimethanogenic Reagent (AMR) technology to yield the industries' only liquid ISCR amendment to enhance the removal of chlorinated volatile organic compounds (CVOCs) from soil and groundwater. As outlined herein, this technical approach makes use of screened wells and offers the benefits of:



- Can be applied via screened wells
- Ease of use (can self-perform)
- Increased reliability and improved performance beyond ERD alone
- *In situ* formation (for FREE!) of mackinawite and other iron sulfides
- Extended longevity (remedial action persists for many years),
- Reduced risk of regulatory exceedances for methane, and
- Avoidance of possible health and safety issues (vapor intrusion, induced plume migration)
- Custom formulations available

PROVECTUS ERD-CH4+ TECHNOLOGY BACKGROUND

Provectus' ERD-CH4**+** technology represents a significant advancement in environmental biotechnology by combining the proven biochemistry of ERD with the power of the Provect-CH4® methanogen inhibitors to yield a truly unique liquid, antimethanogenic ERD reagent.

Fermentable Carbon Source: The amendment is manufactured and shipped as a prepared mixture that contains 60 - 85% fermentable carbon (FC) and:

- Optional Provect-CH4® AMR (two types typically at 4% to 8% weight of FC)
- Glycerin as fast-release H donors
- Soluble lactic acid as mid-release H donors
- Ethyl lactate as a green solvent and H donor
- Dissolved Fatty acids as long-term release H donors
- Dipotassium phosphate for micronutrients and pH buffering
- Potash or bicarbonate for pH control
- Custom formulations available

Antimethanogenic Reagents (AMR) to control of Excessive Methanogenesis: Provect-CH4® is a food-grade, natural source of Monacolin K (otherwise known as Lovastatin) and other statin compounds and/or essential plant oils with a demonstrated ability to prevent excessive methane

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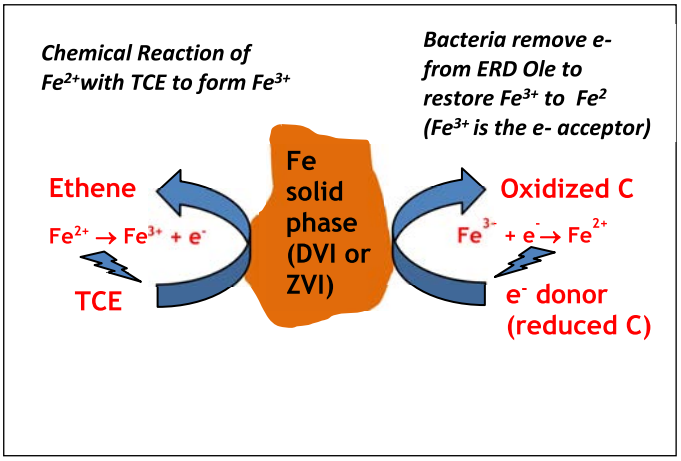
(CH_4) production by inhibiting the growth and proliferation of methanogenic Archaea. In environmental remediation applications, it can be used as a supplement to conventional ERD and *in situ* chemical reduction (ISCR) amendments to control excessive methanogenesis thereby rendering them safer, more effective and more cost efficient.



Dual valent Iron (DVI): Provect-ERD-CH4**+** is supplemented with a source of a soluble, reduced iron (*i.e.,* present as ferrous [Fe^{2+}] iron). The DVI supports direct chemical dechlorination via *alpha*-elimination pathways, and it supported the formation *in situ* of reactive ferrous minerals (*e.g.,* magnetite) and – in the presence of a sulfur source – reactive iron sulfides (*e.g.,* mackinawite) to yield abiotic reductive dechlorination. These abiotic pathways often result in complete dechlorination (Weber *et al*., 2006) and can persist for many years (if an electron donor is available) being catalyzed by indigenous iron-reducing bacteria. Notably, biotransformation of Fe^{2+} does not require direct contact with the iron solid phase as a variety of naturally-occurring biological molecules, such as humic acids, can facilitate electron shuttle dynamics.

ADVANTAGES OF USING PROVECT- CH4 METHANE CONTROL TECHNOLOGY

There are recognized benefits to methanogens and of limited methanogenesis. For example, i) methanogens are known to play important roles in synergistic microbial ecology, ii) their metabolic activity can help create and maintain anoxic conditions in treatment zones (through seasonal changes), and iii) the activity of methane mono-oxygenases and other enzymes can stimulate co-metabolic activity of TCE/DCE/VC in redox-recovery zones. Hence, limited production of methane is part of a healthy ERD/ISCR application.

However, excessive methane production represents a costly waste of the amendment since the hydrogen released as methane was not utilized by the targeted microbes, such as *Dehalococcoides* spp., *Dehalobacter* spp., or other related bacteria. In addition, excessive methanogenesis can pose significant safety issues (methane is explosive), it will induce vapor migration and it can lead to exceedances of new and emerging regulatory guidelines. Moreover, uncontrolled methanogenesis can be interpreted (by some) to represent an avoidable contribution

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to greenhouse gas emissions, hence its active control can have a positive impact on one's overall sustainability index.

PROVECT- ERD CH4+ PRIMARY FEATURES

Because Provect-ERD-CH4**+** provides both fermentable carbon and supplemental DVI, the Fe^{+2} ions donate electrons and are oxidized to Fe^{+3} for an extended period (years). Where needed (*i.e.*, in the presence of low sulfate), additional source of sulfur is included in the product formulation. General physical parameters are as follows:

- Viscosity = 10 to 15 cP at 20 C
- Specific Gravity = 1.00 to 1.2
- Density 7.75 to 8.36 lbs/USG
- Hydrogen Yield= 0.2 g to 0.4 H_2/g ERD-CH4
- Fermentable carbon @ 65 to 90% weight basis
- AMR 4% to 8% of the FC content
- Soluble organic Fe content 5 to 10% weight basis

Provect ERD-CH4**+** is the only ERD Reagent that includes Provect-CH4® AMR technology in an engineered, pre-mixture formulation to rapidly improve remedial performance while simultaneously minimizing the production of methane. The benefits are notable:

- More Efficient = More Cost Effective: Production of methane is a direct indication that the hydrogen generated from the organic carbon amendments was used by methanogens and the amendment has been wasted because it was not utilized by acetogens or dehalorespiration. By inhibiting the growth and proliferation of methane producing Archaea, chlororespiring bacteria can become the more dominant bacterial populations and at least 15 to >30% less ERD amendment can be applied.
- Safer: Production of methane will result from the addition of any conventional ERD or ISCR amendment: excessive and extended production of methane can result in elevated in groundwater concentrations (as high as 1,000 ppm have been reported) which can lead to accumulation in soil gas subsequently impacting indoor air. State specific regulations for methane in groundwater have been promulgated, with others pending for soil gas and indoor air.
- Green and Sustainable Technology: Formulated with byproducts from "green" energy processes, so it is better for the environment.
- Patented Technologies: Technology end users and their clients are fully protected from all Patent and other legal issues.
- Ease of Use:

Provect-IR®, Provect-IRM®, Provect-OX®, Provect-OX2™, Provect-EBR®, ABC-CH4®, EZVI-CH4™, ERD-CH4™, Provect-GS™, AquaGate-CH4™ and Provect-CH4® are trademarks of Provectus Environmental Products, Inc. and/or our affiliates. Rev 2 July 30, 2019

- Completely soluble in water hence no need for extensive and time consuming "water chase".
- No need to emulsify the product with specialize tooling and equipment
- No laborious material transfers and dilutions
- No worry about an emulsion breaking.
- Lower injection pressures
- No soap formation from bringing pH up too high
- ERD-CH4 is formulated for each site-specific application
- Avoids cost and need for secondary treatment to manage excessive methane production (SVE/AS plus off gas treatment)

- Carbon Longevity (> 2 years): Contains C14 to C18 fatty acids that have been shown in the field to last for over two years. Emulsified oils eventually break down into bioavailable C18 fatty acids through hydrolysis, so we are essentially using the same long-lived components of emulsified oils without having to emulsify or wait for hydrolysis to occur.
- Natural Co-Solvent: includes ethyl lactate which is a "green" co-solvent. This helps dissolve fatty acids, and it also aids desorption of bound COIs to accelerate treatment.
- Cost Competitive: Standard formulations containing 80% fermentable carbon + 5% (FC weight basis) AMR methane inhibitor + 6.5% weight basis DVI is the most cost efficient way of procuring the combined technologies.

OPTIONAL INOCULANTS FOR ERD TREATMENT

If aquifer conditions are not optimal for ERD/ISCR, then the indigenous microbial population may catabolically limited and any ERD remedial process will benefit from the addition of inoculants with known abilities to rapidly biodegrade DCE and related compounds. Once favorable redox conditions (ca. ORP < -100 mV, DO <1 mg/L, pH between 6.5 and 7.5) have been attained DHC cultures can be added to enhance complete mineralization and minimize DCE stalls. The DHC inoculant should contain at least 1x10E11 cfu/L of live bacteria including high numbers of *Dehalococcoides* species with known abilities to biodegrade DCE. The target density of DHC cells in the treated aquifer area should be >1x10E6 cfu/L.

OPTIONAL USE OF BUFFERING AGENTS

For ERD and ISCR to be most effective, aquifer pH should be near neutral or between 6 and 8. The aquifer pH is acidic and an alkaline buffering agent such as $CaCO_3$-based solid materials (*e.g.*, pulverized limestone or dolomite powders) or liquid buffer such as solutions of $Ca(OH)_2$, $Mg(OH)_2$, or $NaHCO_3$ will be applied.

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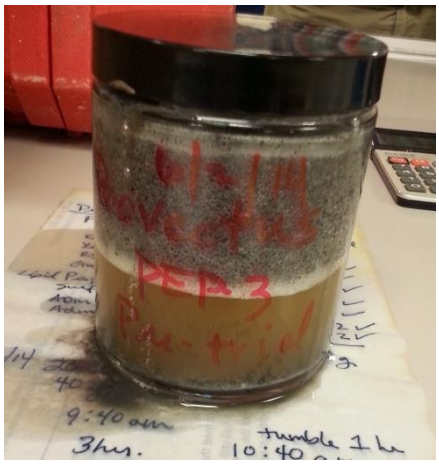
Provect-IR™
Antimethanogenic ISCR Reagent



TECHNOLOGY DESCRIPTION

Provect-IR is a unique mixture of reagents combined into a single product that optimizes the *in situ* reductive dechlorination of chemicals present in soil, sediment, and groundwater. It acts by promoting synergistic interactions between:

- Natural antimethanogenic compounds
- Hydrophilic, nutrient rich organic carbon sources
- Zero-Valent Iron (ZVI)
- Chemical oxygen scavengers
- Vitamin and mineral sources

This distinctive, patented combination of natural and food-grade chemicals promotes ISCR conditions for fast and effective destruction of targeted constituents of interest (COIs) such as chlorinated solvents, organochlorine pesticides, and other halogenated compounds (Brown *et al.,* 2009; Dolfing *et al.,* 2008; US Patent Office Scalzi *et al* 2012). Notably, Provect-IR is the only ISCR reagent to simultaneously inhibit the production of methane during the requisite carbon fermentation processes (US Patent Office Scalzi *et al*, 2013, 2014). This promotes more efficient use of the hydrogen donor while avoiding negative issues associated with elevated methane (CH4) in groundwater, soil gas, and indoor air.

Current regulations for methane in groundwater vary from *ca*. 10 to 28 mg CH4/L (Indiana Department of Environmental Management, 2014). More State regulations are pending, with several ERD projects which intended to use liquid carbon (emulsified oils) sources failing to receive regulatory approval due to issues associated with excessive production of methane during previous technology applications (Personal Communication - State of California; State of Minnesota). Many remedial practitioners have subsequently been required to establish contingencies for conventional ERD/ISCR implementation in the event that methane exceeds a threshold level ranging from 1 ppm to 10 ppm groundwater. These contingencies often entail expensive and extensive systems for capturing and treating methane in soil gas/vapor captured via SVE systems.

MODE OF ACTION – HOW DOES IT WORK?

What is a Methanogen? In the 1970s, Dr. Carl Woese (1928 to 2012) and his colleagues at the University of Illinois-Urbana studied prokaryotic relationships using DNA sequences and they found that microbes that produce methane – or methanogens - are Archaea (Woese and Fox, 1977). The identification of this new Domain of microorganism was very important for many reasons, but from our limited perspective herein this vast difference in genetic composition means that methanogens are significantly different from typical heterotrophic bacteria and eukaryotes. In other words, *Dehalococcoides ethenogenes* are as different from methanogens as you are.

What is a Statin? A Statin can be defined as “a class of lipid-lowering drugs that reduce serum cholesterol levels by inhibiting a key enzyme involved in the biosynthesis of cholesterol”. Lovastatin is a widely known, potent statin used for decades to lower cholesterol in human blood by inhibiting 3-hydro-3-methylglutaryl-coenzyme A (HMG-CoA) reductase, which is a key enzyme in the cholesterol biosynthesis pathway (Alberts *et al.,* 1980). It was the first statin approved by the United States Food and Drug Administration in 1987 as a hypercholesterolemic drug.

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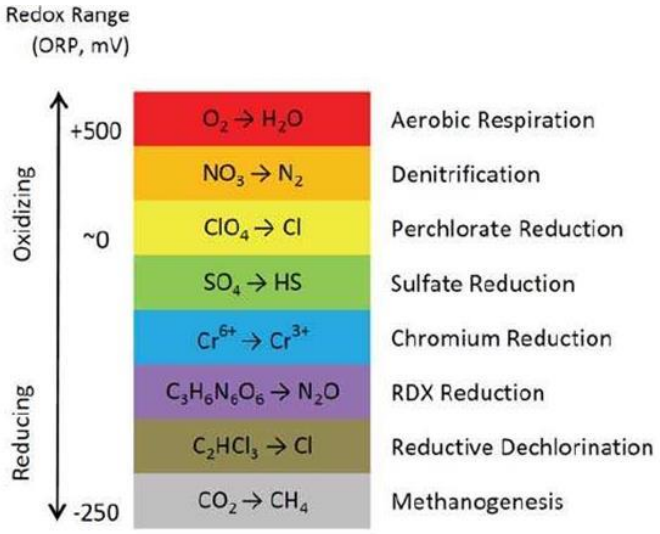
What is Red Yeast (Rice) Extract? The red yeast rice (RYR) extract that is component of Provect-IR is a substance extracted from rice that has been fermented with a type of yeast called *Monascus purpureus*. Red yeast extract is used as a food coloring, food additive/preservative, and is widely consumed by humans. The RYR extract contains a number of monacolins - most importantly, Monacolin K, otherwise known as Lovastatin or Mevinolin. Monacolin K is the only naturally occurring statin compound. In addition to Monacolin K, RYR extract also contains mono-unsaturated fatty acids and other vitamins that will effectively stimulate anaerobic bacteria in the subsurface.

So - How Does a Statin Inhibit a Methanogen? Interestingly, Monacolin K is a potent inhibitor of methanogenic archara because cell membrane production in archaea shares a similar pathway with cholesterol biosynthesis (Miller and Wolin, 2001). And since methanogens are so uniquely different than bacteria, the inhibitory effect is not observed in microbes that are typically associated with: i) catabolism of organic contaminants (such as pseudomonas species) and/or, ii) halo-respiration/biodegradation of chlorinated solvents (such as dehalococcoides species). RYR has been used in the cattle industry for decades in efforts to manage rumen microbiology and control methane production in cows.

ATTENUATION PROCESSES – SAFER, MORE EFFICIENT ISCR TREATMENT

In situ chemical reduction (ISCR) as defined by Dolfing *et al* (2008) describes the combined effect of stimulated biological oxygen consumption (via fermentation of an organic carbon source), direct chemical reduction with zero-valent iron (ZVI) or other reduced metals. The corresponding enhanced thermodynamic decomposition reactions that are realized at the lowered redox (Eh) conditions allow for more effective mineralization of many COIs.

A number of enhanced reductive dehalogenation (ERD) substrates and other accelerated anaerobic bioremediation technologies exist (*e.g.*, emulsified oils, non-emulsified oils, carbon-based hydrogen release compounds, vegetable matter + ZVI amendments) that purportedly offer similar responses. However, the Provect-IR antimethanogenic ISCR substrate is unique in its ability to yield Eh values most conducive to reductive dechlorination while simultaneously preventing methane production - which is a waste of the H being generated and potentially a safety issue under field conditions.



Provect-IR uniquely combines RYR extract with of a variety of specially selected reagents in order to induce genuine ISCR conditions and faciliate the destruction of targeted COIs in a safer, more efficacious manner. As outlined below, it can be used to manage environments impacted by chlorinated solvents, pesticides, heavy metals and other COIs.

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Specially Selected Organic Hydrogen Donors: A variety of hydrophilic, nutrient rich organic carbon sources are incorporated in Provect-IR that assist in promoting the ISCR process. The Provect-IR bioremediation amendments consist of slow, medium and long-term release carbon sources. Such a formulation is desirable because it provides both a rapidly utilized electron donor (calcium propionate), slow-release long-term electron donors (kelp meal and yeast extract) and long-term release carbon sources (other cellulose and hemi-cellulose carbon such as soy meal). More specifically,

- Calcium propionate and other readily biodegradable carbon sources: Following the addition of simple carbon sources such as lactate, formate, ethanol or glucose to an aquifer setting these compounds are often converted rapidly to hydrogen and acetate. Although this is the desired response, the process is sometimes too rapid, and this can result in aquifer acidification (due to rapid VFA production) and the liberation of too much hydrogen (which allows methanogens and sulfate reducers to compete effectively with dehalogenators, which tend to grow more slowly). Hence, calcium propionate is used as a readily biodegradable carbon source.
- Yeast extract: This supplement provides a variety of organic hydrogen donors that have slower release profiles (*i.e.*, they are not fermented as rapidly as proprionate). Yeast extract also contains biological components that are very useful to anaerobes, but are not available through other carbon-only media. In particular, yeast extract provides an abundant source of priming ATPase along with trace nutrients and vitamin B complexes.
- Kelp meal/Cellulose based carbon: These hydrogen sources are composed of a hydrophilic, solid and complex carbon that ferment more slowly and inherently generate less methane. The hydrophilic organic component of the kelp meal, for example, is composed of cellulose and hemicellulose and it may be treated during the manufacturing process so that some of the components more easily undergo hydrolysis to glucose while maintaining an overall longevity of 3 to 5+ years.

Chemical Oxygen Scavengers: The presence of chemical oxygen scavengers such as sodium sulfite helps minimize performance lag phases that are often observed following the injection of remedial amendments. This is due, in part, to the presence of oxygen that is introduced as a result of the field mixing and blending operations. It takes a cerain amount of time and reagent consumption to remove that introduced oxygen and allow the ISCR reactions to proceed. Provect-IR is unique it that manages this impact chemically, which is a more effective, reliable manner thus allowing the ISCR process to be more effective.

Zero-Valent Iron: The presence of ZVI in Provect-IR is critical to ISCR reactions. The ZVI is added as a reduced material that is oxidized during the reductive dechlorination reactions which use ZVI as the reducing agent. The *beta*-elimination reaction mainly produces (chloro)acetylene, ethane/ethane and chloride ions, without the accumulation of potentially problematic catabolites typical of microbiologically mediated sequential reductive dehalogenation processes (*e.g.,* DCE “stall”). As the ZVI reacts, hydroxyl ions are released and pH increases which is useful in neutralizing the acidity generated during the fermentation of carbon, where acids are generated. Oxidized iron species are also prodcued, where are useful in *alpha*-elimination reactions and iron cycling. One limitation to ZVI reactions is that they are surface mediated which means that direct contact is required for direct COI destruction.

RYR Extract: Provect-IR is the only ISCR amendment that will rapidly induce ISCR conditions while simultaneously preventing or significantly minimizing the production of methane. The benefits are notable:

- Safer: Methane is explosive with an LEL of 5% and an UEL of 15%. Production of methane will result from the addition of any conventional ERD or ISCR amendment: excessive and extended production of methane can result in elevated in groundwater concentrations (as high as 1,000 ppm have been reported) which can lead to accumulation in soil gas subsequently impacting indoor air. State specific regulations for methane in groundwater have been promulgated, with others pending for soil gas and indoor air.

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- More Efficient = More Cost Effective: Production of methane is a direct indication that the hydrogen generated from the organic carbon amendments was used by methanogens and the amendment has been wasted because it was not utilized by acetogens or dehalorespiration. By inhibiting the growth and proliferation of methane producing Archaea, chlororespiring bacteria can become the more dominant bacterial populations.

PRIMARY FEATURES:

- Effective: No accumulation of dead-end catabolic intermediates as a function of substrate addition (as is common with [emulsified] oils and sources of carbon only).
  - Does not rely on physical sorption/sequestration as a major "removal" mechanism (as is common with oils).
  - Inherently buffered for pH control – will not acidify an aquifer and liberate heavy metals as potential secondary COIs.
- Efficient: Significantly lower costs as a result more efficient amendment utilization and avoidance of contingencies for methane management. No need for additional buffers.
- Safe: Fewer health and safety concerns as compared with use of traditional ERD or ISCR reagents; Avoid issues associated with new and emerging methane regulations.
- Ease of Use: Green and sustainable. All components integrated in a single package. Logistics with no surprises.
- Longevity: Engineered profile of carbon sources for multi-year longevity estimated at 3 to 7 years based on site-specific hydrogeology. Reagent will stay in place and remain active which prevents rebound.
- Improved Performance: More efficient use of hydrogen donors (does not get wasted as methane).
- Adaptable Formulations for Heavy Metals: Will not mobilize arsenic or other heavy metals yielding secondary contaminants (as is common with [emulsified] oils and sources of carbon only). Can be formulated to manage environments that are co-impacted by various inorganic contaminants (*e.g.*, As, [Hg], Ni, Pb, Zn) while simultaneously mineralizing the organic compounds.
- Patented Technologies: Technology end users and their clients are fully protected from all Patent and other legal issues.

PHYSICAL PROPERTIES:

Particle Size: ranges from ca. <5 to 100 micron (can be manufactured to specifications).

