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ENVIRONMENT
& HEALTH

Mr. Paul Bucholtz

Michigan Department of Environment, Great Lakes, and Energy
Remediation and Redevelopment Division
Constitution Hall
525 West Allegan Street
Lansing, MI 48909

RE: ***PFAS Sampling Results – April 2021 Event***
RACER Trust – Hemphill Road Industrial Land, Burton, Michigan

FILE: 15388/1940075237/Docs

Dear **Mr. Bucholtz**:

Date June 25, 2021

This technical memorandum (memo) has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll), on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) to provide the results of the recently completed sampling and analysis for per- and polyfluoroalkyl substances (PFAS) at the Hemphill Road Industrial Land (HRIL) facility located in Burton, Michigan (Site) (**Figure 1**).

The work summarized in this letter was completed in response to EGLE's approval of activities proposed in the Ramboll August 14, 2020 technical memorandum as amended based on comments from EGLE.

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Sample Collection

Groundwater Sample Collection

Groundwater samples for PFAS analysis were collected from the following onsite and offsite monitoring wells. See **Figure 2** for sample locations.

- Six shallow onsite monitoring wells with PFAS detections or surrounding those wells
    - MW-403, OBG MW-5S, OBG MW-7S, OBG MW-8, OBG MW-9, and OBG MW-11
- Three deep onsite monitoring wells
    - OBG MW-2D, OBG MW-6D, and OBG MW-7D
- Three onsite monitoring wells with light non-aqueous phase liquid (LNAPL) impacts (water samples were collected from beneath LNAPL)
    - OBG MW-4S, OBG MW-10, and MW-401
- Three offsite monitoring wells
    - OBG OS MW-3, OBG OS MW-4, and OBG OS MW-5

Special care was taken during sampling and transport of the samples to avoid cross-contamination from clothing, sampling materials, and storage containers due to the extremely low detection limits for PFAS (<1 ng/L). High-density polyethylene tubing (HDPE) and silicon tubing were utilized for sample collection at each well location. Samples were collected in accordance with the EGLE Groundwater PFAS Sampling Guidance (EGLE, 2018).

Low flow groundwater sampling was performed in accordance with USEPA, *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504) and the USEPA Region 1 (July 30, 1996, Revision 4) *Low Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*.

Low-flow groundwater sampling was performed using HDPE sample tubing lowered approximately to the midpoint of the well screen and connected to a peristaltic pump utilizing silicon tubing. The tubing was then attached to a flow-through cell connected to a physical parameter measurement instrument capable of measuring temperature, conductivity, pH, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Turbidity was measured with a separate turbidity meter.

In order to purge the monitoring wells below the LNAPL in monitoring wells OBG MW-4S and MW-401, larger 3/8 outside diameter (OD) tubing was lowered into the screen zone then smaller ¼ OD tubing was fed through the larger tubing to bypass the LNAPL.

The well was purged at a rate that produced less than 0.3 ft of drawdown in the well, except for wells OBG MW-2D, OBG MW-5S, OBG MW-6D, OBG MW-7S, OBG MW-8, and OBG MW-9. For these wells, the purge rate was maintained at a maximum of 100 milliliters per minute [ml/min]; however, a drawdown of more than 0.3 ft was observed. Due to the viscous LNAPL coating the interface probe of the measuring instrument, it was difficult to acquire an accurate measurement in monitoring wells MW-401, OBG MW-4S, and OBG MW-10.

Purging continued until the water quality parameters stabilized over three consecutive 5-minute periods pursuant to USEPA's Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. Purge water was discharged to the ground surface onsite, except for wells MW-401, OBG MW-4S, and OBG MW-10 where the purged groundwater was poured back down the well after sample collection.

Once stabilized, the flow-through cell was disconnected, and samples were collected directly into laboratory supplied containers. The sample container selection and preservation techniques followed EGLE Remediation and Redevelopment Division (RRD) Standard Operating Procedure for Sample Preservation, Sample Handling, and Holding Time (RRD-34).

The samples were labeled, packed on ice, and shipped via courier under routine chain-of-custody protocols to Merit Laboratories, Inc. (Merit) of East Lansing, Michigan. The groundwater samples were analyzed for PFAS by method ASTMD7979-19 (no preservative).

Quality Assurance/Quality Control (QA/QC) samples consisted of a field duplicate (OBG MW-5S) and a field (ambient) blank to check for cross contamination. A peristaltic pump was used for sample collection with tubing dedicated to each well; therefore, no equipment blank was collected.