Dry Density: ranges from 0.4 to 0.5 g/cm3

29% Aqueous Slurry Density: ranges from 0.9 to 1.0 g/cm3

29% Aqueous Slurry Viscosity: ranges from 500 to 1,500 cP

SLURRY PREPARATION GUIDELINES:

Percent Solids Content	Mass of Provect-IR	Volume of Water (US gallons)
10%	25 lb	27
20%	25 lb	12
30%	25 lb	7

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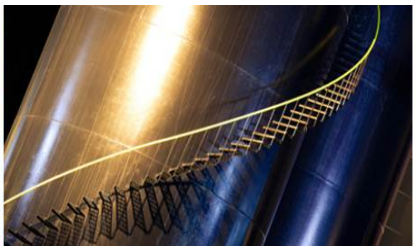
Attachment I

2020 Onsite Indoor Air and Sub-Slab Vapor Monitoring Report


ATTACHMENT I
2020 Onsite Indoor Air and Sub-Slab Vapor Monitoring Report
Whirlpool Facility
Fort Smith, Arkansas

Prepared for:
Whirlpool Corporation

Prepared by:
Ramboll US Consulting, Inc

Date:
February 2021

Project Number:
1690016820

RAMBOLL

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1 Introduction

Ramboll US Consulting, Inc (Ramboll), on behalf of Whirlpool Corporation (Whirlpool), performed an indoor air and sub-slab soil vapor monitoring events in July and October 2020 at the former Whirlpool manufacturing building located at 6400 Jenny Lind Road in Fort Smith, Arkansas. The purpose of these fifth and sixth indoor air monitoring events were to evaluate potential vapor intrusion after renovations to the building were completed by Phoenix Investors, LLC (Phoenix) as a result of the trichloroethene (TCE) impacts in groundwater underlying the former Whirlpool building.

As summarized in the Two Year Technical Review Report (Ramboll Environ 2016a) and subsequent annual and semi-annual reports, TCE impact in groundwater exists primarily beneath the western portion of the former manufacturing building based upon historic operations performed at the site. The TCE impact in groundwater has been characterized based upon membrane interface probe (MIP) investigations, interior soil probes and borings for collection of soil and groundwater samples. Groundwater has been routinely monitored for more than 20 years.

Prior to the sale of the former manufacturing building, an assessment of indoor air quality to determine if there was a complete exposure pathway for vapor intrusion inside the building was completed. While the former manufacturing building was unoccupied, two separate indoor air and sub-slab vapor monitoring events were performed in February 2016 and June 2016 (Ramboll Environ 2016b; Ramboll Environ 2016c).

The first monitoring report concluded “the indoor air data do not indicate health risks from vapor intrusion in the open areas of the building when it is operating under normal conditions.” Indoor air and sub-slab vapor samples were collected while facility doors were open and the building fans operating. 1,2-dichloroethane (1,2-DCA); trans-1,2-dichloroethene (trans-1,2-DCE); tetrachloroethene (PCE) and TCE were detected in indoor air during the first monitoring event at concentrations below USEPA and Arkansas Department of Energy and Environment Division of Environmental Quality (ADEQ) indoor air screening levels.

The second monitoring event was conducted in June 2016 to simulate a worst-case scenario. The building ventilation system was in operation; however, all overhead doors were closed. Cis-1,2-dichloroethene (cis-1,2-DCE), PCE and TCE were detected in indoor air samples. Only TCE was detected above USEPA and ADEQ indoor air screening levels in two of the six sampled areas at concentrations of 8.1 micrograms per cubic meter (µg/m3) and 19.4 µg/m3 [compared to the USEPA industrial indoor air screening level of 0.88 µg/m3 based on a conservative hazard index (HI) of 0.1].

All constituents detected in indoor air were detected in at least one sub-slab soil vapor sample; however, only TCE exceeded the USEPA sub-slab vapor screening level concentration (assuming USEPA’s default attenuation factor of 0.03) in two out of six sampled areas and vinyl chloride (VC) in one out of six sampled areas. Although the highest TCE concentrations

detected in sub-slab soil vapor did not correlate with the same areas where the highest TCE indoor air concentrations were detected, it was concluded that there was a potential complete exposure pathway due to vapor intrusion in certain areas of the building while the overhead doors are closed.

This report summarizes the data from the indoor air and soil vapor monitoring events conducted in July and October 2020 since the building has been renovated by Phoenix. The purpose of the indoor air sampling was to assess the indoor air quality that current and future workers may encounter under current building operations.

2 Sampling Methods

2.1 Pre-Sampling Preparation

Since the February 2016 and June 2016 indoor air sampling events, the building has undergone several renovations to facilitate warehousing operations and currently houses two tenants. Renovations have included painting, concrete slab placement after filling interior pits associated with historic operations and truck bay dock leveler installations. The eastern portion of the building is separated from the western portion by a newly constructed interior wall from floor to ceiling separating Zones 4 and 5 as depicted on Figure 1.

A walk-through of the building interior was performed by Ramboll, to identify any materials that may impact air quality (i.e., solvent storage, fuel storage, maintenance chemicals, etc.) during sampling and to identify building features that might serve as preferential pathways for vapor intrusion (e.g., floor joints or cracks, below grade pits, etc.). The only potentially significant preferential pathways observed in the eastern portion of the building were construction joints in the concrete slab at various locations associated with slab placements over previous pits and truck bay dock leveler installations.

2.2 Indoor and Outdoor Air Sampling

Indoor air samples were collected on July 15, 2020, and October 20, 2020. During sampling, the building ventilation system was operating, interior overhead doors were open and exterior overhead doors and doorways were closed with exception to truck bays where loading and unloading activities were being conducted.

For the July monitoring event, sampling was performed between approximately 0924 and 1800 central standard time (CST) and during the monitoring event, the outside temperature ranged from approximately 85°F to 93°F, the relative humidity ranged from 57% to 69% and the wind was from the south, southwest and the speed ranged from 3 to 9 miles per hour (mph) based upon climate data from the National Weather Service at the Fort Smith Regional Airport Station located approximately 2 miles northeast of the site (July 15, 2020, climate data).

For the October monitoring event, sampling was performed between approximately 0800 and 1830 CST. During the monitoring event, the outside temperature ranged from approximately 59°F to 76°F; relative humidity ranged from 87% to 71%; and wind was from the east, southeast at a speed between 0 mph to 9 mph based upon climate data from the National Weather Service at the Fort Smith Regional Airport Station located approximately 2 miles northeast of the site (October 20, 2020, climate data).

Indoor air samples were collected from open areas at 11 locations within Zones 1-6 (including from an enclosed office area within Zone 5) as noted on Figure 1. The locations were chosen to assess indoor air quality throughout the building with emphasis on assessing locations in the

building positioned above locations exhibiting the highest TCE concentrations in the groundwater plume underneath the building.

An outdoor, background air sample was also collected on July 15, 2020, to evaluate potential contributions from sources other than vapor intrusion. The outdoor air sample was collected from the parking area along the south property boundary approximately 250 feet east of TMW-36 which was upwind of the building when sample collection started. On October 20, 2020, a summa canister was placed in the parking lot for collection of an outdoor air sample, however, an onsite contractor mistakenly loaded the canister onto their work vehicle preventing the collection of a viable sample.

Indoor and outdoor air samples, including one duplicate indoor air sample, were collected at breathing height (approximately 70 inches above the ground) over an 8 hour period. Samples were collected using certified clean stainless-steel Summa canisters provided by an accredited analytical laboratory using flow control regulators preset by the laboratory to collect an 8 hour time integrated sample. The canister ID, regulator ID and initial canister pressure were logged at the beginning of sampling at each location. Initial canister negative pressures typically range from -22 inches mercury (in. Hg) to -30 in. Hg. upon receipt from the laboratory. Indoor and outdoor air samples were collected until the pressure remaining in the canister read between -1 and -8 in. Hg.

After sample collection was complete, the regulators were closed on the respective canisters and the canisters were shipped to the analytical laboratory for analysis of TCE and associated breakdown products using USEPA Method TO-15 SIM. The results are summarized in Table 1 and Table 2. The laboratory reports containing the indoor and outdoor air sampling results are attached.

2.3 Sub-Slab Vapor Sampling

A new permanent sub-slab soil vapor sampling port was installed through the floor of the building on October 23, 2019, within a newly constructed interior office area located in Zone 5 (depicted as sample location Z5-OF). Additionally, on October 23, 2019, replacement sub-slab ports were installed in Zone 1 (Z1-1) and Zone 6 (Z6-1), replacing Q1 and Q6 sample ports that were damaged during building renovation. The sub-slab soil vapor sampling ports are present in the vicinity of the indoor air sampling locations discussed above. Sub-slab sampling locations are depicted on Figure 1. During the pre-sample walkthrough, it was observed that one of the sub-slab vapor sampling port located in Zone 5 (Z5-1) was destroyed by warehouse operations and could not be sampled during the July 2020 monitoring event. This sub-slab vapor sampling port was replaced on October 21, 2020.

Sub-slab vapor sampling was conducted on July 16, 2020, and October 21-22, 2020. On July 16, 2020, sampling was performed between approximately 0815 and 1822 CST (samples consist of approximate 15 minute samples collected at various times throughout the day when access was granted by the tenant). During the sub-slab vapor sampling event the outside

temperature ranged from 75°F to 95°F; and the wind was from the south, southwest and ranged from 3 to 10 mph based upon climate data from the National Weather Service at the Fort Smith Airport (July 16, 2020, climate data).

The October 2020 sampling was performed between approximately 0745 and 1730 CST. On October 21, 2020, the outside temperature ranged from 64°F to 78°F; and the wind was from the east, southeast and ranged from 0 to 9 mph. On October 22, 2020, the outside temperature ranged from 68°F to 84°F; and the wind was from the east, northeast and south, southwest and ranged from 8 to 14 mph.

Sub-slab vapor samples were collected after at least 2 liters (L) of air was purged and tested for methane (CH4), carbon dioxide (CO_2) and oxygen (O_2) content using a GEM 2000 multi-gas probe. Leak testing was conducted during purging and sampling. A shroud was placed over the sub-slab sample port, sampling train and tubing connections to and from the summa canister and helium was injected until the air in the shroud measured >15% helium using a helium detector. The helium detector was then used to measure the amount of helium in the sampling line. All helium measurements from the leak test were non-detect.

After the sampling train was determined to be adequately sealed, soil vapor samples were collected using certified clean stainless-steel summa canisters provided by an accredited analytical laboratory using flow control regulators pre-set by the laboratory to collect a 15 minute time integrated sample. The canister ID, regulator ID and initial canister pressure were logged at the beginning of sampling at each location. Soil vapor samples were collected until the pressure remaining in the canister read between -1 and -15 in. Hg. After sample collection was complete, the regulators were closed on the respective canisters and the canisters were shipped to the analytical laboratory for analysis of TCE and associated breakdown products using USEPA Method TO-15 and helium for leak testing. In addition, one duplicate sub-slab samples were collected. The results are summarized in Table 3 and Table 4. The laboratory reports containing the sub-slab soil vapor sampling results are attached.

An outdoor, background air sample was collected on July 16, 2020, October 21, 2020, and October 22, 2020, to evaluate potential contributions from sources other than vapor intrusion. The outdoor air sample was collected from the parking area along the south property boundary approximately 250 feet east of TMW-36 which was upwind of the building when sample collection started.

3 Evaluation of Results

3.1 Indoor Air

As summarized in Table 1, 1,2-DCA; cis-1,2-DCE; PCE and TCE were detected in indoor air samples in July 2020. Only TCE was detected above USEPA and ADEQ indoor air screening levels in Zones 3, 5 and 6 from 1.1 µg/m^3 and 3.8 µg/m^3 (compared to the USEPA industrial indoor air screening level of 0.88 µg/m^3 based on a HI of 0.1).

PCE was detected in the outdoor/background air sample at a concentration of 1.5 µg/m^3.

As summarized in Table 2, 1,2-DCA; PCE; 1,1,1-TCA and TCE were detected in indoor air samples in October 2020. Only TCE was detected above USEPA and ADEQ indoor air screening levels in all sampling zones except Zone 1 and the office in Zone 5. TCE concentrations detected in indoor air ranged from 0.46 µg/m^3 to 2.3 µg/m^3.

1,2-DCA and PCE were detected in both outdoor/background air samples collected in October 2020. TCE was detected in the outdoor air sample collected on October 21, 2020.

The screening levels used in this evaluation are conservative and are not intended to represent action levels.

3.2 Sub-Slab Soil Vapor

Table 3 shows that 1,1-dichloroethane (1,1-DCA); 1,1-dichloroethene (1,1-DCE); PCE; cis-1,2-DCE; trans-1,2-dichloroethene (trans-1,2-DCE); 1,1,1-TCA; TCE and VC were detected in at least one sub-slab soil vapor sample. Although several constituents were detected in sub-slab soil vapor samples, only 1,1-DCA, PCE, VC and TCE were detected at concentrations exceeding USEPA sub-slab vapor screening level concentrations (assuming USEPA's default attenuation factor of 0.03). 1,1-DCA exceeded its respective USEPA sub-slab vapor screening level concentration in Zone 6-1; PCE in Zones 2 and 6-1; TCE in Zones 3-2, 5-2, Zone 5 Office and 6-1; and VC in Zone 3-1.

Table 4 shows that 1,1-DCA; 1,2-DCA; cis-1,2-DCE; trans-1,2-DCE; PCE; 1,1,1-TCA; TCE and VC were detected in at least one sub-slab soil vapor sample. Only PCE; VC; and TCE were detected at concentrations exceeding USEPA sub-slab vapor screening level concentrations. PCE exceeded its respective USEPA sub-slab vapor screening level concentration in Zones 2, 3-2, Zone 5 Office, and 6-1. VC exceeded its respective USEPA sub-slab vapor screening level concentration in Zone 3-1. TCE exceeded its respective USEPA sub-slab vapor screening level concentration in Zone 3-2, 5-1, 5-2, Zone 5 Office, and 6-1.

In July 2020, PCE was detected in the outdoor/background air sample at 0.41 µg/m^3. As mentioned above, 1,2-DCA and PCE were detected in both outdoor/background air samples

collected in October 2020; and TCE was detected in the outdoor air sample collected on October 21, 2020.

Based on these results, the presence of TCE underneath the building floor may be contributing to indoor air TCE concentrations.

3.3 Risk Estimates for Vapor Intrusion

Per ADEQ's suggestion, in the initial screening process, detected indoor air constituent concentrations were compared to non-carcinogenic screening levels based on a target hazard quotient of 0.1 to account for additive effect of multiple contaminants resulting in a TCE indoor air screening level of 0.88 µg/m^3 for the industrial worker. Results of the indoor air sampling indicated that six out of eleven samples exceeded the indoor air screening level in July 2020 and nine of 11 samples exceeded the indoor air screening level in October 2020. In accordance with USEPA guidance, risk estimates were calculated for the onsite worker in each zone of the building to evaluate potential for increased risk from vapor intrusion using USEPA's equation for inhalation exposure, default exposure parameters (Table 7) and toxicity values (Table 8).

Risks for the onsite worker for each building zone are presented in Tables 5A-K and 6A-K. The cumulative hazard index for exposure to constituents in indoor in July 2020 and October 2020 ranged between 9E-02 and 1E-01 and 8E-02 and 1E-01, respectively. The hazard indices for the inhalation pathway are below one indicating that the onsite worker would be unlikely to experience non-cancer health effects as a result of exposure to constituents in indoor air. The cumulative theoretical lifetime cancer risk for exposure to constituents in indoor air ranged from 2E-07 to 1E-06; therefore, were all within or below the range of values considered acceptable by USEPA of 1E-06 to 1E-04.

4 Summary and Conclusion

As discussed in the previous, the indoor air data indicate a potential complete exposure pathway due to vapor intrusion into the building. Of the detected constituents, only TCE exceeded its respective indoor air screening level; however, cumulative risk estimates for the onsite worker were below or within ADEQ acceptable range of non-cancer hazard and cancer target values. These results do not indicate health risks from indoor exposures under current operating conditions.

It should be noted that 1,2-DCA; PCE and TCE were detected in ambient air samples collected during the indoor air sampling event and the sub-slab sampling events. In addition, during the July 2020 monitoring, 1,2-DCA was detected in indoor air but not in any sub-slab vapor samples. The presence of constituents that were detected in indoor air as well as ambient samples and the absence of 1,2-DCA in sub-slab vapor suggests that vapor intrusion may not be the single source contributing to indoor air volatile organic compound (VOC) concentrations.

5 References

Ramboll Environ. 2016a. 2015 Two Year Technical Review Report, January.

Ramboll Environ. 2016b. Onsite Indoor Air and Sub-Slab SV Data Report. April.

Ramboll Environ. 2016c. Onsite Indoor Air and Sub-Slab SV Data Report. July.

Tables

TABLE 1
INDOOR AND OUTDOOR AIR SAMPLING RESULTS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial Air	Zone 1	Zone 2	Zone 3-1	Zone 3-1	Zone 3-2	Zone 4-1	Zone 4-2	Zone 5-1	Zone 5-2
Ramboll Sample ID	**RSL**	**Z1-1-IA-202007**	**Z2-1-IA-202007**	**Z3-1-IA-202007**	**Z3-1-IA-202007-DUP**	**Z3-2-IA-202007**	**Z4-1-IA-202007**	**Z4-2-IA-202007**	**Z5-1-IA-202007**	**Z5-2-IA-202007**
Lab Sample ID	**(TR = 1E-5)**	**10525614012**	**10525614011**	**10525614008**	**10525614009**	**10525614010**	**10525614006**	**10525614007**	**10525614002**	**10525614005**
Sample Date	**(THQ = 0.1)**	**7/15/2020**	**7/15/2020**	**7/15/2020**	**7/15/2020**	**7/15/2020**	**7/15/2020**	**7/15/2020**	**7/15/2020**	**7/15/2020**
Volatile Organic Compounds										
1,1-Dichloroethane	77	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.12)	ND (0.13)
1,2-Dichloroethane	4.7	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.12)	ND (0.13)
1,1-Dichloroethene	88	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.12)	ND (0.13)
cis-1,2-Dichloroethene	NA	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	0.19	0.17
trans-1,2-Dichloroethene	NA	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.12)	ND (0.13)
Tetrachloroethene	18	0.39	0.24	0.54	2.1	0.87	0.43	0.45	1.0	1.0
1,1,1-Trichloroethane	2200	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.17)	ND (0.18)
Trichloroethene	0.88	0.49	0.63	1.2	1.3	0.68	0.66	0.57	3.1	3.8
Vinyl Chloride	28	ND (0.046)	ND (0.047)	ND (0.046)	ND (0.044)	ND (0.047)	ND (0.049)	ND (0.046)	ND (0.039)	ND (0.042)

Notes:

All concentrations presented in micrograms per cubic meter ($\mu g/m^3$)

Value = Exceed screenining level

ND - Not detected

( ) = Detection Limit

RSL = Regional Screening Level

NA = Not available

TABLE 1
INDOOR AND OUTDOOR AIR SAMPLING RESULTS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial Air	Zone 5 Office	Zone 6-1	Zone 6-2	AA
Ramboll Sample ID	RSL	Z5-OF-IA-202007	Z6-1-IA-202007	Z6-2-IA-202007	AA-1-202007
Lab Sample ID	(TR = 1E-5)	10525614001	10525614003	10525614004	10525614013
Sample Date	(THQ = 0.1)	7/15/2020	7/15/2020	7/15/2020	7/15/2020
Volatile Organic Compounds					
1,1-Dichloroethane	77	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.15)
1,2-Dichloroethane	4.7	0.28	ND (0.12)	ND (0.13)	ND (0.15)
1,1-Dichloroethene	88	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.15)
cis-1,2-Dichloroethene	NA	ND (0.12)	0.19	0.17	ND (0.15)
trans-1,2-Dichloroethene	NA	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.15)
Tetrachloroethene	18	0.33	1.2	0.96	1.5
1,1,1-Trichloroethane	2200	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.20)
Trichloroethene	0.88	1.1	2.9	3.1	ND (0.10)
Vinyl Chloride	28	ND (0.037)	ND (0.039)	ND (0.040)	ND (0.048)

Notes:

All concentrations presented in micrograms per cubic meter (µg/m
Value = Exceed screenining level
ND - Not detected
( ) = Detection Limit
RSL = Regional Screening Level
NA = Not available

TABLE 2
INDOOR AND OUTDOOR AIR SAMPLING RESULTS
(October 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial Air	Zone 1	Zone 2	Zone 3-1	Zone 3-2	Zone 4-1	Zone 4-2	Zone 5-1	Zone 5-2	Zone 5 Office	Zone 6-1	Zone 6-2	Zone 6-2
Ramboll Sample ID	**RSL**	**Z1-1-IA-202010**	**Z2-1-IA-202010**	**Z3-1-IA 202010**	**Z3-2-IA-202010**	**Z4-1-IA-202010**	**Z4-2-IA-202010**	**Z5-1-IA-202010**	**Z5-2-IA-202010**	**Z5-OF-IA-202010**	**Z6-1-IA-202010**	**Z6-2-IA-202010**	**Z6-2-IA-202010-DUP**
Lab Sample ID	**(TR = 1E-5)**	**10536886001**	**10536886006**	**10536886003**	**10536886002**	**10536886004**	**10536886005**	**10536886009**	**10536886012**	**10536886007**	**10536886008**	**10536886011**	**10536886010**
Sample Date	**(THQ = 0.1)**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**	**10/20/2020**
Volatile Organic Compounds													
1,1-Dichloroethane	77	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
1,2-Dichloroethane	4.7	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	0.45	ND (0.14)	ND (0.14)	ND (0.14)
1,1-Dichloroethene	88	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
cis-1,2-Dichloroethene	NA	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
trans-1,2-Dichloroethene	NA	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)	ND (0.14)
Tetrachloroethene	18	0.19	0.29	0.37	0.34	0.35	0.45	0.46	0.29	0.20	0.48	0.25	0.24
1,1,1-Trichloroethane	2200	ND (0.20)	0.21	ND (0.19)	ND (0.19)	ND (0.20)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.19)
Trichloroethene	0.88	0.46	1.1	1.1	1.1	1.2	2.2	2.3	2.2	0.60	2.1	2.0	1.9
Vinyl Chloride	28	ND (0.048)	ND (0.047)	ND (0.044)	ND (0.046)	ND (0.048)	ND (0.044)	ND (0.044)	ND (0.046)	ND (0.044)	ND (0.044)	ND (0.044)	ND (0.044)

Notes:
All concentrations presented in micrograms per cubic meter ($\mu g/m^3$)
Value = Exceed screenining level
ND - Not detected
( ) = Detection Limit
RSL = Regional Screening Level
NA = Not available

TABLE 3
SUB-SLAB SOIL VAPOR SAMPLING RESULTS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial SSV	Zone 1	Zone 2	Zone 3-1	Zone 3-1	Zone 3-2	Zone 4-1
Ramboll Sample ID	RSL	Z1-1-SS-202007	Z2-1-SS-202007	Z3-1-SS-202007	Z3-1-SS-202007-DUP	Z3-2-SS-202007	Z4-1-SS-202007
Lab Sample ID	(TR = 1E-5)	10525614023	10525614022	10525614018	10525614019	10525614017	10525614020
Sample Date	(THQ = 0.1)	7/16/2020	7/16/2020	7/16/2020	7/16/2020	7/16/2020	7/16/2020
Volatile Organic Compounds							
1,1-Dichloroethane	2600	ND (2.1)	ND (1.7)	424	446	ND (1.8)	ND (3.1)
1,2-Dichloroethane	160	ND (1.0)	ND (0.83)	ND (161)	ND (216)	ND (0.90)	ND (1.5)
1,1-Dichloroethene	2900	ND (2.0)	ND (1.6)	ND (315)	ND (424)	ND (1.8)	ND (3.0)
cis-1,2-Dichloroethene	NA	ND (2.0)	ND (1.6)	ND (315)	ND (424)	ND (1.8)	ND (3.0)
trans-1,2-Dichloroethene	NA	4.8	4.6	1540	1560	ND (1.8)	15.6
Tetrachloroethene	600	209	7030	446	362	350	19.3
1,1,1-Trichloroethane	73000	3.8	51.5	ND (434)	ND (583)	9.4	26.4
Trichloroethene	29	2.9	11.7	ND (214)	ND (287)	344	10.3
Vinyl Chloride	930	33.2	27.7	171000	172000	ND (0.57)	87.3

Notes:

All concentrations presented in micrograms per cubic meter (µg/m^3)

Value = Exceed screenining level

ND - Not detected

( ) = Detection Limit

RSL = Regional Screening Level

NA = Not available

n/a = Sample not available

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TABLE 3
SUB-SLAB SOIL VAPOR SAMPLING RESULTS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial SSV	Zone 4-2	Zone 5-1	Zone 5-2	Zone 5 Office	Zone 6-1	Zone 6-2	AA□
Ramboll Sample ID	RSL	Z4-2-SS-202007		Z5-2-SS-202007	Z5-OF-SS-202007	Z6-1-SS-202007	Z6-2-SS-202007	AA-2-202007
Lab Sample ID	(TR = 1E-5)	10525614021		10525614016	10525614025	10525614024	10525614015	10525614014
Sample Date	(THQ = 0.1)	7/16/2020	7/16/2020	7/16/2020	7/16/2020	7/16/2020	7/16/2020	7/16/2020
Volatile Organic Compounds								
1,1-Dichloroethane	2600	2.3	n/a	ND (1.5)	23.1	3100	ND (1.4)	ND (0.13)
1,2-Dichloroethane	160	ND (0.94)	n/a	ND (0.74)	ND (0.80)	ND (1.3)	ND (0.69)	ND (0.13)
1,1-Dichloroethene	2900	ND (1.8)	n/a	ND (1.5)	ND (1.6)	11.9	ND (1.4)	ND (0.12)
cis-1,2-Dichloroethene	NA	2.0	n/a	ND (1.5)	2.2	56.2	ND (1.4)	ND (0.12)
trans-1,2-Dichloroethene	NA	11.3	n/a	ND (1.5)	ND (1.6)	16.9	ND (1.4)	ND (0.12)
Tetrachloroethene	600	23.1	n/a	13.2	184	249	ND (1.2)	0.41
1,1,1-Trichloroethane	73000	5.6	n/a	99.6	84.7	6660	ND (1.9)	ND (0.17)
Trichloroethene	29	6.9	n/a	1190	70.7	63	ND (0.92)	ND (0.085)
Vinyl Chloride	930	61.4	n/a	ND (0.47)	1.8	10.2	ND (0.44)	ND (0.040)

Notes:

All concentrations presented in micrograms per cubic meter (µg/m^3)

Value = Exceed screenining level

ND - Not detected

( ) = Detection Limit

RSL = Regional Screening Level

NA = Not available

n/a = Sample not available

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TABLE 4
SUB-SLAB SOIL VAPOR SAMPLING RESULTS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial SSV	Zone 1	Zone 2	Zone 3-1	Zone 3-2	Zone 4-1	Zone 4-2	Zone 5-1
Ramboll Sample ID	**RSL**	**Z1-1-SS-202010**	**Z2-1-SS-202010**	**Z3-1-SS-202010**	**Z3-2-SS-202010**	**Z4-1-SS-202010**	**Z4-2-SS-202010**	**Z5-1-SS-202010**
Lab Sample ID	**(TR = 1E-5)**	**10536886013**	**10536886018**	**10536886015**	**10536886014**	**10536886016**	**10536886017**	**10536886025**
Sample Date	**(THQ = 0.1)**	**10/21/2020**	**10/21/2020**	**10/21/2020**	**10/21/2020**	**10/21/2020**	**10/21/2020**	**10/22/2020**
Volatile Organic Compounds								
1,1-Dichloroethane	2600	ND (1.2)	ND (208)	ND (600)	ND (1.3)	ND (1.3)	ND (1.2)	ND (1.2)
1,2-Dichloroethane	160	ND (0.61)	ND (104)	ND (300)	ND (0.66)	ND (0.62)	ND (0.59)	ND (0.59)
1,1-Dichloroethene	2900	ND (1.2)	ND (204)	ND (588)	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.2)
cis-1,2-Dichloroethene	NA	ND (1.2)	ND (204)	ND (588)	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.2)
trans-1,2-Dichloroethene	NA	ND (1.2)	ND (204)	771	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.2)
Tetrachloroethene	600	48	17600	ND (503)	1250	ND (1.0)	ND (0.99)	474
1,1,1-Trichloroethane	73000	2.7	ND (281)	ND (810)	9.7	31.4	4.1	115
Trichloroethene	29	ND (0.81)	ND (138)	ND (398)	326	7.8	1.0	2570
Vinyl Chloride	930	ND (0.39)	ND (65.7)	36000	ND (0.42)	ND (0.40)	ND (0.37)	ND (0.37)

Notes:

All concentrations presented in micrograms per cubic meter (µg/m^3)

Value = Exceed screenining level

ND - Not detected

( ) = Detection Limit

RSL = Regional Screening Level

NA = Not available

n/a = Sample not available

TABLE 4
SUB-SLAB SOIL VAPOR SAMPLING RESULTS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

Location	Industrial SSV	Zone 5-2	Zone 5 Office	Zone 6-1	Zone 6-2	Zone 6-2	AA□	AA□
Ramboll Sample ID	**RSL**	**Z5-2-SS-202010**	**Z5-OF-SS-202010**	**Z6-1-SS-202010**	**Z6-2-SS-202010**	**Z6-2-SS-202010-DUP**	**AA-2-202010**	**AA-3-202010**
Lab Sample ID	**(TR = 1E-5)**	**10536886024**	**10536886020**	**1.05369E+11**	**10536886022**	**10536886023**	**10536886019**	**10536886026**
Sample Date	**(THQ = 0.1)**	**10/22/2020**	**10/21/2020**	**10/22/2020**	**10/22/2020**	**10/22/2020**	**10/21/2020**	**10/22/2020**
Volatile Organic Compounds								
1,1-Dichloroethane	2600	2.2	1.8	1840	3.1	3.1	ND (0.12)	ND (0.15)
1,2-Dichloroethane	160	ND (0.60)	ND (0.60)	ND (0.64)	ND (0.61)	ND (0.64)	0.75	0.40
1,1-Dichloroethene	2900	ND (1.2)	ND (1.2)	10.3	ND (1.2)	ND (1.2)	ND (0.11)	ND (0.15)
cis-1,2-Dichloroethene	NA	ND (1.2)	1.4	34.9	ND (1.2)	ND (1.2)	ND (0.11)	ND (0.15)
trans-1,2-Dichloroethene	NA	ND (1.2)	ND (1.2)	12.9	ND (1.2)	ND (1.2)	ND (0.11)	ND (0.15)
Tetrachloroethene	600	236	815	3270	224	224	2.1	0.20
1,1,1-Trichloroethane	73000	132	ND (1.6)	11300	33.6	33.1	ND (0.16)	ND (0.20)
Trichloroethene	29	1190	91.9	455	17.6	17.4	0.29	ND (0.10)
Vinyl Chloride	930	ND (0.38)	ND (0.38)	0.75	ND (0.39)	ND (0.40)	ND (0.037)	ND (0.048)

Notes:

All concentrations presented in micrograms per cubic meter (µg/m^3)

Value = Exceed screenining level

ND - Not detected

( ) = Detection Limit

RSL = Regional Screening Level

NA = Not available

n/a = Sample not available

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TABLE 5
INDOOR AIR HUMAN HEALTH RISKS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 1 (Table 5a)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.39	8.9E-05	3.2E-02	2.2E-03	8.3E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	0.49	1.1E-04	4.0E-02	5.6E-02	1.6E-07
Vinyl Chloride	ND (0.046)	5.3E-06	1.9E-03	5.3E-05	8.3E-09
			Summed Risk	6E-02	3E-07

ZONE 2 (Table 5b)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.24	5.5E-05	2.0E-02	1.4E-03	5.1E-09
1,1,1-Trichloroethane	ND (0.20)	2.3E-05	8.2E-03	4.6E-06	NA
Trichloroethene	0.63	1.4E-04	5.1E-02	7.2E-02	2.1E-07
Vinyl Chloride	ND (0.047)	5.4E-06	1.9E-03	5.4E-05	8.4E-09
			Summed Risk	8E-02	4E-07

ZONE 3-1 (Table 5c)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.54	1.2E-04	4.4E-02	3.1E-03	1E-08
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	1.2	2.7E-04	9.8E-02	1.4E-01	4E-07
Vinyl Chloride	ND (0.046)	5.3E-06	1.9E-03	5.3E-05	8E-09
			Summed Risk	1E-01	6E-07

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TABLE 5
INDOOR AIR HUMAN HEALTH RISKS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 3-1 DUP

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	2.1	4.8E-04	1.7E-01	1.2E-02	4.5E-08
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	1.3	3.0E-04	1.1E-01	1.5E-01	4.3E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	2E-01	6E-07

ZONE 3-2 (Table 5d)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.87	2.0E-04	7.1E-02	5.0E-03	1.8E-08
1,1,1-Trichloroethane	ND (0.20)	2.3E-05	8.2E-03	4.6E-06	NA
Trichloroethene	0.68	1.6E-04	5.5E-02	7.8E-02	2.3E-07
Vinyl Chloride	ND (0.047)	5.4E-06	1.9E-03	5.4E-05	8.4E-09
			Summed Risk	9E-02	4E-07

ZONE 4-1 (Table 5e)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	8.6E-05	NA
cis-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	2.9E-04	NA
Tetrachloroethene	0.43	9.8E-05	3.5E-02	2.5E-03	9.1E-09
1,1,1-Trichloroethane	ND (0.21)	2.4E-05	8.6E-03	4.8E-06	NA
Trichloroethene	0.66	1.5E-04	5.4E-02	7.5E-02	2.2E-07
Vinyl Chloride	ND (0.049)	5.6E-06	2.0E-03	5.6E-05	8.8E-09
			Summed Risk	8E-02	4E-07

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TABLE 5
INDOOR AIR HUMAN HEALTH RISKS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 4-2 (Table 5f)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.45	1.0E-04	3.7E-02	2.6E-03	9.5E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	0.57	1.3E-04	4.6E-02	6.5E-02	1.9E-07
Vinyl Chloride	ND (0.046)	5.3E-06	1.9E-03	5.3E-05	8.3E-09
			Summed Risk	7E-02	4E-07

ZONE 5-1 (Table 5g)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.12)	1.4E-05	4.9E-03	2.7E-05	7.8E-09
1,2-Dichloroethane	ND (0.12)	1.4E-05	4.9E-03	2.0E-03	1.3E-07
1,1-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	6.8E-05	NA
cis-1,2-Dichloroethene	0.19	4.3E-05	1.5E-02	NA	NA
trans-1,2-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	2.3E-04	NA
Tetrachloroethene	1.0	2.3E-04	8.2E-02	5.7E-03	2.1E-08
1,1,1-Trichloroethane	ND (0.17)	1.9E-05	6.9E-03	3.9E-06	NA
Trichloroethene	3.1	7.1E-04	2.5E-01	3.5E-01	1.0E-06
Vinyl Chloride	ND (0.039)	4.5E-06	1.6E-03	4.5E-05	7.0E-09
			Summed Risk	4E-01	1E-06

ZONE 5-2 (Table 5h)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.13)	1.5E-05	5.3E-03	3.0E-05	8.5E-09
1,2-Dichloroethane	ND (0.13)	1.5E-05	5.3E-03	2.1E-03	1.4E-07
1,1-Dichloroethene	ND (0.13)	1.5E-05	5.3E-03	7.4E-05	NA
cis-1,2-Dichloroethene	0.17	3.9E-05	1.4E-02	NA	NA
trans-1,2-Dichloroethene	ND (0.13)	1.5E-05	5.3E-03	2.5E-04	NA
Tetrachloroethene	1.0	2.3E-04	8.2E-02	5.7E-03	2.1E-08
1,1,1-Trichloroethane	ND (0.18)	2.1E-05	7.3E-03	4.1E-06	NA
Trichloroethene	3.8	8.7E-04	3.1E-01	4.3E-01	1.3E-06
Vinyl Chloride	ND (0.042)	4.8E-06	1.7E-03	4.8E-05	7.5E-09
			Summed Risk	4E-01	1E-06

TABLE 5
INDOOR AIR HUMAN HEALTH RISKS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 5 Office (Table 5i)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.12)	1.4E-05	4.9E-03	2.7E-05	7.8E-09
1,2-Dichloroethane	0.28	6.4E-05	2.3E-02	9.1E-03	5.9E-07
1,1-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	6.8E-05	NA
cis-1,2-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	2.3E-04	NA
Tetrachloroethene	0.33	7.5E-05	2.7E-02	1.9E-03	7.0E-09
1,1,1-Trichloroethane	ND (0.16)	1.8E-05	6.5E-03	3.7E-06	NA
Trichloroethene	1.1	2.5E-04	9.0E-02	1.3E-01	3.7E-07
Vinyl Chloride	ND (0.037)	4.2E-06	1.5E-03	4.2E-05	6.6E-09
			Summed Risk	1E-01	1E-06

ZONE 6-1 (Table 5j)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.12)	1.4E-05	4.9E-03	2.7E-05	7.8E-09
1,2-Dichloroethane	ND (0.12)	1.4E-05	4.9E-03	2.0E-03	1.3E-07
1,1-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	6.8E-05	NA
cis-1,2-Dichloroethene	0.19	4.3E-05	1.5E-02	NA	NA
trans-1,2-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	2.3E-04	NA
Tetrachloroethene	1.2	2.7E-04	9.8E-02	6.8E-03	2.5E-08
1,1,1-Trichloroethane	ND (0.17)	1.9E-05	6.9E-03	3.9E-06	NA
Trichloroethene	2.9	6.6E-04	2.4E-01	3.3E-01	9.7E-07
Vinyl Chloride	ND (0.039)	4.5E-06	1.6E-03	4.5E-05	7.0E-09
			Summed Risk	3E-01	1E-06

ZONE 6-2 (Table 5k)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.13)	1.5E-05	5.3E-03	3.0E-05	8.5E-09
1,2-Dichloroethane	ND (0.13)	1.5E-05	5.3E-03	2.1E-03	1.4E-07
1,1-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	6.8E-05	NA
cis-1,2-Dichloroethene	0.17	3.9E-05	1.4E-02	NA	NA
trans-1,2-Dichloroethene	ND (0.12)	1.4E-05	4.9E-03	2.3E-04	NA
Tetrachloroethene	0.96	2.2E-04	7.8E-02	5.5E-03	2.0E-08
1,1,1-Trichloroethane	ND (0.17)	1.9E-05	6.9E-03	3.9E-06	NA
Trichloroethene	3.1	7.1E-04	2.5E-01	3.5E-01	1.0E-06
Vinyl Chloride	ND (0.040)	4.6E-06	1.6E-03	4.6E-05	7.2E-09
			Summed Risk	4E-01	1E-06

TABLE 5
INDOOR AIR HUMAN HEALTH RISKS (July 2020)
Whirlpool Facility - Fort Smith, Arkansas

AA

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	8.6E-05	NA
cis-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	2.9E-04	NA
Tetrachloroethene	1.5	3.4E-04	1.2E-01	8.6E-03	3.2E-08
1,1,1-Trichloroethane	ND (0.20)	2.3E-05	8.2E-03	4.6E-06	NA
Trichloroethene	ND (0.10)	1.1E-05	4.1E-03	5.7E-03	1.7E-08
Vinyl Chloride	ND (0.048)	5.5E-06	2.0E-03	5.5E-05	8.6E-09
			Summed Risk	2E-02	2E-07

Notes:

$\mu g/m^3$ = Microgram per cubic meter

CDI = Chronic Daily Intake

ND = Nondetect

HQ = Hazard Quotient

LCR = Lifetime Cancer Risk

TABLE 6
INDOOR AIR HUMAN HEALTH RISKS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 1 (Table 6a)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	8.6E-05	NA
cis-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	2.9E-04	NA
Tetrachloroethene	0.19	4.3E-05	1.5E-02	1.1E-03	4.0E-09
1,1,1-Trichloroethane	ND (0.20)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	0.46	1.1E-04	3.8E-02	5.3E-02	1.5E-07
Vinyl Chloride	ND (0.048)	5.5E-06	2.0E-03	5.5E-05	8.6E-09
			Summed Risk	6E-02	3E-07

ZONE 2 (Table 6b)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.29	6.6E-05	2.4E-02	1.7E-03	6.1E-09
1,1,1-Trichloroethane	0.21	4.8E-05	1.7E-02	9.6E-06	NA
Trichloroethene	1.1	2.5E-04	9.0E-02	1.3E-01	3.7E-07
Vinyl Chloride	ND (0.047)	5.4E-06	1.9E-03	5.4E-05	8.4E-09
			Summed Risk	1E-01	6E-07

ZONE 3-1 (Table 6c)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.37	8.4E-05	3.0E-02	2.1E-03	8E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	1.1	2.5E-04	9.0E-02	1.3E-01	4E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	8E-09
			Summed Risk	1E-01	5E-07

TABLE 6
INDOOR AIR HUMAN HEALTH RISKS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 3-2 (Table 6d)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.34	7.8E-05	2.8E-02	1.9E-03	7.2E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	1.1	2.5E-04	9.0E-02	1.3E-01	3.7E-07
Vinyl Chloride	ND (0.046)	5.3E-06	1.9E-03	5.3E-05	8.3E-09
			Summed Risk	1E-01	5E-07

ZONE 4-1 (Table 6e)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	3.4E-05	9.8E-09
1,2-Dichloroethane	ND (0.15)	1.7E-05	6.1E-03	2.4E-03	1.6E-07
1,1-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	8.6E-05	NA
cis-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.15)	1.7E-05	6.1E-03	2.9E-04	NA
Tetrachloroethene	0.35	8.0E-05	2.9E-02	2.0E-03	7.4E-09
1,1,1-Trichloroethane	ND (0.20)	2.3E-05	8.2E-03	4.6E-06	NA
Trichloroethene	1.2	2.7E-04	9.8E-02	1.4E-01	4.0E-07
Vinyl Chloride	ND (0.048)	5.5E-06	2.0E-03	5.5E-05	8.6E-09
			Summed Risk	1E-01	6E-07

ZONE 4-2 (Table 6f)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.45	1.0E-04	3.7E-02	2.6E-03	9.5E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	2.2	5.0E-04	1.8E-01	2.5E-01	7.4E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	3E-01	9E-07

TABLE 6
INDOOR AIR HUMAN HEALTH RISKS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 5-1 (Table 6g)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.5	1.1E-04	3.8E-02	2.6E-03	9.8E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	2.3	5.3E-04	1.9E-01	2.6E-01	7.7E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	3E-01	9E-07

ZONE 5-2 (Table 6h)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.3	6.6E-05	2.4E-02	1.7E-03	6.1E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	2.2	5.0E-04	1.8E-01	2.5E-01	7.4E-07
Vinyl Chloride	ND (0.046)	5.3E-06	1.9E-03	5.3E-05	8.3E-09
			Summed Risk	3E-01	9E-07

ZONE 5 Office (Table 6i)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	0.45	1.0E-04	3.7E-02	1.5E-02	9.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.20	4.6E-05	1.6E-02	1.1E-03	4.2E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	0.60	1.4E-04	4.9E-02	6.8E-02	2.0E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	8E-02	1E-06

TABLE 6
INDOOR AIR HUMAN HEALTH RISKS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

ZONE 6-1 (Table 6j)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.48	1.1E-04	3.9E-02	2.7E-03	1.0E-08
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	2.1	4.8E-04	1.7E-01	2.4E-01	7.0E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	2E-01	9E-07

ZONE 6-2 (Table 6k)

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.25	5.7E-05	2.0E-02	1.4E-03	5.3E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	2.0	4.6E-04	1.6E-01	2.3E-01	6.7E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	2E-01	8E-07

ZONE 6-2-DUP

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	3.2E-05	9.1E-09
1,2-Dichloroethane	ND (0.14)	1.6E-05	5.7E-03	2.3E-03	1.5E-07
1,1-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	8.0E-05	NA
cis-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.14)	1.6E-05	5.7E-03	2.7E-04	NA
Tetrachloroethene	0.24	5.5E-05	2.0E-02	1.4E-03	5.1E-09
1,1,1-Trichloroethane	ND (0.19)	2.2E-05	7.7E-03	4.3E-06	NA
Trichloroethene	1.9	4.3E-04	1.5E-01	2.2E-01	6.4E-07
Vinyl Chloride	ND (0.044)	5.0E-06	1.8E-03	5.0E-05	7.9E-09
			Summed Risk	2E-01	8E-07

TABLE 6
INDOOR AIR HUMAN HEALTH RISKS (October 2020)
Whirlpool Facility - Fort Smith, Arkansas