LNAPL Sample Collection

To further evaluate the concentrations of PFAS in LNAPL, samples were collected from monitoring wells MW-401 and OBG MW-4S. LNAPL was also observed in monitoring wells OBG MW-5S and OBG MW-10, but not at a volume that allows a sample to be collected. LNAPL at each well was collected by scraping it off the outside of the HDPE sample tubing with a stainless-steel putty knife. The appearance of LNAPL was consistent with the previous sample event and continued to vary between the two monitoring wells. At monitoring well OBG MW-4S the LNAPL appeared brown, bubbly, and very viscous. At monitoring well MW-401 the LNAPL appeared dark brownish black and less viscous than at OBG MW-4S. The LNAPL samples were analyzed for PFAS by method ASTMD7968-17M (no preservative).

Sanitary Sewer Sample Collection

To further evaluate the potential for PFAS in the sanitary sewer, one sample (SAN-01) was collected from a manhole just west of the Site that was sampled previously. A second sample (SAN-02) was collected upstream of SAN-01 manhole located at the southwest corner of the Site near monitoring well OBG MW-3. At the time of sampling both locations had a moderate flow.

A sample was proposed to be collected from the manhole located just southeast of the Site from both the north and south sewer lines entering the manhole. During the sampling event there was no flow from the sewer lines southwest of the Site and the manhole was dry. See **Figure 5** for sample locations.

Sanitary sewer sampling was performed in accordance with the methods specified in EGLE's Wastewater PFAS Sampling Guidance. Personnel did not enter confined space areas (manholes) and samples were collected remotely. The samples were collected with a peristaltic pump and HDPE tubing that was weighted down with a stainless-steel weight and lowered into the manhole. The sanitary sewer sample were analyzed for PFAS by method ASTMD7979-19 (no preservative).

PFAS Analytical Results

A review of the analytical data presented in the attached tables indicates for those wells sampled previously, analytical results are similar to the previous sampling events or decreased slightly, a summary of the data is provided below. For further detail please refer to **Table 1** for groundwater, **Table 2** for LNAPL results, and **Table 3** for the sanitary sewer result. The laboratory analytical reports are provided in **Attachment A**.

Groundwater PFAS Sample Results

Analytical results for the following samples were either not detected above the reporting limits or were below the EGLE Part 201 PFAS drinking water criteria, if established:

- Five shallow onsite monitoring wells
    - MW-401 (water from beneath LNAPL), OBG MW-4S (water from beneath LNAPL), OBG MW-8, OBG MW-9, and OBG MW-11
- Three deep onsite monitoring wells
    - OBG MW-2D, OBG MW-6D, and OBG MW-7D

- Two offsite monitoring wells
    - OBG OS MW-4, and OBG OS MW-5

The following monitoring wells contained either perfluorooctanoic acid (PFOA) and/or perfluorooctane sulfonic acid (PFOS) above EGLE drinking water cleanup criteria (8 ng/l and 16 ng/l, respectively).

- Four onsite monitoring wells
    - MW-403 (19 ng/L PFOA / 450 ng/L PFOS), OBG MW-5S (9.1 ng/L PFOA), OBG MW-5S duplicate (9.4 ng/L PFOA), OBG MW-7S (19 ng/L PFOA / 37 ng/L PFOS), OBG MW-10 (9.8 ng/L PFOA – water from beneath LNAPL), and OBG OS MW-3 (10 ng/L PFOA / 36 ng/L PFOS)
- One offsite monitoring well
    - OBG OS MW-3 (10 ng/L PFOA / 36 ng/L PFOS)

Non-detect results at monitoring wells OBG MW-2D, OBG MW-6D, and OBG MW-7D continue to indicate that the deeper groundwater zone is not impacted.

Shallow groundwater analytical results continue to indicate that the PFAS impacted areas are within waste fill around monitoring well OBG MW-7S on the northeast side of the Site and an area within waste fill between monitoring wells OBG MW-10 and OBG MW-5S on the southeast side of the Site, with the source area or monitoring well with the highest concentrations being MW-403.

Higher detections on the east side of the Site are apparently related to certain locations within the waste fill along the east side of the Site. However, not all of the waste fill appears to contain PFAS as monitoring wells MW-401, OBG MW-4S, OBG MW-8, OBG MW-9, and OBG MW-11 which are screened in fill material continue to be non-detect or had detections below the drinking water criteria. Although PFAS was detected in offsite monitoring wells OBG OS MW-4 and OBG OS MW-5, the detections were below the EGLE PFAS drinking water MCLs, and only offsite monitoring well OBG OS MW-3 detected PFAS (10 ng/L PFOA / 36 ng/L PFOS) above the MCLs (8 ng/L PFOA and 16 ng/L PFOS). As for other contaminants in the off-site wells, the detected PFAS in these off-site wells are not believed to have originated from the Site.

Figure 3 provides a summary of the sample results on the base map, and **Figure 4** provides a groundwater contour map for the recent sampling event. Shallow groundwater flow is toward the east near OBG MW-7S and is more southeast in the southern portion of the Site.

The results from the LNAPL samples continue to indicate that LNAPL is not the source of PFAS groundwater impacts at the Site (further discussion below).