AA

Constituent	Air Concentration ($\mu g/m^3$)	Non-Cancer CDI	Cancer CDI	HQ	LCR
1,1-Dichloroethane	ND (0.12)	1.4E-05	4.9E-03	2.7E-05	7.8E-09
1,2-Dichloroethane	0.75	1.7E-04	6.1E-02	2.4E-02	1.6E-06
1,1-Dichloroethene	ND (0.11)	1.3E-05	4.5E-03	6.3E-05	NA
cis-1,2-Dichloroethene	ND (0.11)	1.3E-05	4.5E-03	NA	NA
trans-1,2-Dichloroethene	ND (0.11)	1.3E-05	4.5E-03	2.1E-04	NA
Tetrachloroethene	2.1	4.8E-04	1.7E-01	1.2E-02	4.5E-08
1,1,1-Trichloroethane	ND (0.16)	1.8E-05	6.5E-03	3.7E-06	NA
Trichloroethene	0.29	6.6E-05	2.4E-02	3.3E-02	9.7E-08
Vinyl Chloride	ND (0.037)	4.2E-06	1.5E-03	4.2E-05	6.6E-09
			Summed Risk	7E-02	2E-06

Notes:

$\mu g/m^3$ = Microgram per cubic meter

CDI = Chronic Daily Intake

ND = Nondetect

HQ = Hazard Quotient

LCR = Lifetime Cancer Risk

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TABLE 7
VALUES USED FOR DAILY INTAKE CALCULATIONS
Whirlpool Facility - Fort Smith, Arkansas

Scenario Timeframe: Current
Medium: Indoor air or Soil vapor
Exposure Medium: Air
Exposure Point: Groundwater
Receptor Population: Indoor C/I Worker
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	Intake Equation
Inhalation	CA	Chemical Concentration in Air	ug/m^3	(1)	(1)	
	ET	Exposure Time	hours/day	8	USEPA, 2002	Chronic Daily Intake (CDI) (mg/kg/day) =
	EF	Exposure Frequency	days/year	250	USEPA, 2002	CA x ET x EF x ED x CF x 1/AT
	ED	Exposure Duration	years	25	USEPA, 2002	
	CF	Conversion Factor	day/hour	1		
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 2002	
	AT-N	Averaging Time (Non-Cancer)	days	9,125	USEPA, 2002	

Notes:

(1) Indoor air concentrations of volatile organic compounds resulting from vapor intrusion was collected in May 2020

$\mu g/m^3$ = Micrograms per cubic meter

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TABLE 8
TOXICITY VALUES
Whirlpool Facility - Fort Smith, Arkansas

Chemicals	Inhalation Reference Concentration (RfC) (mg/m^3)	Inhalation Unit Risk (IUR) $(\mu g/m^3)^{-1}$
1,1-Dichloroethane	5.00E-01	1.60E-06
1,2-Dichloroethane	7.00E-03	2.60E-05
1,1-Dichloroethene	2.00E-01	NA
cis-1,2-Dichloroethene	NA	NA
trans-1,2-Dichloroethene	6.00E-02	NA
Tetrachloroethene	4.00E-02	2.60E-07
1,1,1-Trichloroethane	5.00E+00	NA
Trichloroethene	2.00E-03	4.10E-06
Vinyl Chloride	1.00E-01	4.40E-06

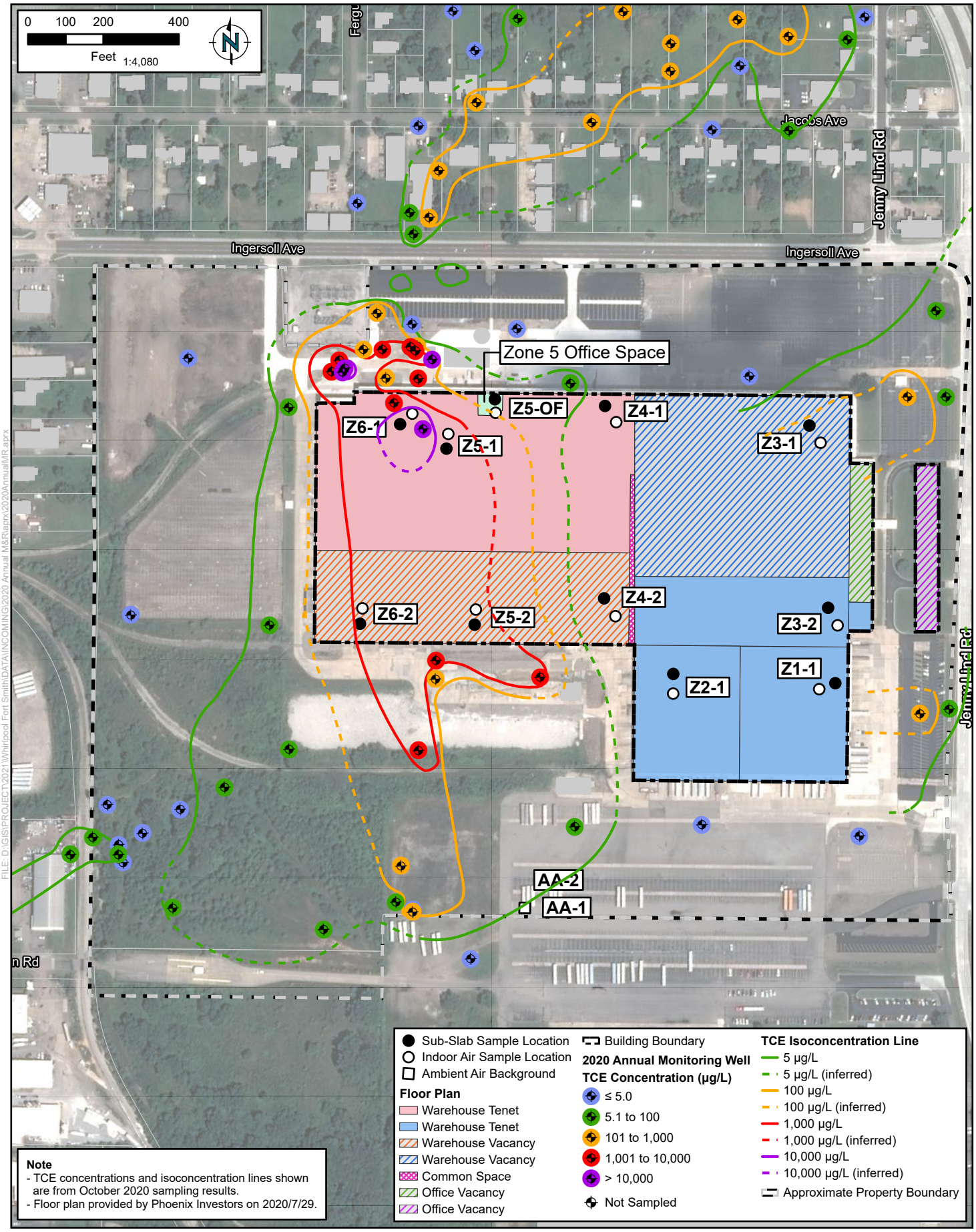
Notes:

mg/m^3 = Milligrams per cubic meter

$\mu g/m^3$ = Micrograms per cubic meter

RAMBOLL

Figures



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DRAFTED BY: FK | DATE: 01/05/2021

INDOOR AIR AND SUBSLAB SAMPLING LOCATIONS

Whirlpool Facility - Fort Smith, Arkansas

Figure 1

PROJECT: 1690010633

Appendix A
Laboratory Analytical Data

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

July 27, 2020

Haley Ahlers
Ramboll
1807 Park 270 Drive
Suite 320
Saint Louis, MO 63146

RE: Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Dear Haley Ahlers:

Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott Unze
scott.unze@pacelabs.com
1(612)607-6383
Project Manager

Enclosures

cc: Nick Zurweller, Ramboll

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CERTIFICATIONS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10525614001	Z5-OF-IA-202007	Air	07/15/20 16:59	07/21/20 09:30
10525614002	Z5-1-IA-202007	Air	07/15/20 17:01	07/21/20 09:30
10525614003	Z6-1-IA-202007	Air	07/15/20 17:03	07/21/20 09:30
10525614004	Z6-2-IA-202007	Air	07/15/20 17:15	07/21/20 09:30
10525614005	Z5-2-IA-202007	Air	07/15/20 17:18	07/21/20 09:30
10525614006	Z4-1-IA-202007	Air	07/15/20 17:33	07/21/20 09:30
10525614007	Z4-2-IA-202007	Air	07/15/20 17:35	07/21/20 09:30
10525614008	Z3-1-IA-202007	Air	07/15/20 17:31	07/21/20 09:30
10525614009	Z3-1-IA-202007-DUP	Air	07/15/20 17:31	07/21/20 09:30
10525614010	Z3-2-IA-202007	Air	07/15/20 17:28	07/21/20 09:30
10525614011	Z2-1-IA-202007	Air	07/15/20 17:39	07/21/20 09:30
10525614012	Z1-1-IA-202007	Air	07/15/20 17:49	07/21/20 09:30
10525614013	AA-1-202007	Air	07/15/20 18:00	07/21/20 09:30
10525614014	AA-2-202007	Air	07/16/20 15:40	07/21/20 09:30
10525614015	Z6-2-SS-202007	Air	07/16/20 09:39	07/21/20 09:30
10525614016	Z5-2-SS-202007	Air	07/16/20 10:29	07/21/20 09:30
10525614017	Z3-2-SS-202007	Air	07/16/20 12:28	07/21/20 09:30
10525614018	Z3-1-SS-202007	Air	07/16/20 13:06	07/21/20 09:30
10525614019	Z3-1-SS-202007-DUP	Air	07/16/20 13:00	07/21/20 09:30
10525614020	Z4-1-SS-202007	Air	07/16/20 13:33	07/21/20 09:30
10525614021	Z4-2-SS-202007	Air	07/16/20 14:10	07/21/20 09:30
10525614022	Z2-1-SS-202007	Air	07/16/20 14:40	07/21/20 09:30
10525614023	Z1-1-SS-202007	Air	07/16/20 15:25	07/21/20 09:30
10525614024	Z6-1-SS-202007	Air	07/16/20 18:03	07/21/20 09:30
10525614025	Z5-OF-SS-202007	Air	07/16/20 18:39	07/21/20 09:30
10525614026	UNUSED PACE3118	Air		07/21/20 09:30
10525614027	UNUSED PACE2588	Air		07/21/20 09:30
10525614028	UNUSED PACE3045	Air		07/21/20 09:30
10525614029	UNUSED PACE3575	Air		07/21/20 09:30
10525614030	UNUSED PACE2324	Air		07/21/20 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10525614001	Z5-OF-IA-202007	TO-15	AFV	9
10525614002	Z5-1-IA-202007	TO-15	AFV	9
10525614003	Z6-1-IA-202007	TO-15	AFV	9
10525614004	Z6-2-IA-202007	TO-15	AFV	9
10525614005	Z5-2-IA-202007	TO-15	AFV	9
10525614006	Z4-1-IA-202007	TO-15	AFV	9
10525614007	Z4-2-IA-202007	TO-15	AFV	9
10525614008	Z3-1-IA-202007	TO-15	AFV	9
10525614009	Z3-1-IA-202007-DUP	TO-15	AFV	9
10525614010	Z3-2-IA-202007	TO-15	AFV	9
10525614011	Z2-1-IA-202007	TO-15	AFV	9
10525614012	Z1-1-IA-202007	TO-15	AFV	9
10525614013	AA-1-202007	TO-15	AFV	9
10525614014	AA-2-202007	TO-15	AFV	9
10525614015	Z6-2-SS-202007	TO-15	MLS	9
10525614016	Z5-2-SS-202007	TO-15	MLS	9
10525614017	Z3-2-SS-202007	TO-15	MLS	9
10525614018	Z3-1-SS-202007	TO-15	MLS	9
10525614019	Z3-1-SS-202007-DUP	TO-15	MLS	9
10525614020	Z4-1-SS-202007	TO-15	MJL	9
10525614021	Z4-2-SS-202007	TO-15	MLS	9
10525614022	Z2-1-SS-202007	TO-15	MLS	9
10525614023	Z1-1-SS-202007	TO-15	MLS	9
10525614024	Z6-1-SS-202007	TO-15	MLS	9
10525614025	Z5-OF-SS-202007	TO-15	MLS	9

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Method: **TO-15**
Description: TO15 MSV AIR
Client: Ramboll
Date: July 27, 2020

General Information:
11 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 688430

C8: Result may be biased high due to carryover from previously analyzed sample.

- Z3-1-SS-202007 (Lab ID: 10525614018)
  - Tetrachloroethene

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PROJECT NARRATIVE

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Method: **TO-15**
Description: TO15 MSV AIR SIM SCAN
Client: Ramboll
Date: July 27, 2020

General Information:
14 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z5-OF-IA-202007 **Lab ID: 10525614001** Collected: 07/15/20 16:59 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Vinyl chloride	ND	ug/m3	0.037	1.44		07/23/20 16:00	75-01-4	
1,1-Dichloroethene	ND	ug/m3	0.12	1.44		07/23/20 16:00	75-35-4	
1,1-Dichloroethane	ND	ug/m3	0.12	1.44		07/23/20 16:00	75-34-3	
cis-1,2-Dichloroethene	ND	ug/m3	0.12	1.44		07/23/20 16:00	156-59-2	
1,1,1-Trichloroethane	ND	ug/m3	0.16	1.44		07/23/20 16:00	71-55-6	
1,2-Dichloroethane	**0.28**	ug/m3	0.12	1.44		07/23/20 16:00	107-06-2	
Trichloroethene	**1.1**	ug/m3	0.079	1.44		07/23/20 16:00	79-01-6	
Tetrachloroethene	**0.33**	ug/m3	0.099	1.44		07/23/20 16:00	127-18-4	
trans-1,2-Dichloroethene	ND	ug/m3	0.12	1.44		07/23/20 16:00	156-60-5	

Sample: Z5-1-IA-202007 **Lab ID: 10525614002** Collected: 07/15/20 17:01 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.12	1.49		07/23/20 17:10	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.12	1.49		07/23/20 17:10	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.12	1.49		07/23/20 17:10	75-35-4	
cis-1,2-Dichloroethene	**0.19**	ug/m3	0.12	1.49		07/23/20 17:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.12	1.49		07/23/20 17:10	156-60-5	
Tetrachloroethene	**1.0**	ug/m3	0.10	1.49		07/23/20 17:10	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.17	1.49		07/23/20 17:10	71-55-6	
Trichloroethene	**3.1**	ug/m3	0.081	1.49		07/23/20 17:10	79-01-6	
Vinyl chloride	ND	ug/m3	0.039	1.49		07/23/20 17:10	75-01-4	

Sample: Z6-1-IA-202007 **Lab ID: 10525614003** Collected: 07/15/20 17:03 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.12	1.49		07/23/20 17:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.12	1.49		07/23/20 17:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.12	1.49		07/23/20 17:45	75-35-4	
cis-1,2-Dichloroethene	**0.19**	ug/m3	0.12	1.49		07/23/20 17:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.12	1.49		07/23/20 17:45	156-60-5	
Tetrachloroethene	**1.2**	ug/m3	0.10	1.49		07/23/20 17:45	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.17	1.49		07/23/20 17:45	71-55-6	
Trichloroethene	**2.9**	ug/m3	0.081	1.49		07/23/20 17:45	79-01-6	
Vinyl chloride	ND	ug/m3	0.039	1.49		07/23/20 17:45	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z6-2-IA-202007 **Lab ID: 10525614004** Collected: 07/15/20 17:15 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.13	1.52		07/23/20 18:21	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.13	1.52		07/23/20 18:21	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.12	1.52		07/23/20 18:21	75-35-4	
cis-1,2-Dichloroethene	**0.17**	ug/m3	0.12	1.52		07/23/20 18:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.12	1.52		07/23/20 18:21	156-60-5	
Tetrachloroethene	**0.96**	ug/m3	0.10	1.52		07/23/20 18:21	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.17	1.52		07/23/20 18:21	71-55-6	
Trichloroethene	**3.1**	ug/m3	0.083	1.52		07/23/20 18:21	79-01-6	
Vinyl chloride	ND	ug/m3	0.040	1.52		07/23/20 18:21	75-01-4	

Sample: Z5-2-IA-202007 **Lab ID: 10525614005** Collected: 07/15/20 17:18 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.13	1.61		07/23/20 18:56	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.13	1.61		07/23/20 18:56	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.13	1.61		07/23/20 18:56	75-35-4	
cis-1,2-Dichloroethene	**0.17**	ug/m3	0.13	1.61		07/23/20 18:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.13	1.61		07/23/20 18:56	156-60-5	
Tetrachloroethene	**1.0**	ug/m3	0.11	1.61		07/23/20 18:56	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.18	1.61		07/23/20 18:56	71-55-6	
Trichloroethene	**3.8**	ug/m3	0.088	1.61		07/23/20 18:56	79-01-6	
Vinyl chloride	ND	ug/m3	0.042	1.61		07/23/20 18:56	75-01-4	

Sample: Z4-1-IA-202007 **Lab ID: 10525614006** Collected: 07/15/20 17:33 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.87		07/23/20 19:31	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.87		07/23/20 19:31	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.15	1.87		07/23/20 19:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.15	1.87		07/23/20 19:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.15	1.87		07/23/20 19:31	156-60-5	
Tetrachloroethene	**0.43**	ug/m3	0.13	1.87		07/23/20 19:31	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.21	1.87		07/23/20 19:31	71-55-6	
Trichloroethene	**0.66**	ug/m3	0.10	1.87		07/23/20 19:31	79-01-6	
Vinyl chloride	ND	ug/m3	0.049	1.87		07/23/20 19:31	75-01-4	

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z4-2-IA-202007 **Lab ID: 10525614007** Collected: 07/15/20 17:35 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.75		07/23/20 20:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.75		07/23/20 20:06	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 20:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 20:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 20:06	156-60-5	
Tetrachloroethene	**0.45**	ug/m3	0.12	1.75		07/23/20 20:06	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.75		07/23/20 20:06	71-55-6	
Trichloroethene	**0.57**	ug/m3	0.096	1.75		07/23/20 20:06	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	1.75		07/23/20 20:06	75-01-4	

Sample: Z3-1-IA-202007 **Lab ID: 10525614008** Collected: 07/15/20 17:31 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.75		07/23/20 20:41	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.75		07/23/20 20:41	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 20:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 20:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 20:41	156-60-5	
Tetrachloroethene	**0.54**	ug/m3	0.12	1.75		07/23/20 20:41	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.75		07/23/20 20:41	71-55-6	
Trichloroethene	**1.2**	ug/m3	0.096	1.75		07/23/20 20:41	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	1.75		07/23/20 20:41	75-01-4	

Sample: Z3-1-IA-202007-DUP **Lab ID: 10525614009** Collected: 07/15/20 17:31 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.71		07/23/20 21:17	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.71		07/23/20 21:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.71		07/23/20 21:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		07/23/20 21:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		07/23/20 21:17	156-60-5	
Tetrachloroethene	**2.1**	ug/m3	0.12	1.71		07/23/20 21:17	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.71		07/23/20 21:17	71-55-6	
Trichloroethene	**1.3**	ug/m3	0.093	1.71		07/23/20 21:17	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.71		07/23/20 21:17	75-01-4	

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z3-2-IA-202007 **Lab ID: 10525614010** Collected: 07/15/20 17:28 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.79		07/23/20 21:52	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.79		07/23/20 21:52	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.79		07/23/20 21:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.79		07/23/20 21:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.79		07/23/20 21:52	156-60-5	
Tetrachloroethene	**0.87**	ug/m3	0.12	1.79		07/23/20 21:52	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.20	1.79		07/23/20 21:52	71-55-6	
Trichloroethene	**0.68**	ug/m3	0.098	1.79		07/23/20 21:52	79-01-6	
Vinyl chloride	ND	ug/m3	0.047	1.79		07/23/20 21:52	75-01-4	

Sample: Z2-1-IA-202007 **Lab ID: 10525614011** Collected: 07/15/20 17:39 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.79		07/23/20 22:27	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.79		07/23/20 22:27	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.79		07/23/20 22:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.79		07/23/20 22:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.79		07/23/20 22:27	156-60-5	
Tetrachloroethene	**0.24**	ug/m3	0.12	1.79		07/23/20 22:27	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.20	1.79		07/23/20 22:27	71-55-6	
Trichloroethene	**0.63**	ug/m3	0.098	1.79		07/23/20 22:27	79-01-6	
Vinyl chloride	ND	ug/m3	0.047	1.79		07/23/20 22:27	75-01-4	

Sample: Z1-1-IA-202007 **Lab ID: 10525614012** Collected: 07/15/20 17:49 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.75		07/23/20 23:02	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.75		07/23/20 23:02	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 23:02	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 23:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		07/23/20 23:02	156-60-5	
Tetrachloroethene	**0.39**	ug/m3	0.12	1.75		07/23/20 23:02	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.75		07/23/20 23:02	71-55-6	
Trichloroethene	**0.49**	ug/m3	0.096	1.75		07/23/20 23:02	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	1.75		07/23/20 23:02	75-01-4	

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: AA-1-202007 **Lab ID: 10525614013** Collected: 07/15/20 18:00 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.83		07/23/20 23:37	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.83		07/23/20 23:37	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.15	1.83		07/23/20 23:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		07/23/20 23:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		07/23/20 23:37	156-60-5	
Tetrachloroethene	**1.5**	ug/m3	0.13	1.83		07/23/20 23:37	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.20	1.83		07/23/20 23:37	71-55-6	
Trichloroethene	ND	ug/m3	0.10	1.83		07/23/20 23:37	79-01-6	
Vinyl chloride	ND	ug/m3	0.048	1.83		07/23/20 23:37	75-01-4	

Sample: AA-2-202007 **Lab ID: 10525614014** Collected: 07/16/20 15:40 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.13	1.55		07/24/20 00:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.13	1.55		07/24/20 00:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.12	1.55		07/24/20 00:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.12	1.55		07/24/20 00:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.12	1.55		07/24/20 00:13	156-60-5	
Tetrachloroethene	**0.41**	ug/m3	0.11	1.55		07/24/20 00:13	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.17	1.55		07/24/20 00:13	71-55-6	
Trichloroethene	ND	ug/m3	0.085	1.55		07/24/20 00:13	79-01-6	
Vinyl chloride	ND	ug/m3	0.040	1.55		07/24/20 00:13	75-01-4	

Sample: Z6-2-SS-202007 **Lab ID: 10525614015** Collected: 07/16/20 09:39 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.4	1.68		07/22/20 19:52	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.69	1.68		07/22/20 19:52	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.68		07/22/20 19:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		07/22/20 19:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.68		07/22/20 19:52	156-60-5	
Tetrachloroethene	ND	ug/m3	1.2	1.68		07/22/20 19:52	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	1.9	1.68		07/22/20 19:52	71-55-6	
Trichloroethene	ND	ug/m3	0.92	1.68		07/22/20 19:52	79-01-6	
Vinyl chloride	ND	ug/m3	0.44	1.68		07/22/20 19:52	75-01-4	

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z5-2-SS-202007 **Lab ID: 10525614016** Collected: 07/16/20 10:29 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.5	1.8		07/22/20 20:20	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.74	1.8		07/22/20 20:20	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		07/22/20 20:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		07/22/20 20:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		07/22/20 20:20	156-60-5	
Tetrachloroethene	**13.2**	ug/m3	1.2	1.8		07/22/20 20:20	127-18-4	
1,1,1-Trichloroethane	**99.6**	ug/m3	2.0	1.8		07/22/20 20:20	71-55-6	
Trichloroethene	**1190**	ug/m3	29.5	54		07/23/20 11:40	79-01-6	
Vinyl chloride	ND	ug/m3	0.47	1.8		07/22/20 20:20	75-01-4	

Sample: Z3-2-SS-202007 **Lab ID: 10525614017** Collected: 07/16/20 12:28 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.8	2.19		07/22/20 20:49	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.90	2.19		07/22/20 20:49	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.8	2.19		07/22/20 20:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.8	2.19		07/22/20 20:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.8	2.19		07/22/20 20:49	156-60-5	
Tetrachloroethene	**350**	ug/m3	1.5	2.19		07/22/20 20:49	127-18-4	
1,1,1-Trichloroethane	**9.4**	ug/m3	2.4	2.19		07/22/20 20:49	71-55-6	
Trichloroethene	**344**	ug/m3	1.2	2.19		07/22/20 20:49	79-01-6	
Vinyl chloride	ND	ug/m3	0.57	2.19		07/22/20 20:49	75-01-4	

Sample: Z3-1-SS-202007 **Lab ID: 10525614018** Collected: 07/16/20 13:06 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**424**	ug/m3	322	391.2		07/23/20 00:34	75-34-3	
1,2-Dichloroethane	ND	ug/m3	161	391.2		07/23/20 00:34	107-06-2	
1,1-Dichloroethene	ND	ug/m3	315	391.2		07/23/20 00:34	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	315	391.2		07/23/20 00:34	156-59-2	
trans-1,2-Dichloroethene	**1540**	ug/m3	315	391.2		07/23/20 00:34	156-60-5	
Tetrachloroethene	**446**	ug/m3	270	391.2		07/23/20 00:34	127-18-4	C8
1,1,1-Trichloroethane	ND	ug/m3	434	391.2		07/23/20 00:34	71-55-6	
Trichloroethene	ND	ug/m3	214	391.2		07/23/20 00:34	79-01-6	
Vinyl chloride	**171000**	ug/m3	3250	12520		07/23/20 12:32	75-01-4	

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z3-1-SS-202007-DUP **Lab ID: 10525614019** Collected: 07/16/20 13:00 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**446**	ug/m3	433	525.6		07/23/20 01:00	75-34-3	
1,2-Dichloroethane	ND	ug/m3	216	525.6		07/23/20 01:00	107-06-2	
1,1-Dichloroethene	ND	ug/m3	424	525.6		07/23/20 01:00	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	424	525.6		07/23/20 01:00	156-59-2	
trans-1,2-Dichloroethene	**1560**	ug/m3	424	525.6		07/23/20 01:00	156-60-5	
Tetrachloroethene	**362**	ug/m3	362	525.6		07/23/20 01:00	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	583	525.6		07/23/20 01:00	71-55-6	
Trichloroethene	ND	ug/m3	287	525.6		07/23/20 01:00	79-01-6	
Vinyl chloride	**172000**	ug/m3	4370	16820		07/23/20 12:58	75-01-4	

Sample: Z4-1-SS-202007 **Lab ID: 10525614020** Collected: 07/16/20 13:33 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	3.1	3.76		07/24/20 17:51	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.5	3.76		07/24/20 17:51	107-06-2	
1,1-Dichloroethene	ND	ug/m3	3.0	3.76		07/24/20 17:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	3.0	3.76		07/24/20 17:51	156-59-2	
trans-1,2-Dichloroethene	**15.6**	ug/m3	3.0	3.76		07/24/20 17:51	156-60-5	
Tetrachloroethene	**19.3**	ug/m3	2.6	3.76		07/24/20 17:51	127-18-4	
1,1,1-Trichloroethane	**26.4**	ug/m3	4.2	3.76		07/24/20 17:51	71-55-6	
Trichloroethene	**10.3**	ug/m3	2.1	3.76		07/24/20 17:51	79-01-6	
Vinyl chloride	**87.3**	ug/m3	0.98	3.76		07/24/20 17:51	75-01-4	

Sample: Z4-2-SS-202007 **Lab ID: 10525614021** Collected: 07/16/20 14:10 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**2.3**	ug/m3	1.9	2.29		07/22/20 21:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.94	2.29		07/22/20 21:47	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.8	2.29		07/22/20 21:47	75-35-4	
cis-1,2-Dichloroethene	**2.0**	ug/m3	1.8	2.29		07/22/20 21:47	156-59-2	
trans-1,2-Dichloroethene	**11.3**	ug/m3	1.8	2.29		07/22/20 21:47	156-60-5	
Tetrachloroethene	**23.1**	ug/m3	1.6	2.29		07/22/20 21:47	127-18-4	
1,1,1-Trichloroethane	**5.6**	ug/m3	2.5	2.29		07/22/20 21:47	71-55-6	
Trichloroethene	**6.9**	ug/m3	1.3	2.29		07/22/20 21:47	79-01-6	
Vinyl chloride	**61.4**	ug/m3	0.60	2.29		07/22/20 21:47	75-01-4	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z2-1-SS-202007 **Lab ID: 10525614022** Collected: 07/16/20 14:40 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.7	2.02		07/22/20 23:42	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.83	2.02		07/22/20 23:42	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	2.02		07/22/20 23:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	2.02		07/22/20 23:42	156-59-2	
trans-1,2-Dichloroethene	**4.6**	ug/m3	1.6	2.02		07/22/20 23:42	156-60-5	
Tetrachloroethene	**7030**	ug/m3	41.8	60.6		07/23/20 00:08	127-18-4	
1,1,1-Trichloroethane	**51.5**	ug/m3	2.2	2.02		07/22/20 23:42	71-55-6	
Trichloroethene	**11.7**	ug/m3	1.1	2.02		07/22/20 23:42	79-01-6	
Vinyl chloride	**27.7**	ug/m3	0.53	2.02		07/22/20 23:42	75-01-4	

Sample: Z1-1-SS-202007 **Lab ID: 10525614023** Collected: 07/16/20 15:25 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	2.1	2.52		07/22/20 22:16	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.0	2.52		07/22/20 22:16	107-06-2	
1,1-Dichloroethene	ND	ug/m3	2.0	2.52		07/22/20 22:16	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	2.0	2.52		07/22/20 22:16	156-59-2	
trans-1,2-Dichloroethene	**4.8**	ug/m3	2.0	2.52		07/22/20 22:16	156-60-5	
Tetrachloroethene	**209**	ug/m3	1.7	2.52		07/22/20 22:16	127-18-4	
1,1,1-Trichloroethane	**3.8**	ug/m3	2.8	2.52		07/22/20 22:16	71-55-6	
Trichloroethene	**2.9**	ug/m3	1.4	2.52		07/22/20 22:16	79-01-6	
Vinyl chloride	**33.2**	ug/m3	0.66	2.52		07/22/20 22:16	75-01-4	

Sample: Z6-1-SS-202007 **Lab ID: 10525614024** Collected: 07/16/20 18:03 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**3100**	ug/m3	312	379.2		07/23/20 12:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.3	3.16		07/22/20 22:45	107-06-2	
1,1-Dichloroethene	**11.9**	ug/m3	2.5	3.16		07/22/20 22:45	75-35-4	
cis-1,2-Dichloroethene	**56.2**	ug/m3	2.5	3.16		07/22/20 22:45	156-59-2	
trans-1,2-Dichloroethene	**16.9**	ug/m3	2.5	3.16		07/22/20 22:45	156-60-5	
Tetrachloroethene	**249**	ug/m3	2.2	3.16		07/22/20 22:45	127-18-4	
1,1,1-Trichloroethane	**6660**	ug/m3	421	379.2		07/23/20 12:06	71-55-6	
Trichloroethene	**62.7**	ug/m3	1.7	3.16		07/22/20 22:45	79-01-6	
Vinyl chloride	**10.2**	ug/m3	0.82	3.16		07/22/20 22:45	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Sample: Z5-OF-SS-202007 **Lab ID: 10525614025** Collected: 07/16/20 18:39 Received: 07/21/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**23.1**	ug/m3	1.6	1.94		07/22/20 23:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.80	1.94		07/22/20 23:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.6	1.94		07/22/20 23:13	75-35-4	
cis-1,2-Dichloroethene	**2.2**	ug/m3	1.6	1.94		07/22/20 23:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.6	1.94		07/22/20 23:13	156-60-5	
Tetrachloroethene	**184**	ug/m3	1.3	1.94		07/22/20 23:13	127-18-4	
1,1,1-Trichloroethane	**84.7**	ug/m3	2.2	1.94		07/22/20 23:13	71-55-6	
Trichloroethene	**70.7**	ug/m3	1.1	1.94		07/22/20 23:13	79-01-6	
Vinyl chloride	**1.8**	ug/m3	0.50	1.94		07/22/20 23:13	75-01-4	

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QUALITY CONTROL DATA

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

QC Batch: 688430
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10525614015, 10525614016, 10525614017, 10525614018, 10525614019, 10525614021, 10525614022, 10525614023, 10525614024, 10525614025

METHOD BLANK: 3682144 Matrix: Air
Associated Lab Samples: 10525614015, 10525614016, 10525614017, 10525614018, 10525614019, 10525614021, 10525614022, 10525614023, 10525614024, 10525614025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	07/22/20 12:05	
1,1-Dichloroethane	ug/m3	ND	0.41	07/22/20 12:05	
1,1-Dichloroethene	ug/m3	ND	0.40	07/22/20 12:05	
1,2-Dichloroethane	ug/m3	ND	0.21	07/22/20 12:05	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	07/22/20 12:05	
Tetrachloroethene	ug/m3	ND	0.34	07/22/20 12:05	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	07/22/20 12:05	
Trichloroethene	ug/m3	ND	0.27	07/22/20 12:05	
Vinyl chloride	ug/m3	ND	0.13	07/22/20 12:05	

LABORATORY CONTROL SAMPLE: 3682145

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.7	60.3	106	70-130	
1,1-Dichloroethane	ug/m3	43	45.0	105	70-130	
1,1-Dichloroethene	ug/m3	43.2	42.1	97	69-137	
1,2-Dichloroethane	ug/m3	42.8	43.7	102	70-130	
cis-1,2-Dichloroethene	ug/m3	41.8	45.9	110	70-132	
Tetrachloroethene	ug/m3	74.9	71.5	95	70-136	
trans-1,2-Dichloroethene	ug/m3	41.9	45.7	109	70-132	
Trichloroethene	ug/m3	56.7	58.9	104	70-132	
Vinyl chloride	ug/m3	28.5	29.2	102	68-141	

SAMPLE DUPLICATE: 3683448

Parameter	Units	10525276001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.7	ND		25	
1,1-Dichloroethane	ug/m3	<1.2	ND		25	
1,1-Dichloroethene	ug/m3	<1.2	ND		25	
1,2-Dichloroethane	ug/m3	<0.61	ND		25	
cis-1,2-Dichloroethene	ug/m3	<1.2	ND		25	
Tetrachloroethene	ug/m3	0.94J	.8J		25	
trans-1,2-Dichloroethene	ug/m3	<1.2	ND		25	
Trichloroethene	ug/m3	<0.81	ND		25	
Vinyl chloride	ug/m3	<0.39	ND		25	

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QUALITY CONTROL DATA

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

SAMPLE DUPLICATE: 3683449

Parameter	Units	10525276003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.7	ND		25	
1,1-Dichloroethane	ug/m3	<1.2	ND		25	
1,1-Dichloroethene	ug/m3	<1.2	ND		25	
1,2-Dichloroethane	ug/m3	0.86	0.87	0	25	
cis-1,2-Dichloroethene	ug/m3	<1.2	ND		25	
Tetrachloroethene	ug/m3	0.90J	.96J		25	
trans-1,2-Dichloroethene	ug/m3	<1.2	ND		25	
Trichloroethene	ug/m3	<0.81	ND		25	
Vinyl chloride	ug/m3	<0.39	ND		25	

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QUALITY CONTROL DATA

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

QC Batch: 689055
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10525614020

METHOD BLANK: 3684913 Matrix: Air
Associated Lab Samples: 10525614020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.56	07/24/20 13:29	
1,1-Dichloroethane	ug/m3	ND	0.41	07/24/20 13:29	
1,1-Dichloroethene	ug/m3	ND	0.40	07/24/20 13:29	
1,2-Dichloroethane	ug/m3	ND	0.21	07/24/20 13:29	
cis-1,2-Dichloroethene	ug/m3	ND	0.40	07/24/20 13:29	
Tetrachloroethene	ug/m3	ND	0.34	07/24/20 13:29	
trans-1,2-Dichloroethene	ug/m3	ND	0.40	07/24/20 13:29	
Trichloroethene	ug/m3	ND	0.27	07/24/20 13:29	
Vinyl chloride	ug/m3	ND	0.13	07/24/20 13:29	

LABORATORY CONTROL SAMPLE: 3684914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.7	58.0	102	70-130	
1,1-Dichloroethane	ug/m3	43	43.3	101	70-130	
1,1-Dichloroethene	ug/m3	43.2	41.4	96	69-137	
1,2-Dichloroethane	ug/m3	42.8	43.4	101	70-130	
cis-1,2-Dichloroethene	ug/m3	41.8	43.5	104	70-132	
Tetrachloroethene	ug/m3	74.9	66.7	89	70-136	
trans-1,2-Dichloroethene	ug/m3	41.9	42.6	102	70-132	
Trichloroethene	ug/m3	56.7	55.2	97	70-132	
Vinyl chloride	ug/m3	28.5	26.3	92	68-141	

SAMPLE DUPLICATE: 3685786

Parameter	Units	92487041010 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	19.6	19.0	4	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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QUALITY CONTROL DATA

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

QC Batch: 688684
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR SIM SCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10525614001, 10525614002, 10525614003, 10525614004, 10525614005, 10525614006, 10525614007, 10525614008, 10525614009, 10525614010, 10525614011, 10525614012, 10525614013, 10525614014

METHOD BLANK: 3683260 Matrix: Air
Associated Lab Samples: 10525614001, 10525614002, 10525614003, 10525614004, 10525614005, 10525614006, 10525614007, 10525614008, 10525614009, 10525614010, 10525614011, 10525614012, 10525614013, 10525614014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.11	07/23/20 10:29	
1,1-Dichloroethane	ug/m3	ND	0.082	07/23/20 10:29	
1,1-Dichloroethene	ug/m3	ND	0.081	07/23/20 10:29	
1,2-Dichloroethane	ug/m3	ND	0.082	07/23/20 10:29	
cis-1,2-Dichloroethene	ug/m3	ND	0.081	07/23/20 10:29	
Tetrachloroethene	ug/m3	ND	0.069	07/23/20 10:29	
trans-1,2-Dichloroethene	ug/m3	ND	0.081	07/23/20 10:29	
Trichloroethene	ug/m3	ND	0.055	07/23/20 10:29	
Vinyl chloride	ug/m3	ND	0.026	07/23/20 10:29	

LABORATORY CONTROL SAMPLE: 3683261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	0.57	0.63	110	70-130	
1,1-Dichloroethane	ug/m3	0.43	0.47	109	70-130	
1,1-Dichloroethene	ug/m3	0.41	0.45	108	69-137	
1,2-Dichloroethane	ug/m3	0.42	0.47	111	70-130	
cis-1,2-Dichloroethene	ug/m3	0.42	0.45	108	70-132	
Tetrachloroethene	ug/m3	0.71	0.68	96	70-136	
trans-1,2-Dichloroethene	ug/m3	0.42	0.46	108	70-132	
Trichloroethene	ug/m3	0.56	0.61	108	70-132	
Vinyl chloride	ug/m3	0.27	0.30	112	68-141	

SAMPLE DUPLICATE: 3684784

Parameter	Units	10525614001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	0.28	0.28	0	25	
cis-1,2-Dichloroethene	ug/m3	ND	.042J		25	
Tetrachloroethene	ug/m3	0.33	0.33	0	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	1.1	1.1	0	25	
Vinyl chloride	ug/m3	ND	ND		25	

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QUALIFIERS

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C8 Result may be biased high due to carryover from previously analyzed sample.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1690016820 Fort Smith
Pace Project No.: 10525614

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10525614015	**Z6-2-SS-202007**	TO-15	688430		
10525614016	**Z5-2-SS-202007**	TO-15	688430		
10525614017	**Z3-2-SS-202007**	TO-15	688430		
10525614018	**Z3-1-SS-202007**	TO-15	688430		
10525614019	**Z3-1-SS-202007-DUP**	TO-15	688430		
10525614020	**Z4-1-SS-202007**	TO-15	689055		
10525614021	**Z4-2-SS-202007**	TO-15	688430		
10525614022	**Z2-1-SS-202007**	TO-15	688430		
10525614023	**Z1-1-SS-202007**	TO-15	688430		
10525614024	**Z6-1-SS-202007**	TO-15	688430		
10525614025	**Z5-OF-SS-202007**	TO-15	688430		
10525614001	**Z5-OF-IA-202007**	TO-15	688684		
10525614002	**Z5-1-IA-202007**	TO-15	688684		
10525614003	**Z6-1-IA-202007**	TO-15	688684		
10525614004	**Z6-2-IA-202007**	TO-15	688684		
10525614005	**Z5-2-IA-202007**	TO-15	688684		
10525614006	**Z4-1-IA-202007**	TO-15	688684		
10525614007	**Z4-2-IA-202007**	TO-15	688684		
10525614008	**Z3-1-IA-202007**	TO-15	688684		
10525614009	**Z3-1-IA-202007-DUP**	TO-15	688684		
10525614010	**Z3-2-IA-202007**	TO-15	688684		
10525614011	**Z2-1-IA-202007**	TO-15	688684		
10525614012	**Z1-1-IA-202007**	TO-15	688684		
10525614013	**AA-1-202007**	TO-15	688684		
10525614014	**AA-2-202007**	TO-15	688684		

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

47689

Page: 1 of 3

Section A Required Client Information:

Company:	Ramboll
Address:	1807 Park 270 Dr. St. Louis, MO 63146
Email To:	hanlers@ramboll.com
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	hanlers@ramboll.com
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager/Sales Rep.	
Pace Profile #:	39436

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: _____

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II. ___ III. ___ IV. ___ Other ___

'Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED DATE	COLLECTED TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: TO-15 Full List VOCs	Pace Lab ID
1	Z5-OF-IA-202007	6LC	n/a	7/15/20	1659	7/15/20	0924	-30	-4	2322	10913	X	001
2	Z5-1-IA-202007				1701		0936	-29	-3	0148	18411		002
3	Z6-1-IA-202007				1703		0926	-30	-1	2167	18007		003
4	Z6-2-IA-202007				1715		1011	-25	-1	0511	17988		004
5	Z5-2-IA-202007				1718		1032	-30	-5	1088	16711		005
6	Z4-1-IA-202007				1733		1123	-30	-8	2047	08877		006
7	Z4-2-IA-202007				1735		1127	-24	-6	0967	10755		007
8	Z3-1-IA-202007				1731		1121	-30	-8	1228	18533		008
9	Z3-1-IA-202007-DUP				1731		1121	-30	-7	1274	00788		009
10	Z3-2-IA-202007				1728		1115	-26	-8	3975	10366		010
11	Z2-1-IA-202007				1739		1134	-24	-8	3512	19188		011
12	Z1-1-IA-202007	↓	↓	↓	1749	↓	1132	-30	-7	1714	10811		012

Switch Time

Method: PM10 / 3C - Fixed Gas (%) / TO-3 BTEX / TO-3M (Methane) / TO-14 / TO-15 Full List VOCs / TO-15 Short List BTEX / TO-15 Short List Chlorinated / TO-15 Short List (other)

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Haley Anlers / Ramboll	7/17/20	0900	Matt Pace	7/21/20	9:20

SAMPLE CONDITIONS

	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Haley Anlers

SIGNATURE of SAMPLER: Haley Anlers DATE Signed (MM / DD / YY): 7/17/20

WO#: 10525614

10525614

Technical Phone: 612.607.6386

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www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

47689

Section A Required Client Information:

Company:	
Address:	SEE PAGE 1
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager/Sales Rep.	
Pace Profile #:	394360

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State _____

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other____

'Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	AA-1-202007	6LC	n/a	7/15/20	1142	7/15/20	1800	-22	-1	1521	2069							X			013
2	AA-2-202007	↓		7/16/20	0815	7/16/20	~~0939~~ 1540	-29	-2	3362	0512							↓			014
3	Z6-2-SS-202007	1LC			0919		~~1029~~ 1529	-29	-1	2217	1939						X				015
4	Z5-2-SS-202007				1014		~~1228~~ 1029	-30	-3	3242	2044										016
5	Z3-2-SS-202007				1209		~~1306~~ 1228	-26	-4	3200	1887										017
6	Z3-1-SS-202007				1241		~~1300~~ 1306	-27	-15	3179	2607										018
7	Z3-1-SS-202007-DUP				1241		~~1333~~ 1300	-28	-7	2884	0182										019
8	Z4-1-SS-202007				1318		~~1410~~ 1333	-30	-5	3193	0171										020
9	Z4-2-SS-202007				1347		~~1440~~ 1410	-30	-8	1012	1783										021
10	Z2-1-SS-202007				1421		~~1525~~ 1440	-81	-6	2199	1444										022
11	Z1-1-SS-202007				1455		1525	-29	-9	2244	0379										023
12	Z6-1-SS-202007	↓	↓	↓	1733	↓	1803	-28	-15	2010	0391						↓				024

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Haley Anders / Ramball	7/17/20	0900	Matt Fey / Pace	7/21/20	9:30

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Haley Anders

SIGNATURE of SAMPLER: Haley Anders DATE Signed (MM / DD / YY): 7/17/20

2

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

47689

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To: SEE PAGE 1	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager/Sales Rep.
Requested Due Date/TAT:	Project Number:	Pace Profile #: 394360

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: _____

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II. ___ III. ___ IV. ___ Other ___

'Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information / AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Z5-OF-SS-202007	1LC	n/a	7/16/20	1822	7/16/20	1839	-27	-4	31886187						X					025
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Haley Anders / Ramboll	7/17/20	0900	[illegible] / Pace	7/21/20	9:30

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Haley Anders

SIGNATURE of SAMPLER: Haley Anders DATE Signed (MM / DD / YY): 7/17/20

3

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt **Client Name:** Ramboll **Project #:** WO#: 10525614

PM: SCU Due Date: 07/28/20

CLIENT: ENVIRON

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [X]

Tracking Number: 1723 2543 9690

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [ ] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: _____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** —

Thermometer Used: [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** 7-21-20 MJ

Type of ice Received [ ] Blue [ ] Wet [X] None

		Comments:
Chain of Custody Present?	[X] Yes [ ] No	1.
Chain of Custody Filled Out?	[X] Yes [ ] No	2.
Chain of Custody Relinquished?	[X] Yes [ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes [ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes [X] No	6.
Rush Turn Around Time Requested?	[ ] Yes [X] No	7.
Sufficient Volume?	[X] Yes [ ] No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [ ] No [X] Yes [ ] No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes [ ] No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes [ ] No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes [ ] No	13.