LNAPL PFAS Sample Results

PFAS was not detected above the reporting limit in the LNAPL sample collected from monitoring well OBG MW-4S. In monitoring well MW-401 there was a detection of 99 ng/kg for PFOS in the LNAPL compared to 320 ng/kg for PFOS during the November 2, 2020 sampling.

The groundwater samples collected beneath the LNAPL in monitoring well MW-401 was non-detect for PFAS and in monitoring well OBG MW-4S detections of PFOA (2.9 ng/l) and PFOS (2.2 ng/l) were both below the EGLE drinking water cleanup criteria of 8 ng/l for PFOA and 16 ng/l for PFOS. OBG MW-10,

which contains LNAPL (but not at a volume that allows it to be sampled) had groundwater results that were just above the criteria for PFOA (9.8 ng/l).

These results appear to indicate that the LNAPL is not a significant source of PFAS impacts in groundwater at the Site (i.e., there are relatively low concentrations of in the LNAPL and what PFAS is in the LNAPL does not appear to be leaching or migrating appreciably).

Sanitary Sewer PFAS Sample Results

PFAS was not detected above the EGLE Rule 57 Surface Water Quality Values for non-drinking water in samples SAN-01 and SAN-02. Given the difference in specific PFAS detected in this sample and the specific PFAS detected in Site wells, it is not clear that PFAS-impacted groundwater from the Site is infiltrating into this sewer line and is the source of detections. This result appears to indicate that if PFAS impacted groundwater is mobilizing/entering the sanitary sewer where the waste fill and groundwater table are above the sewer (i.e., the sewer is below the water table) in the southern portion of the Site, it is not significantly impacting the sewer water quality.

Path Forward

Based on the results of this sampling events the Exposure Pathway Evaluation presented in our February 10, 2021 letter report does not change. We recommend collecting two additional rounds of samples, one in October 2021 and another in April 2022 to confirm that the PFAS impacts are stable or decreasing and the February 10, 2021 Exposure Pathway Evaluation has not changed. For these next two PFAS sampling events we suggest collecting samples from the deep monitoring wells OBG MW-2D, OBG MW-6D, and OBG MW-7D, and the monitoring wells with PFAS impacts or surrounding the PFAS impacts. This would include onsite shallow monitoring wells MW-401, MW-403, OBG MW-4S, OBG MW-5S, OBG MW-7S, OBG MW-8, OBG MW-9, OBG MW-10, and OBG MW-11 and off-site monitoring wells OBG OS MW-3, OBG OS MW-4, and OBG OS MW-5. In addition, we recommend sampling the from the north and south lines entering the sanitary sewer manhole located just southeast of the Site (if water is present) and San-02.

At this time we do not recommend any further LNAPL sampling.

Following each sampling event a technical memorandum will be prepared to provide a summary of the sampling activities, the results, and present any recommendations for further activity.

If you have any questions or comments concerning this tech memo, please feel free to contact me at 313.333.0211 or Dave Favero at 217.741.6235.

Yours sincerely

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

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Enclosures

Table 1 – Groundwater PFAS Sampling Results
Table 2 – LNAPL PFAS Sampling Results
Table 3 – Sanitary Sewer PFAS Sampling Results

Figure 1 – Site Location Map
Figure 2 – PFAS Sample Locations
Figure 3 – PFAS Sample Results
Figure 4 – Interpreted Shallow Groundwater Elevation Contours – April 21, 2021
Figure 5 – Site Utility Layout
Figure 6 – PFAS Sample Locations and Private Wells

Attachment A – Analytical Reports
Attachment B – Private Well Logs

cc: David Favero – RACER Trust
Kevin Schneider – Ramboll

TABLES

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound	Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	OBG MW-1S 6/29/2020	OBG MW-1S 10/27/2020	OBG MW-2S 6/30/2020	OBG MW-2S 10/27/2020	OBG MW-2D 10/27/2020	OBG MW-2D 4/21/2021	OBG MW-3 6/30/2020	OBG MW-3 10/28/2020
Perfluorobutanoic Acid (PFBA)		--	**32 U**	**13**	**31 U**	<10	<9.7	<10	**33 U**	<10
Perfluoropentanoic Acid (PFPeA)		--	**7.7**	**9.9**	**7.6**	**7.3**	<3.9	<4.0	**4.1**	**2.0 J**
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorohexanoic Acid (PFHxA)		**400,000**	**5.8**	**6.8**	**4.9**	**5.2**	<1.9	<2.0	**2.7**	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		**420**	**2.4**	**3.4**	<2.0	<2.1	<1.9	<2.0	**3.8**	**3.8**
Perfluoroheptanoic Acid (PFHpA)		--	<2.1	**2.3**	**1.8 J**	**2.0 J**	<1.9	<2.0	**2.2**	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorooctanoic Acid (**PFOA**)		**8**	**3.9**	**3.6**	**2.3**	**2.2**	<1.9	<2.0	**4.2