Gauge # [X] 10AIR26 [ ] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
Z5-OF-IA	2322	1093	-2	+5	Z3-1-IA DUP	1274	78	-6.5	+5
Z5-1-IA	148	1841	-3		Z3-2-IA	3975	1036	-7.5	
Z6-1-IA	2167	1807	-3		Z2-1-IA	3512	1918	-7.5	
Z6-2-IA	511	1798	-3.5		Z1-1-IA	1714	1081	-7	
Z5-2-IA	1086	1671	-5		AA-1	1521	2069	-8	
Z4-1-IA	2047	887	-8.5		AA-2	3362	512	-4	
Z4-2-IA	967	1075	-7		Z6-2-SS	2217	1939	0	+10
Z3-1-IA	1228	1853	-7		Z5-2-SS	3242	2044	-2	+10

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kirsten Hoffberg **Date:** 7/23/2020

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - Air**	Document Revised: 24Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0113 Rev.00**	Pace Analytical Services - **Minneapolis**

Air Sample Condition Upon Receipt **Client Name:** **Project #:**

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Pace ☐SpeeDee ☐Commercial **See Exception** ☐

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐Yes ☐No **Seals Intact?** ☐Yes ☐No

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☐Foam ☐None ☐Tin Can ☐Other:_____ **Temp Blank rec:** ☐Yes ☐No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** ☐G87A9170600254 ☐G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** _____

Type of ice Received ☐Blue ☐Wet ☐None

		Comments:
Chain of Custody Present?	☐Yes ☐No	1.
Chain of Custody Filled Out?	☐Yes ☐No	2.
Chain of Custody Relinquished?	☐Yes ☐No	3.
Sampler Name and/or Signature on COC?	☐Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time?	☐Yes ☐No	5.
Short Hold Time Analysis (<72 hr)?	☐Yes ☐No	6.
Rush Turn Around Time Requested?	☐Yes ☐No	7.
Sufficient Volume?	☐Yes ☐No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☐Yes ☐No ☐Yes ☐No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☐Yes ☐No	10.
Media: Air Can Airbag Filter TDT Passive		11. Individually Certified Cans Y N (list which samples)
Is sufficient information available to reconcile samples to the COC?	☐Yes ☐No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☐Yes ☐No	13.

Gauge # ☐10AIR26 ☐10AIR34 ☐10AIR35 ☐4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
Z3-2-55	3200	1887	-7	+10	Z5-OF-55	3188	187	-4	+10
Z3-1-55	3179	2607	-14.5		Unused	3118	195	-27	—
Z3-1-55 DUP	2884	182	-7		"	2588	245	-27	—
Z4-1-55	3193	171	-4.5		"	3045	177	-27	—
Z4-2-55	1012	1783	-8		"	3575	2063	-28	—
Z2-1-55	2199	1444	-5		"	2324	1051	-28	—
Z1-1-55	2244	379	-10						
Z6-1-55	2010	391	-14						

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) Exception Form**	Document Revised: 04Jun2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0142 Rev.01**	Pace Analytical Services - **Minneapolis**

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature	
1723 2543 9689	
9715	
9726	
9737	
9704	

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Comments:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 13, 2020

Ian McQuaig
Ramboll
1807 Park 270 Dr.
Saint Louis, MO 63146

RE: Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Dear Ian McQuaig:

Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

This report was revised on November 13, 2020, to remove an unrequested analyte from sample 10536886013.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
1(612)607-6351
Project Manager

Enclosures

cc: Haley Ahlers, Ramboll
Tamara House-Knight, Ramboll

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Pace Analytical Services - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10536886001	Z1-1-IA-202010	Air	10/20/20 15:33	10/26/20 08:40
10536886002	Z3-2-IA-202010	Air	10/20/20 16:28	10/26/20 08:40
10536886003	Z3-1-IA-202010	Air	10/20/20 16:31	10/26/20 08:40
10536886004	Z4-1-IA-202010	Air	10/20/20 16:33	10/26/20 08:40
10536886005	Z4-2-IA-202010	Air	10/20/20 17:27	10/26/20 08:40
10536886006	Z2-1-IA-202010	Air	10/20/20 17:24	10/26/20 08:40
10536886007	Z5-OF-IA-202010	Air	10/20/20 17:39	10/26/20 08:40
10536886008	Z6-1-IA-202010	Air	10/20/20 17:46	10/26/20 08:40
10536886009	Z5-1-IA-202010	Air	10/20/20 17:43	10/26/20 08:40
10536886010	Z6-2-IA-202010-DUP	Air	10/20/20 18:09	10/26/20 08:40
10536886011	Z6-2-IA-202010	Air	10/20/20 18:09	10/26/20 08:40
10536886012	Z5-2-IA-202010	Air	10/20/20 18:13	10/26/20 08:40
10536886013	Z1-1-SS-202010	Air	10/21/20 08:36	10/26/20 08:40
10536886014	Z3-2-SS-202010	Air	10/21/20 09:34	10/26/20 08:40
10536886015	Z3-1-SS-202010	Air	10/21/20 10:37	10/26/20 08:40
10536886016	Z4-1-SS-202010	Air	10/21/20 11:35	10/26/20 08:40
10536886017	Z4-2-SS-202010	Air	10/21/20 12:36	10/26/20 08:40
10536886018	Z2-1-SS-202010	Air	10/21/20 15:19	10/26/20 08:40
10536886019	AA-2-202010	Air	10/21/20 16:16	10/26/20 08:40
10536886020	Z5-OF-SS-202010	Air	10/21/20 17:21	10/26/20 08:40
10536886021	Z6-1-SS-202010	Air	10/22/20 09:23	10/26/20 08:40
10536886022	Z6-2-SS-202010	Air	10/22/20 10:31	10/26/20 08:40
10536886023	Z6-2-SS-202010-DUP	Air	10/22/20 10:28	10/26/20 08:40
10536886024	Z5-2-SS-202010	Air	10/22/20 11:38	10/26/20 08:40
10536886025	Z5-1-SS-202010	Air	10/22/20 08:33	10/26/20 08:40
10536886026	AA-3-202010	Air	10/22/20 14:17	10/26/20 08:40
10536886027	UNUSED PACE3668	Air		10/26/20 08:40
10536886028	UNUSED PACE3391	Air		10/26/20 08:40
10536886029	UNUSED PACE3610	Air		10/26/20 08:40
10536886030	UNUSED PACE3333	Air		10/26/20 08:40

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10536886001	Z1-1-IA-202010	TO-15	AFV	9
10536886002	Z3-2-IA-202010	TO-15	AFV	9
10536886003	Z3-1-IA-202010	TO-15	AFV	9
10536886004	Z4-1-IA-202010	TO-15	AFV	9
10536886005	Z4-2-IA-202010	TO-15	AFV	9
10536886006	Z2-1-IA-202010	TO-15	AFV	9
10536886007	Z5-OF-IA-202010	TO-15	AFV	9
10536886008	Z6-1-IA-202010	TO-15	AFV	9
10536886009	Z5-1-IA-202010	TO-15	AFV	9
10536886010	Z6-2-IA-202010-DUP	TO-15	AFV	9
10536886011	Z6-2-IA-202010	TO-15	AFV	9
10536886012	Z5-2-IA-202010	TO-15	AFV	9
10536886013	Z1-1-SS-202010	TO-15	MLS	9
10536886014	Z3-2-SS-202010	TO-15	MLS	9
10536886015	Z3-1-SS-202010	TO-15	MLS	9
10536886016	Z4-1-SS-202010	TO-15	MLS	9
10536886017	Z4-2-SS-202010	TO-15	MLS	9
10536886018	Z2-1-SS-202010	TO-15	MLS	9
10536886019	AA-2-202010	TO-15	AFV	9
10536886020	Z5-OF-SS-202010	TO-15	CH1, MLS	9
10536886021	Z6-1-SS-202010	TO-15	CH1, MLS	9
10536886022	Z6-2-SS-202010	TO-15	MLS	9
10536886023	Z6-2-SS-202010-DUP	TO-15	MLS	9
10536886024	Z5-2-SS-202010	TO-15	MLS	9
10536886025	Z5-1-SS-202010	TO-15	CH1, MLS	9
10536886026	AA-3-202010	TO-15	AFV	9

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PROJECT NARRATIVE

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Method: **TO-15**
Description: TO15 MSV AIR
Client: Ramboll
Date: November 13, 2020

General Information:
12 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 709127

C8: Result may be biased high due to carryover from previously analyzed sample.

- Z6-2-SS-202010 (Lab ID: 10536886022)
  - 1,1-Dichloroethane
  - 1,1,1-Trichloroethane
  - Tetrachloroethene

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PROJECT NARRATIVE

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Method: **TO-15**
Description: TO15 MSV AIR SIM SCAN
Client: Ramboll
Date: November 13, 2020

General Information:
14 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z1-1-IA-202010 **Lab ID: 10536886001** Collected: 10/20/20 15:33 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.83		11/04/20 19:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.83		11/04/20 19:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.15	1.83		11/04/20 19:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		11/04/20 19:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		11/04/20 19:45	156-60-5	
Tetrachloroethene	**0.19**	ug/m3	0.13	1.83		11/04/20 19:45	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.20	1.83		11/04/20 19:45	71-55-6	
Trichloroethene	**0.46**	ug/m3	0.10	1.83		11/04/20 19:45	79-01-6	
Vinyl chloride	ND	ug/m3	0.048	1.83		11/04/20 19:45	75-01-4	

Sample: Z3-2-IA-202010 **Lab ID: 10536886002** Collected: 10/20/20 16:28 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.75		11/04/20 20:20	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.75		11/04/20 20:20	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.75		11/04/20 20:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		11/04/20 20:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		11/04/20 20:20	156-60-5	
Tetrachloroethene	**0.34**	ug/m3	0.12	1.75		11/04/20 20:20	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.75		11/04/20 20:20	71-55-6	
Trichloroethene	**1.1**	ug/m3	0.096	1.75		11/04/20 20:20	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	1.75		11/04/20 20:20	75-01-4	

Sample: Z3-1-IA-202010 **Lab ID: 10536886003** Collected: 10/20/20 16:31 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.68		11/04/20 20:56	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.68		11/04/20 20:56	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 20:56	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 20:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 20:56	156-60-5	
Tetrachloroethene	**0.37**	ug/m3	0.12	1.68		11/04/20 20:56	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.68		11/04/20 20:56	71-55-6	
Trichloroethene	**1.1**	ug/m3	0.092	1.68		11/04/20 20:56	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.68		11/04/20 20:56	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z4-1-IA-202010 **Lab ID: 10536886004** Collected: 10/20/20 16:33 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.83		11/04/20 21:31	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.83		11/04/20 21:31	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.15	1.83		11/04/20 21:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		11/04/20 21:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		11/04/20 21:31	156-60-5	
Tetrachloroethene	**0.35**	ug/m3	0.13	1.83		11/04/20 21:31	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.20	1.83		11/04/20 21:31	71-55-6	
Trichloroethene	**1.2**	ug/m3	0.10	1.83		11/04/20 21:31	79-01-6	
Vinyl chloride	ND	ug/m3	0.048	1.83		11/04/20 21:31	75-01-4	

Sample: Z4-2-IA-202010 **Lab ID: 10536886005** Collected: 10/20/20 17:27 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.68		11/04/20 22:06	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.68		11/04/20 22:06	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 22:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 22:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 22:06	156-60-5	
Tetrachloroethene	**0.45**	ug/m3	0.12	1.68		11/04/20 22:06	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.68		11/04/20 22:06	71-55-6	
Trichloroethene	**2.2**	ug/m3	0.092	1.68		11/04/20 22:06	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.68		11/04/20 22:06	75-01-4	

Sample: Z2-1-IA-202010 **Lab ID: 10536886006** Collected: 10/20/20 17:24 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.79		11/04/20 22:42	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.15	1.79		11/04/20 22:42	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.79		11/04/20 22:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.79		11/04/20 22:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.79		11/04/20 22:42	156-60-5	
Tetrachloroethene	**0.29**	ug/m3	0.12	1.79		11/04/20 22:42	127-18-4	
1,1,1-Trichloroethane	**0.21**	ug/m3	0.20	1.79		11/04/20 22:42	71-55-6	
Trichloroethene	**1.1**	ug/m3	0.098	1.79		11/04/20 22:42	79-01-6	
Vinyl chloride	ND	ug/m3	0.047	1.79		11/04/20 22:42	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z5-OF-IA-202010 **Lab ID: 10536886007** Collected: 10/20/20 17:39 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.68		11/04/20 23:17	75-34-3	
1,2-Dichloroethane	**0.45**	ug/m3	0.14	1.68		11/04/20 23:17	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 23:17	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 23:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.68		11/04/20 23:17	156-60-5	
Tetrachloroethene	**0.20**	ug/m3	0.12	1.68		11/04/20 23:17	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.68		11/04/20 23:17	71-55-6	
Trichloroethene	**0.60**	ug/m3	0.092	1.68		11/04/20 23:17	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.68		11/04/20 23:17	75-01-4	

Sample: Z6-1-IA-202010 **Lab ID: 10536886008** Collected: 10/20/20 17:46 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.71		11/04/20 23:52	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.71		11/04/20 23:52	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.71		11/04/20 23:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/04/20 23:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/04/20 23:52	156-60-5	
Tetrachloroethene	**0.48**	ug/m3	0.12	1.71		11/04/20 23:52	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.71		11/04/20 23:52	71-55-6	
Trichloroethene	**2.1**	ug/m3	0.093	1.71		11/04/20 23:52	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.71		11/04/20 23:52	75-01-4	

Sample: Z5-1-IA-202010 **Lab ID: 10536886009** Collected: 10/20/20 17:43 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.71		11/05/20 00:28	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.71		11/05/20 00:28	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 00:28	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 00:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 00:28	156-60-5	
Tetrachloroethene	**0.46**	ug/m3	0.12	1.71		11/05/20 00:28	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.71		11/05/20 00:28	71-55-6	
Trichloroethene	**2.3**	ug/m3	0.093	1.71		11/05/20 00:28	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.71		11/05/20 00:28	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z6-2-IA-202010-DUP **Lab ID: 10536886010** Collected: 10/20/20 18:09 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.71		11/05/20 01:03	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.71		11/05/20 01:03	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 01:03	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 01:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 01:03	156-60-5	
Tetrachloroethene	**0.24**	ug/m3	0.12	1.71		11/05/20 01:03	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.71		11/05/20 01:03	71-55-6	
Trichloroethene	**1.9**	ug/m3	0.093	1.71		11/05/20 01:03	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.71		11/05/20 01:03	75-01-4	

Sample: Z6-2-IA-202010 **Lab ID: 10536886011** Collected: 10/20/20 18:09 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.71		11/05/20 01:38	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.71		11/05/20 01:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 01:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 01:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.71		11/05/20 01:38	156-60-5	
Tetrachloroethene	**0.25**	ug/m3	0.12	1.71		11/05/20 01:38	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.71		11/05/20 01:38	71-55-6	
Trichloroethene	**2.0**	ug/m3	0.093	1.71		11/05/20 01:38	79-01-6	
Vinyl chloride	ND	ug/m3	0.044	1.71		11/05/20 01:38	75-01-4	

Sample: Z5-2-IA-202010 **Lab ID: 10536886012** Collected: 10/20/20 18:13 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.14	1.75		11/05/20 02:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.14	1.75		11/05/20 02:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.14	1.75		11/05/20 02:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		11/05/20 02:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.14	1.75		11/05/20 02:13	156-60-5	
Tetrachloroethene	**0.29**	ug/m3	0.12	1.75		11/05/20 02:13	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.19	1.75		11/05/20 02:13	71-55-6	
Trichloroethene	**2.2**	ug/m3	0.096	1.75		11/05/20 02:13	79-01-6	
Vinyl chloride	ND	ug/m3	0.046	1.75		11/05/20 02:13	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z1-1-SS-202010 **Lab ID: 10536886013** Collected: 10/21/20 08:36 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.2	1.49		11/05/20 20:13	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		11/05/20 20:13	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		11/05/20 20:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		11/05/20 20:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		11/05/20 20:13	156-60-5	
Tetrachloroethene	**48.0**	ug/m3	1.0	1.49		11/05/20 20:13	127-18-4	
1,1,1-Trichloroethane	**2.7**	ug/m3	1.7	1.49		11/05/20 20:13	71-55-6	
Trichloroethene	ND	ug/m3	0.81	1.49		11/05/20 20:13	79-01-6	
Vinyl chloride	ND	ug/m3	0.39	1.49		11/05/20 20:13	75-01-4	

Sample: Z3-2-SS-202010 **Lab ID: 10536886014** Collected: 10/21/20 09:34 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.3	1.61		11/06/20 01:05	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.66	1.61		11/06/20 01:05	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.61		11/06/20 01:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.61		11/06/20 01:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.61		11/06/20 01:05	156-60-5	
Tetrachloroethene	**1250**	ug/m3	22.2	32.2		11/06/20 01:30	127-18-4	
1,1,1-Trichloroethane	**9.7**	ug/m3	1.8	1.61		11/06/20 01:05	71-55-6	
Trichloroethene	**326**	ug/m3	17.6	32.2		11/06/20 01:30	79-01-6	
Vinyl chloride	ND	ug/m3	0.42	1.61		11/06/20 01:05	75-01-4	

Sample: Z3-1-SS-202010 **Lab ID: 10536886015** Collected: 10/21/20 10:37 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	600	729.6		11/06/20 02:20	75-34-3	
1,2-Dichloroethane	ND	ug/m3	300	729.6		11/06/20 02:20	107-06-2	
1,1-Dichloroethene	ND	ug/m3	588	729.6		11/06/20 02:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	588	729.6		11/06/20 02:20	156-59-2	
trans-1,2-Dichloroethene	**771**	ug/m3	588	729.6		11/06/20 02:20	156-60-5	
Tetrachloroethene	ND	ug/m3	503	729.6		11/06/20 02:20	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	810	729.6		11/06/20 02:20	71-55-6	
Trichloroethene	ND	ug/m3	398	729.6		11/06/20 02:20	79-01-6	
Vinyl chloride	**36000**	ug/m3	190	729.6		11/06/20 02:20	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z4-1-SS-202010 **Lab ID: 10536886016** Collected: 10/21/20 11:35 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.3	1.52		11/05/20 21:07	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.62	1.52		11/05/20 21:07	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.52		11/05/20 21:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.52		11/05/20 21:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.52		11/05/20 21:07	156-60-5	
Tetrachloroethene	ND	ug/m3	1.0	1.52		11/05/20 21:07	127-18-4	
1,1,1-Trichloroethane	**31.4**	ug/m3	1.7	1.52		11/05/20 21:07	71-55-6	
Trichloroethene	**7.8**	ug/m3	0.83	1.52		11/05/20 21:07	79-01-6	
Vinyl chloride	ND	ug/m3	0.40	1.52		11/05/20 21:07	75-01-4	

Sample: Z4-2-SS-202010 **Lab ID: 10536886017** Collected: 10/21/20 12:36 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		11/05/20 21:33	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		11/05/20 21:33	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		11/05/20 21:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		11/05/20 21:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		11/05/20 21:33	156-60-5	
Tetrachloroethene	ND	ug/m3	0.99	1.44		11/05/20 21:33	127-18-4	
1,1,1-Trichloroethane	**4.1**	ug/m3	1.6	1.44		11/05/20 21:33	71-55-6	
Trichloroethene	**1.0**	ug/m3	0.79	1.44		11/05/20 21:33	79-01-6	
Vinyl chloride	ND	ug/m3	0.37	1.44		11/05/20 21:33	75-01-4	

Sample: Z2-1-SS-202010 **Lab ID: 10536886018** Collected: 10/21/20 15:19 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	208	252.8		11/06/20 01:55	75-34-3	
1,2-Dichloroethane	ND	ug/m3	104	252.8		11/06/20 01:55	107-06-2	
1,1-Dichloroethene	ND	ug/m3	204	252.8		11/06/20 01:55	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	204	252.8		11/06/20 01:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	204	252.8		11/06/20 01:55	156-60-5	
Tetrachloroethene	**17600**	ug/m3	174	252.8		11/06/20 01:55	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	281	252.8		11/06/20 01:55	71-55-6	
Trichloroethene	ND	ug/m3	138	252.8		11/06/20 01:55	79-01-6	
Vinyl chloride	ND	ug/m3	65.7	252.8		11/06/20 01:55	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: AA-2-202010 **Lab ID: 10536886019** Collected: 10/21/20 16:16 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.12	1.41		11/05/20 02:49	75-34-3	
1,2-Dichloroethane	**0.75**	ug/m3	0.12	1.41		11/05/20 02:49	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.11	1.41		11/05/20 02:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.11	1.41		11/05/20 02:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.11	1.41		11/05/20 02:49	156-60-5	
Tetrachloroethene	**2.1**	ug/m3	0.097	1.41		11/05/20 02:49	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.16	1.41		11/05/20 02:49	71-55-6	
Trichloroethene	**0.29**	ug/m3	0.077	1.41		11/05/20 02:49	79-01-6	
Vinyl chloride	ND	ug/m3	0.037	1.41		11/05/20 02:49	75-01-4	

Sample: Z5-OF-SS-202010 **Lab ID: 10536886020** Collected: 10/21/20 17:21 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**1.8**	ug/m3	1.2	1.46		11/05/20 22:00	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.60	1.46		11/05/20 22:00	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.46		11/05/20 22:00	75-35-4	
cis-1,2-Dichloroethene	**1.4**	ug/m3	1.2	1.46		11/05/20 22:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		11/05/20 22:00	156-60-5	
Tetrachloroethene	**815**	ug/m3	30.2	43.8		11/06/20 12:43	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	1.6	1.46		11/05/20 22:00	71-55-6	
Trichloroethene	**91.9**	ug/m3	0.80	1.46		11/05/20 22:00	79-01-6	
Vinyl chloride	ND	ug/m3	0.38	1.46		11/05/20 22:00	75-01-4	

Sample: Z6-1-SS-202010 **Lab ID: 10536886021** Collected: 10/22/20 09:23 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**1840**	ug/m3	153	186		11/06/20 13:08	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		11/05/20 22:27	107-06-2	
1,1-Dichloroethene	**10.3**	ug/m3	1.2	1.55		11/05/20 22:27	75-35-4	
cis-1,2-Dichloroethene	**34.9**	ug/m3	1.2	1.55		11/05/20 22:27	156-59-2	
trans-1,2-Dichloroethene	**12.9**	ug/m3	1.2	1.55		11/05/20 22:27	156-60-5	
Tetrachloroethene	**3270**	ug/m3	128	186		11/06/20 13:08	127-18-4	
1,1,1-Trichloroethane	**11300**	ug/m3	206	186		11/06/20 13:08	71-55-6	
Trichloroethene	**455**	ug/m3	102	186		11/06/20 13:08	79-01-6	
Vinyl chloride	**0.75**	ug/m3	0.40	1.55		11/05/20 22:27	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z6-2-SS-202010 **Lab ID: 10536886022** Collected: 10/22/20 10:31 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**3.1**	ug/m3	1.2	1.49		11/05/20 22:54	75-34-3	C8
1,2-Dichloroethane	ND	ug/m3	0.61	1.49		11/05/20 22:54	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.49		11/05/20 22:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		11/05/20 22:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.49		11/05/20 22:54	156-60-5	
Tetrachloroethene	**224**	ug/m3	1.0	1.49		11/05/20 22:54	127-18-4	C8
1,1,1-Trichloroethane	**33.6**	ug/m3	1.7	1.49		11/05/20 22:54	71-55-6	C8
Trichloroethene	**17.6**	ug/m3	0.81	1.49		11/05/20 22:54	79-01-6	
Vinyl chloride	ND	ug/m3	0.39	1.49		11/05/20 22:54	75-01-4	

Sample: Z6-2-SS-202010-DUP **Lab ID: 10536886023** Collected: 10/22/20 10:28 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**3.1**	ug/m3	1.3	1.55		11/05/20 23:20	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.64	1.55		11/05/20 23:20	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.55		11/05/20 23:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		11/05/20 23:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.55		11/05/20 23:20	156-60-5	
Tetrachloroethene	**224**	ug/m3	1.1	1.55		11/05/20 23:20	127-18-4	
1,1,1-Trichloroethane	**33.1**	ug/m3	1.7	1.55		11/05/20 23:20	71-55-6	
Trichloroethene	**17.4**	ug/m3	0.85	1.55		11/05/20 23:20	79-01-6	
Vinyl chloride	ND	ug/m3	0.40	1.55		11/05/20 23:20	75-01-4	

Sample: Z5-2-SS-202010 **Lab ID: 10536886024** Collected: 10/22/20 11:38 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	**2.2**	ug/m3	1.2	1.46		11/05/20 23:47	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.60	1.46		11/05/20 23:47	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.46		11/05/20 23:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		11/05/20 23:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.46		11/05/20 23:47	156-60-5	
Tetrachloroethene	**236**	ug/m3	1.0	1.46		11/05/20 23:47	127-18-4	
1,1,1-Trichloroethane	**132**	ug/m3	1.6	1.46		11/05/20 23:47	71-55-6	
Trichloroethene	**1190**	ug/m3	23.9	43.8		11/06/20 00:12	79-01-6	
Vinyl chloride	ND	ug/m3	0.38	1.46		11/05/20 23:47	75-01-4	

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ANALYTICAL RESULTS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Sample: Z5-1-SS-202010 **Lab ID: 10536886025** Collected: 10/22/20 08:33 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	1.2	1.44		11/06/20 00:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.59	1.44		11/06/20 00:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.2	1.44		11/06/20 00:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		11/06/20 00:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.2	1.44		11/06/20 00:39	156-60-5	
Tetrachloroethene	**474**	ug/m3	59.5	86.4		11/06/20 13:33	127-18-4	
1,1,1-Trichloroethane	**115**	ug/m3	1.6	1.44		11/06/20 00:39	71-55-6	
Trichloroethene	**2570**	ug/m3	47.2	86.4		11/06/20 13:33	79-01-6	
Vinyl chloride	ND	ug/m3	0.37	1.44		11/06/20 00:39	75-01-4	

Sample: AA-3-202010 **Lab ID: 10536886026** Collected: 10/22/20 14:17 Received: 10/26/20 08:40 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR SIM SCAN	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
1,1-Dichloroethane	ND	ug/m3	0.15	1.83		11/05/20 03:24	75-34-3	
1,2-Dichloroethane	**0.40**	ug/m3	0.15	1.83		11/05/20 03:24	107-06-2	
1,1-Dichloroethene	ND	ug/m3	0.15	1.83		11/05/20 03:24	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		11/05/20 03:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.15	1.83		11/05/20 03:24	156-60-5	
Tetrachloroethene	**0.20**	ug/m3	0.13	1.83		11/05/20 03:24	127-18-4	
1,1,1-Trichloroethane	ND	ug/m3	0.20	1.83		11/05/20 03:24	71-55-6	
Trichloroethene	ND	ug/m3	0.10	1.83		11/05/20 03:24	79-01-6	
Vinyl chloride	ND	ug/m3	0.048	1.83		11/05/20 03:24	75-01-4	

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QUALITY CONTROL DATA

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

QC Batch: 709127
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536886013, 10536886014, 10536886015, 10536886016, 10536886017, 10536886018, 10536886020, 10536886021, 10536886022, 10536886023, 10536886024, 10536886025

METHOD BLANK: 3788196 Matrix: Air
Associated Lab Samples: 10536886013, 10536886014, 10536886015, 10536886016, 10536886017, 10536886018, 10536886020, 10536886021, 10536886022, 10536886023, 10536886024, 10536886025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	11/05/20 11:19	
1,1-Dichloroethane	ug/m3	ND	0.82	11/05/20 11:19	
1,1-Dichloroethene	ug/m3	ND	0.81	11/05/20 11:19	
1,2-Dichloroethane	ug/m3	ND	0.41	11/05/20 11:19	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	11/05/20 11:19	
Tetrachloroethene	ug/m3	ND	0.69	11/05/20 11:19	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	11/05/20 11:19	
Trichloroethene	ug/m3	ND	0.55	11/05/20 11:19	
Vinyl chloride	ug/m3	ND	0.26	11/05/20 11:19	

LABORATORY CONTROL SAMPLE: 3788197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	64.2	112	70-130	
1,1-Dichloroethane	ug/m3	42.7	49.8	117	70-130	
1,1-Dichloroethene	ug/m3	41.4	46.5	112	69-137	
1,2-Dichloroethane	ug/m3	42.4	47.0	111	70-130	
cis-1,2-Dichloroethene	ug/m3	41.6	47.5	114	70-132	
Tetrachloroethene	ug/m3	71	71.4	101	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	49.0	116	70-132	
Trichloroethene	ug/m3	56.3	64.0	114	70-132	
Vinyl chloride	ug/m3	26.7	32.1	120	68-141	

SAMPLE DUPLICATE: 3789089

Parameter	Units	10536886013 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	2.7	2.6	4	25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	48.0	46.0	4	25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

SAMPLE DUPLICATE: 3789090

Parameter	Units	10537056002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethane	ug/m3	ND	ND		25	
1,1-Dichloroethene	ug/m3	ND	ND		25	
1,2-Dichloroethane	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

QC Batch: 708829
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR SIM SCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536886001, 10536886002, 10536886003, 10536886004, 10536886005, 10536886006, 10536886007, 10536886008, 10536886009, 10536886010, 10536886011, 10536886012, 10536886019, 10536886026

METHOD BLANK: 3786672 Matrix: Air
Associated Lab Samples: 10536886001, 10536886002, 10536886003, 10536886004, 10536886005, 10536886006, 10536886007, 10536886008, 10536886009, 10536886010, 10536886011, 10536886012, 10536886019, 10536886026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	0.056	11/04/20 11:06	
1,1-Dichloroethane	ug/m3	ND	0.041	11/04/20 11:06	
1,1-Dichloroethene	ug/m3	ND	0.040	11/04/20 11:06	
1,2-Dichloroethane	ug/m3	ND	0.041	11/04/20 11:06	
cis-1,2-Dichloroethene	ug/m3	ND	0.040	11/04/20 11:06	
Tetrachloroethene	ug/m3	ND	0.034	11/04/20 11:06	
trans-1,2-Dichloroethene	ug/m3	ND	0.040	11/04/20 11:06	
Trichloroethene	ug/m3	ND	0.027	11/04/20 11:06	
Vinyl chloride	ug/m3	ND	0.013	11/04/20 11:06	

LABORATORY CONTROL SAMPLE: 3786673

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	0.57	0.63	110	70-130	
1,1-Dichloroethane	ug/m3	0.43	0.45	105	70-130	
1,1-Dichloroethene	ug/m3	0.41	0.41	98	69-137	
1,2-Dichloroethane	ug/m3	0.42	0.47	111	70-130	
cis-1,2-Dichloroethene	ug/m3	0.42	0.41	98	70-132	
Tetrachloroethene	ug/m3	0.71	0.72	101	70-136	
trans-1,2-Dichloroethene	ug/m3	0.42	0.43	101	70-132	
Trichloroethene	ug/m3	0.56	0.58	103	70-132	
Vinyl chloride	ug/m3	0.27	0.27	102	68-141	

SAMPLE DUPLICATE: 3788648

Parameter	Units	10537061002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.035	ND		25	
1,1-Dichloroethane	ug/m3	<0.031	ND		25	
1,1-Dichloroethene	ug/m3	<0.017	ND		25	
1,2-Dichloroethane	ug/m3	0.044J	.043J		25	
cis-1,2-Dichloroethene	ug/m3	<0.026	ND		25	
Tetrachloroethene	ug/m3	0.24	0.24	0	25	
trans-1,2-Dichloroethene	ug/m3	<0.031	ND		25	
Trichloroethene	ug/m3	<0.037	ND		25	
Vinyl chloride	ug/m3	<0.012	ND		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C8 Result may be biased high due to carryover from previously analyzed sample.

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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Whirlpool Fort Smith-Revised Report
Pace Project No.: 10536886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10536886013	**Z1-1-SS-202010**	TO-15	709127		
10536886014	**Z3-2-SS-202010**	TO-15	709127		
10536886015	**Z3-1-SS-202010**	TO-15	709127		
10536886016	**Z4-1-SS-202010**	TO-15	709127		
10536886017	**Z4-2-SS-202010**	TO-15	709127		
10536886018	**Z2-1-SS-202010**	TO-15	709127		
10536886020	**Z5-OF-SS-202010**	TO-15	709127		
10536886021	**Z6-1-SS-202010**	TO-15	709127		
10536886022	**Z6-2-SS-202010**	TO-15	709127		
10536886023	**Z6-2-SS-202010-DUP**	TO-15	709127		
10536886024	**Z5-2-SS-202010**	TO-15	709127		
10536886025	**Z5-1-SS-202010**	TO-15	709127		
10536886001	**Z1-1-IA-202010**	TO-15	708829		
10536886002	**Z3-2-IA-202010**	TO-15	708829		
10536886003	**Z3-1-IA-202010**	TO-15	708829		
10536886004	**Z4-1-IA-202010**	TO-15	708829		
10536886005	**Z4-2-IA-202010**	TO-15	708829		
10536886006	**Z2-1-IA-202010**	TO-15	708829		
10536886007	**Z5-OF-IA-202010**	TO-15	708829		
10536886008	**Z6-1-IA-202010**	TO-15	708829		
10536886009	**Z5-1-IA-202010**	TO-15	708829		
10536886010	**Z6-2-IA-202010-DUP**	TO-15	708829		
10536886011	**Z6-2-IA-202010**	TO-15	708829		
10536886012	**Z5-2-IA-202010**	TO-15	708829		
10536886019	**AA-2-202010**	TO-15	708829		
10536886026	**AA-3-202010**	TO-15	708829		

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

40749

Section A Required Client Information:

Company: RAMBOLL
Address: 1807 Park 270 Dr. St. Louis, MO 63146
Email To: imcquaig@ramboll.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: imcquaig@ramboll.com
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39436

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Z1-1-1A-202010	6LC	n/a	10/20/20	0806	10/20/20	1533	-30	-6	35690856							X				001
2	Z3-2-1A-202010				0810		1628	-29	-6	27540260											002
3	Z3-1-1A-202010				0814		1631	-29	-5	05660911											003
4	Z4-1-1A-202010				0913		1633	-30	-6	16370108											004
5	Z4-2-1A-202010				0917		1727	-30	-5	28040664											005
6	Z2-1-1A-202010				0927		1724	-30	-6	27240886											006
7	Z5-OF-1A-202010				0941		1739	-30	-5	20650334											007
8	Z6-1-1A-202010				0945		1746	-30	-7	34501367											008
9	Z5-1-1A-202010				0949		1743	-30	-6	38920036											009
10	Z6-2-1A-202010-DUP				1001		1809	-30	-8	11880211											010
11	Z6-2-1A-202010				1001		1809	-30	-5	27202487											011
12	Z5-2-1A-202010				1008		1813	-30	-5	34360115											012

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ian McQuaig / RAMBOLL	10/22	1430	[signature]	10/26/20	8:40

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ian McQuaig

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 10/22/20

WO# : 10536886

10536886

ORIGINAL

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

40748

Section A Required Client Information:

Company: RAMBOLL
Address: 1807 Park 270 Dr
St. Louis, MO 63146
Email To: imcquaig@ramboll.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: imcquaig@ramboll.com
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39436

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE - END/GRAB DATE	COLLECTED COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Z1-1-SS-202010	6LC	n/a	10/21/20	0745	10/21/20	0836	-29	-3	3490	1592							X			013
2	Z3-2-SS-202010				0853		0934	-30	-5	0852	1512										014
3	Z3-1-SS-202010				0950		1037	-30	-4	3340	1699										015
4	Z4-1-SS-202010				1100		1135	-28	-5	2807	2729										016
5	Z4-2-SS-202010				1155		1236	-30	-3	3493	2003										017
6	Z2-1-SS-202010				1444		1519	-27	-3	1193	1731										018
7	AA-2-202010				1030		1616	-18	-2	3496	1791										019
8	Z5-0F-SS-202010			↓	1641	↓	1721	-30	-4	0332	1697										020
9	Z6-1-SS-202010			10/22/20	0847	10/22/20	0923	-29	-3	0241	1584										021
10	Z6-2-SS-202010				0953		1031	-28	-4	1089	0914										022
11	Z6-2-SS-202010 DUP				0953		1028	-29	-3	2371	2248										023
12	Z5-2-SS-202010	↓	↓	↓	1058	↓	1138	-30	-3	3476	1600							↓			024

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ian McQuaig / RAMBOLL	10/22	1430	Matt B / Pace	10/26/20	8:40

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	(Y/N)	(Y/N)	(Y/N)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ian McQuaig

SIGNATURE of SAMPLER: Ian McQuaig DATE Signed (MM / DD / YY): 10/22/20

ORIGINAL

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

40747

Page: 3 of 3

Section A Required Client Information:
Company: RAMBOLL
Address: 1807 Park 270 Dr
St. Louis, MO 63146
Email To: imcquaig@ramboll.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To: imcquaig@ramboll.com
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39436

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State _____

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other___

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Z5-1-SS-202010	6LC	n/a	10/22/20	0752	10/22/20	0833	-30	-3	2314	1660								X		025
2	AA-3-202010	6LC	n/a	10/22/20	0740	10/22/20	1417	-28	-5	1564	0332								X		026
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ian McQuaig / RAMBOLL	10/22	1430	[signature] / Pace	10/26/20	8:40

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ian McQuaig
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM / DD / YY): 10/22/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - Air**	Document Revised: 24Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0113 Rev.00**	Pace Analytical Services - **Minneapolis**

Air Sample Condition Upon Receipt **Client Name:** Ramboll **Project #:**

WO#: 10536886
PM: CT1 Due Date: 11/02/20
CLIENT: ENVIRON

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☒

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): **Corrected Temp (°C):** **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** 10/26/20 MT

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒ Yes ☒ Yes	☐ No ☐ No		9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☒ Yes	☐ No		10.
Media: Air Can Airbag Filter TDT Passive				11. Individually Certified Cans Y N (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒ Yes	☐ No		12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes	☐ No		13.

Gauge # ☐ 10AIR26 ☒ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
Z1-1-IA	3569	856	-8		Z5-1-IA	3892	1036	-6.5	
Z3-2-IA	2754	1260	-7		Z6-2-IADUP	1188	2011	-6.5	
Z3-1-IA	566	1091	-6		Z6-2-IA	2720	2487	-6	
Z4-1-IA	1637	1018	-8		Z5-2-IA	3436	1015	-7	
Z4-2-IA	2804	1064	-6		Z1-1-SS	3990	1592	-3	
Z2-1-IA	2724	1086	-7.5		Z3-2-SS	852	1512	-5	
Z5-OF-IA	2065	334	-6		Z3-1-SS	3340	1699	-3.5	
Z6-1-IA	3450	1367	-6.5		Z4-1-SS	2807	2729	-5.5	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Compound list and project name per media order and historical

Project Manager Review: Carolyne Hart **Date:** 10/28/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - Air**	Document Revised: 24Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0113 Rev.00**	Pace Analytical Services - **Minneapolis**

Air Sample Condition Upon Receipt **Client Name:** **Project #:**

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Pace ☐SpeeDee ☐Commercial **See Exception** ☐

Tracking Number:

Custody Seal on Cooler/Box Present? ☐Yes ☐No **Seals Intact?** ☐Yes ☐No

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☐Foam ☐None ☐Tin Can ☐Other:_____ **Temp Blank rec:** ☐Yes ☐No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** ☐G87A9170600254 ☐G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** _____

Type of ice Received ☐Blue ☐Wet ☐None

		Comments:
Chain of Custody Present?	☐Yes ☐No	1.
Chain of Custody Filled Out?	☐Yes ☐No	2.
Chain of Custody Relinquished?	☐Yes ☐No	3.
Sampler Name and/or Signature on COC?	☐Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time?	☐Yes ☐No	5.
Short Hold Time Analysis (<72 hr)?	☐Yes ☐No	6.
Rush Turn Around Time Requested?	☐Yes ☐No	7.
Sufficient Volume?	☐Yes ☐No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☐Yes ☐No ☐Yes ☐No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☐Yes ☐No	10.
Media: Air Can Airbag Filter TDT Passive		11. Individually Certified Cans Y N (list which samples)
Is sufficient information available to reconcile samples to the COC?	☐Yes ☐No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☐Yes ☐No	13.

Gauge # ☐10AIR26 ☐10AIR34 ☐10AIR35 ☐4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
Z4-2-55	3493	2003	-2	+5	Z5-1-55	2314	1660	-2	+5
Z2-2-55	1193	1731	-4.5		AA-3	1564	332	-8	+5
AA-2	3496	1791	-1.5		Unused	3668	2272	-28	-
Z5-0F	332	1697	-2.5		"	3391	764	0	-
Z6-1-55	241	1584	-4		"	3610	699	-28	-
Z6-2-55	1089	914	-3		"	3333	2339	-28	-
Z6-2 DUP	2371	2248	-4						
Z5-2-55	3476	1600	-2.5						

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) Exception Form**	Document Revised: 04Jun2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0142 Rev.01**	Pace Analytical Services - **Minneapolis**

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers	PM Notified? ☐Yes ☐No
			If yes, indicate who was contacted/date/time. If no, indicate reason why.
			Multiple Cooler Project? ☐Yes ☐No If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature	
1723 2546 8104	
8067	
8115	
8078	
8056	
8089	
8090	
8045	

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Comments:

Appendix B
Field Notes

Location Fort Smith, AR Date 10/20/20

Project / Client Whirlpool 57°, Cloudy, E 4mph

Subslab and Indoor Air Sampling

0745	I. McQuaig and C. Chavers on site
0750	Sign in at Mars Property
0800	Enter Mars Property to set Indoor Air canisters
0806	Set Z1-1-1A (initial press -30)
0810	Set Z3-2-1A (-29)
0814	Set Z3-1-1A (-29)
0820	IM + CC offsite to hotel to pickup summas
0905	IM + CC back on site, resume setting 1A summas
0913	Set Z4-1-1A (-30)
0917	Set Z4-2-1A (-30)
0927	Set Z2-1-1A (-30)
0941	Set Z5 OF-1A (-30)
0945	Set Z6-1-1A (-30)
0949	Set Z5-1-1A (-30)
1001	Set Z6-2-1A (-30) and Z6-2-1A-DUP (-30)
1008	Set Z5-2-1A (-30)
1014	Set AA-1 (-30) on NE side of property (wind direction is ENE)

Location Date 10/20/20

Project / Client

Scale

10:20	IM + CC mob offsite to pickup rental car and equipment
1040	Call M. Wilson to discuss sampling.
1140	On site at TMW-16 for ferrous iron reading.
1145	CAL YSI

Sp Cond; Lot #: 9GL177
Exp: 12/2020
Cal: 1.40 mS/cm

ORP; Lot #: 0GE906
Exp: 2/2021
Cal: 240.0

pH; 7 Lot #: 9GB719 Exp: 2/2021 Cal: 7.01
4 Lot #: 9GL804 Exp 12/31/2021 Cal: 3.98
10 Lot #: 96K672 Exp: 11/2021 Cal: 10.07

DO; start: 1210 stop: 1220
Cal: 97.0%
Barometer: 749.5 mmHg

1240	Begin purging TMW-16 for iron reading. SEE CC LOG
1335	Parameters stable. Took ferrous iron reading; Fe = 7.9 mg/L
1340	Abandoned destroyed Z5-1 sub slab point

Location Ft. Smith, AR Date 10/20/20

Project / Client Whirlpool

Sub-slab and Indoor Air sampling

1345 Begin purging MW-84
SEE LOG

1400 IM mob offsite to buy bolts

1415 IM back on site

1440 COLLECT SAMPLE
MW-84-202010

- sampled with ascorbic acid preservative due to high persulfate reading (700 ppm)

1515 CC offsite to ship MW-84 sample at Fedex

- IM mob to Mars to check IA summas

1533 Collect Z1-1-IA-202010
Final pres: -6
CAN ID: 3569
Reg ID: FC0856

1545 Mob to hotel to pick up vapor pin covers

1615 back on site, continue picking up summas.

Location Date 10/20/20

Project / Client

Scale

1628 Collect Z3-2-IA-202010
Final pres: -6
CAN ID: 2754
Reg ID: FC1260

1631 Collect Z3-1-IA-202010
Final pres: -5
CAN ID: 566
Reg ID: FC1091

1633 Collect Z4-1-IA-202010
Final pressure: -6
CAN ID: 1637
Reg ID: FC1018

1640 Mob to attempt to find MW-34R
- could not locate

1655 Mob back to Mars warehouse

1724 Collect Z2-1-IA-202010
Final pressure: -6
CAN ID: 2724
Reg ID: FC1086

1727 Collect Z4-2-IA-202010
Final Pressure: -5
CAN ID: 2804
Reg ID: FC1064

1739 Collect Z5-OF-IA-202010
Final Pressure: -5
CAN ID: 2065
Reg ID: FC0334

Location Ft. Smith, AR Date 10/20/20

Project / Client Whirlpool

Subslab and Indoor Air Sampling

1743 Collect Z5-1-1A-202010
Final Pressure: -6
CAN ID: 3892
Reg ID: FC1036

1746 Collect Z6-1-1A-202010
Final Pressure: -7
CAN ID: 3450
Reg ID: FC1367

1809 Collect Z6-2-1A-202010
Final Pressure: -5
CAN ID: 2720
Reg ID: FC2487

Collect Z6-2-1A-202010 DUP
Final Pressure: -8
CAN ID: 1188
Reg ID: FC2011

1813 Collect Z5-2-1A-202010
Final Pres: -5
CAN ID: 3436
Reg ID: FC1015

1825 Mob to pick up AA-1. Canister has been taken. Was placed near stationary equipment trailer for IET. Called IET (Ian Connor) to discuss. IET

Location Date 10/20/20

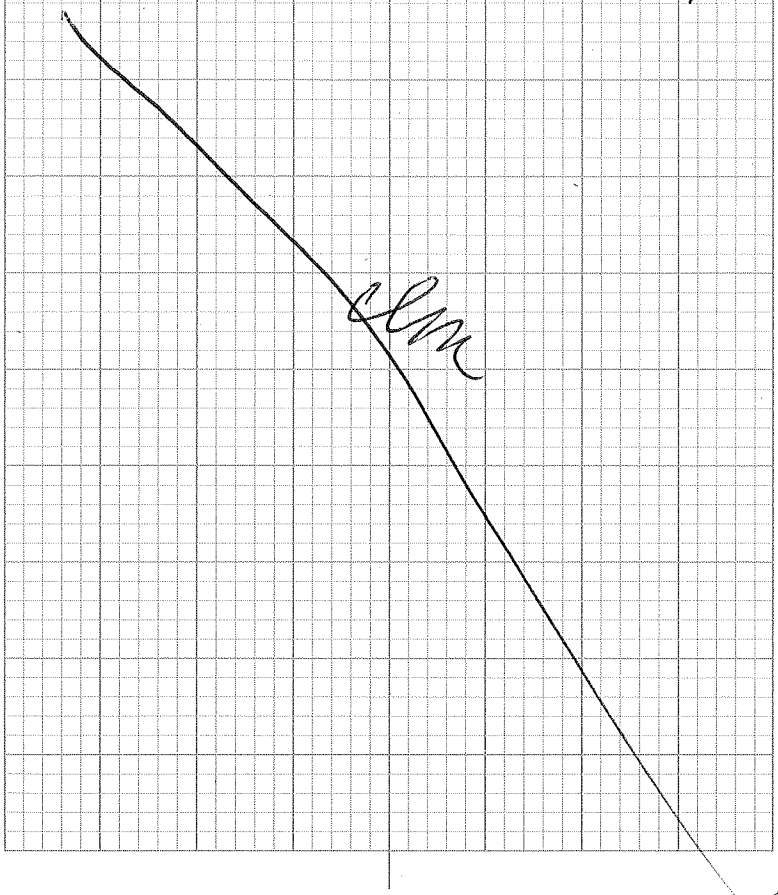
Project / Client

Scale

Confirmed that the Summa canister was picked up and taken by IET personnel.

1835 Called T. House-Knight to discuss. Confirmed that sample is unusable. AA-1 not collected

1840 IM + CC offsite, end of day



Location Fort Smith, AR Date 10/21/20

Project / Client Whirlpool

0715 I. McQuay, C. Chavers on site.
- HASP/COVID meeting
- Setting up to begin sub-slab air sampling

0745 Begin purge Z1-1, see log

	1L	2L
CH4	0.0%	0.0%
CO_2	1.7%	1.7%
O_2	17.7%	17.8%
Bal	80.6	80.5%
He	0ppm	0ppm

0843 Setting up to sample Z3-2

~~CH4~~

	1L	2L
CH4	0.0%	0.0%
CO_2	0.9%	0.8%
O_2	18.4%	17.8%
Bal	80.7%	81.4%
He	0ppm	0ppm

0942 Setting up to sample Z3-1

	1L	2L
CH4	0.0%	0.0%
CO_2	13.6%	13.6%
O_2	0.0%	0.0%
Bal	86.4%	86.4%
He	0ppm	0ppm

Location Date 10/21/20

Project / Client

Scale

1050	1L	2L
CH4	0%	0%
CO_2	1.5%	1.4%
O_2	17.6%	17.6%
Bal	80.9	81.1%
He	0ppm	0ppm

Setting up to sample Z4-1-SS-20010 see log

1030 Set AA-Z-20210 canister on SW corner of property

1140 Setting up to sample Z4-2

	1L	2L
CH4	0.0%	0.0%
CO_2	6.2%	6.3%
O_2	11.2%	11.2%
Bal	82.6%	82.5%
He	0ppm	0ppm

1245 IM + CC ~~off~~ site for lunch and charging helium detector

1425 IM + CC back on site, MOD charged.

1437 setting up to sample Z2-1

	1L	2L
CH_4	0.0%	0.0%
CO_2	4.6%	4.6%
O_2	14.6%	14.6%
Bal	80.8%	80.8%
He	0ppm	

Location _____ Date 10/21/20

Project / Client _____

1540 Setting up to install Z5-1 replacement subslab point

1605 Z5-1 replacement point installed directly adjacent to abandoned point

1616 Collect AA-2-202010
Final pressure: -2

1627 Setting up to sample Z5-OF

	1L	2L
CH_4	0.0%	0.0%
CO_2	0.0%	0.0%
O_2	19.2%	19.2%
Bal	80.8%	80.8%
He	0.0ppm	0.0 ppm

1725 Taking differential pressure readings
- called D. Meyer to discuss magnehelic gauges

1745 IM/cc off site, end of day

Location Fort Smith, AR Date 10/22/20

Project / Client Whirlpool

Sub slab air sampling Scale

0715 I. McQuaig and C. Chavers on site
- HASP/COVID meeting
- Unloading equipment for sub slab air sampling

0740 Set AA-3-202010 on SW corner of property
- Initial pressure: -28

0745 Setting up to sample Z5-1

	1L	2L
CH_4	0%	0%
CO_2	0.1%	0.1%
O_2	18.5	18.5%
Bal	81.4	81.4%
He	0ppm	0ppm

0838 Setting up to sample Z6-1

	1L	2L	
CH_4	0	0	%
CO_2	3.4	3.0	%
O_2	15.2	15.6	%
Bal	81.5	81.4	%
He	0	0	ppm

0942 Set up on Z6-2 & Z6-2-DUP

	1L	2L	
CH_4	0	0	%
CO_2	0.4	0.4	%
O_2	19.2	19.2	%
Bal	80.4	80.4	%
He	0	0	ppm

Location Fort Smith, AR Date 10/22/20

Project / Client Whirlpool

Sub slab air sampling

1051 Set up on SS-2-SS-202010

	1L	2L	
CH_4	0.0	0.0	%
CO_2	1.9	1.9	%
O_2	17.9	19.9	%
Bal	80.2	80.2	%
He	0	0	ppm

1150 Mob to deconstruct and sort canisters; chain of custody

1417 Pick up AA-3-202010, final pressure: -5

1430 Ship summas to Pace via Fedex

1445 Mob to St. Louis, end of day

Location Date

Project / Client

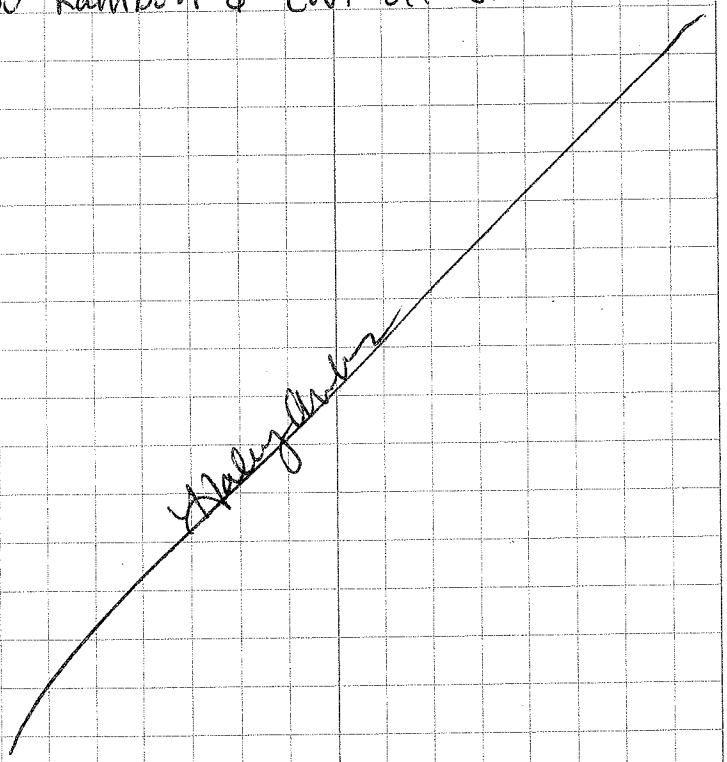
Scale

7/14/20 Whirlpool, Ft. Smith (3) 80°F 3 Sunny

1700 H. Ahlers on-site for Rambol/ I. McQuaig, C. Chavers, D. Meyer, & J. Zellmer on-site with EWI concluding drilling OPs for the day.

1815 Samples relinquished to Pace courier.

1830 Rambol & EWI off-site.



Rite in the Rain

4

7/15/20 Whirlpool, Ft. Smith ④ 80°F sunny

0730 HA, IM, CL, JZ, & DM onsite for Ramboll.

0735 EWI on-site. Conduct H&S & COVID-19 safety meeting.

0820 HA off-site to collect VP sample.

0830 Perform shut-in test with hand pump, helium shroud test on connection to tubing from VP = no helium. Placed last connection in water to perform water dam leak test. No leaks.

0847 Began collecting VP-09. Starting pressure -30" Hg.

0900 Arrived at Whirlpool property (former) to prepare to sample indoor air with 1-mcQuaig. See sampling log for details.

1200 Finished setting IA samples & ambient air summa, break for lunch.

1230 Back on-site to assist with investigation effort

5

7/15/20 Whirlpool, Ft. Smith ⑤ 91°F cloudy

while waiting on summas to complete their 8 hour sample time.

1245 Noted that SS vapor pin @ Z5-1 was destroyed by tennant forklift traffic, cannot be sampled, see photo.

1300 Returned to source area to help prepare for mw installation.

1430 Arrived at TMW-36B to prepare to sample. See sampling log for parameters. & cal sheet for calibration values.

1555 Parameters stabilized after purging ~45 mins.

Sampled TMW-36B-202007 @ 1555

no ferrous iron reading due to equipment malfunction.

1630 dump purge water & return to site to prepare to collect IA summas. See air sampling logs.

EVA

Rite in the Rain

7/15/20 Whirlpool, Ft. Smith (6) 93°F Sunny

1800 Finished collecting 1A & AA Summa canisters. Return to source area to assist with drilling activities.

1820 Left site to pack up VP summa, see sample log for final time & pressure

1830 Return to site. GW & Soil Samples relinquished to Pace courier. Move to staging area to pack up summa canisters. 1M, JZ, & CC off-site for Ramboll

1900 DM on-site with EWI to complete source area well install. HA off-site.

7/16/20 Whirlpool, Ft. Smith (7) 81°F Sunny

0730 HA, CC, JZ, DM, & 1M onsite for Ramboll. EWI on-site.

0745 Meet for H&S meeting & C-19 talk.

0815 Set AA-2-202007. Had to run back to motel to print COCs.

0850 Arrived at first Subslab port to prepare to sample, see log for details.

0910 Begin purging 2L using GEM @ ZG-2.

	1L	2L
CH_4	0 %	0 %
CO_2	0.5 %	0.5 %
O_2	19.7 %	19.7 %
Bal	79.8 %	79.8 %
He	0 ppm	0 ppm

1000 Arrive at ZS-2 to purge and sample Subslab.

	1L	2L
CH_4	0 %	0 %
CO_2	2.2 %	2.2 %
O_2	18.5 %	18.5 %
Bal	79.3 %	79.3 %
He	0 ppm	0 ppm

Rite in the Rain

8

7/16/20 Whirlpool, Ft. Smith ⑧ 92°F sunny

1100 Off-site to walmart to get cart for summa transfer.

1120 Back on-site. Prepare summas for sampling on Mars side of building.

1155 Arrive at Z3-2 to prepare to sample.

	1L	2L
CH_4	0 %	0 %
CO_2	1.0 %	0.9 %
O_2	18.5 %	18.6 %
Bal	80.5 %	80.5 %
He	0 ppm	0 ppm

1235 Arrive at Z3-1 to prepare to sample.

	1L	2L
CH_4	0 %	0 %
CO_2	15.0 %	14.9 %
O_2	1.3 %	1.3 %
Bal	83.7 %	83.8 %
He	0 ppm	0 ppm

1313 Arrive at Z4-1 to prepare to sample.

9

7/16/20 Whirlpool, Ft. Smith ⑨ 94°F sunny

	1L	2L
CH_4	0 %	0 %
CO_2	1.7 %	1.6 %
O_2	17.8 %	17.8 %
Bal	80.5 %	80.6 %
He	0 ppm	0 ppm

1337 Arrive at Z4-2 to prepare to sample

	1L	2L
CH_4	0 %	0 %
CO_2	5.2 %	5.2 %
O_2	14.3 %	14.2 %
Bal	80.5 %	80.6 %
He	0 ppm	0 ppm

1413 Arrive at Z2-1 to prepare to sample

	1L	2L
CH_4	0 %	0 %
CO_2	5.1 %	5.1 %
O_2	15.4 %	15.4 %
Bal	79.5 %	79.5 %
He	0 ppm	0 ppm

1448 Arrive at Z1-1 to prepare to sample.

Rite in the Rain

7/16/20 Whirlpool, Ft. Smith (10) 95°F sunny

	1L	2L
CH_4	0 %	0 %
CO_2	2.8%	2.7 %
O_2	17.2%	17.2 %
Bal	80.0%	80.1%
He	0 ppm	0 ppm

1530 Finished S.S. sampling @ Mars property.

1540 Collected AA sample.

1550 Off-site for food & heat break.

1650 Back on-site to finish SS. sampling in MP building.

1725 Arrive at Z6-1 to collect sample.

	1L	2L
CH_4	0%	0%
CO_2	5.0%	4.5%
O_2	13.0%	13.7%
Bal	82.0%	81.9%
He	0 ppm	0 ppm

1813 Arrive at Z5-OF to prepare to sample.

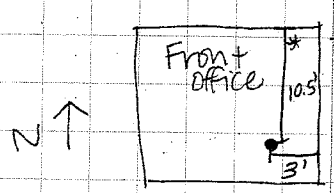
ADC

7/16/20 Whirlpool, Ft. Smith (11) 97°F sunny

	1L	2L
CH_4	0%	0%
CO_2	0%	0%
O_2	20.3%	20.4%
Bal	79.7%	79.6%
He	725 ppm	875 ppm

MED picking up ppm level concentrations from ambient air, the hits during leak test are very low and not expected to be indicative of actual leaks.

Sketch of ZF-05 location



1845 Returned to source area to plan tomorrow's activities.

1900 Returned to staging area & pack cars for de-mob.

1930 Ramboll off-site.

Rite in the Rain

Appendix C
Air Sampling Logs

Ramboll - Air Sampling Log

Project Number: 1690016820

Date: 7/15/20

Project Name: Whirlpool Fort Smith

Sampler(s): HA

Field Parameters

Sample ID	Sample Start Date	Sample Start Time	Sample End Date	Sample End Time	Initial Vacuum ("Hg)	Final Vacuum ("Hg)	Canister ID	Regulator ID	Helium (ppm or percent)	Notes
VP-09-202007	7/15/20	0847	7/15/20	1825	-30	-10	1248	0080	0ppm	

Weather:

(Sunny) Cloudy Partly Cloudy

Wind Direction: S

Wind Speed (mph): (0-10) 10-25 >25

Temperature (°F) 82°F

Comments:

Ramboll - Air Sampling Log

Project Number: 1690016820 | Date: 7/15/20

Project Name: Whirlpool Fort Smith | Sampler(s): HA/IM

Field Parameters

Sample ID	Sample Start Date	Sample Start Time	Sample End Date	Sample End Time	Initial Vacuum ("Hg)	Final Vacuum ("Hg)	Canister ID	Regulator ID	Helium (ppm or percent)	Notes
✓Z5-0F-1A-202007	7/15/20	0924	7/15/20	1659	-30	-4	2322	1093	n/a	
✓Z5-1-1A-202007	7/15/20	0936		1701	-29	-3	148	1841		
✓Z6-1-1A-202007	7/15/20	0926		1703	-30	-1	2167	1807		
✓Z6-2-1A-202007	7/15/20	1011		1715	-25	-1	511	1798		
✓Z5-2-1A-202007	7/15/20	1032		1718	-30	-5	1088	1671		
✓Z4-1-1A-202007	7/15/20	1123		1733	-30	-8	2047	0887		
✓Z4-2-1A-202007	7/15/20	1127		1735	-26	-6	967	1075		
✓Z3-1-1A-202007	7/15/20	1121		1731	-30	-8	1228	1853		
✓Z3-1-1A-202007-DUP	7/15/20	1121		1731	-30	-7	1274	0078		
✓Z3-2-1A-202007	7/15/20	1115		1728	-26	-8	3975	1036		
✓Z2-1-1A-202007	7/15/20	1134		~~1725~~ 1730 HA	-24	-8	3512	1918		
✓Z1-1-1A-202007	7/15/20	1132		1749	-30	-7	1714	1081		
✓AA-1-202007	7/15/20	1142		1800	-22	-1	1521	2069		
					ANA					

Weather:

Sunny Cloudy (Partly Cloudy)

Wind Direction: SSW

Wind Speed (mph): (0-10) 10-25 >25

Temperature (°F) 88° F

Comments:

- conducted air pressure test using Magnehelic device, no sig. change in pressure in any area of building on gauge. When exterior doors were open in Mars side of building, could feel air slightly blowing from building to outside.

Ramboll - Air Sampling Log

Project Number: 1690016820 | Date: 7/16/20

Project Name: Whirlpool Fort Smith | Sampler(s): ~~HA~~ / IM

Field Parameters

Sample ID	Sample Start Date	Sample Start Time	Sample End Date	Sample End Time	Initial Vacuum ("Hg)	Final Vacuum ("Hg)	Canister ID	Regulator ID	Helium (ppm or percent)	Notes
✓AA-2-202007	7/16/20	0815	7/16/20	1540	-29	-2	3362	0512	n/a	
✓Z6-2-SS-202007		0919		0939	-29	-1	2217	1939	0 ppm	
✓Z5-2-SS-202007		1014		1029	-30	-3	3242	2044	0 ppm	
✓Z3-2-SS-202007		1209		1228	-26	-4	3200	1887	0 ppm	
✓Z3-1-SS-202007		1241		~~1241~~ 1306	-27	-15	3179	2607	0 ppm	
✓Z3-1-SS-202007-DUP		1241		~~1241~~ 1300	-28	-7	2884	0182	0 ppm	
✓Z4-1-SS-202007		1318		~~1318~~ 1333	-30	-5	3193	0171	0 ppm	
✓Z4-2-SS-202007		1347		1410	-30	-8	1012	1783	0 ppm	
✓Z2-1-SS-202007		1421		1440	-31	-6	2199	1444	0 ppm	
✓Z1-1-SS-202007		1455		1525	-29	-9	2244	0379	0 ppm	
✓Z6-1-SS-202007		1733		1803	-28	-15	2010	0391	0 ppm	summa only half full after 30 min. purging.
✓Z5-OF-SS-202007	✓	1822	✓	1839	-27	-4	3188	0187	875 ppm	

Weather:

(Sunny) Cloudy Partly Cloudy

Wind Direction: SSW

Wind Speed (mph): (0-10) 10-25 >25

Temperature (°F) 93°F

Comments: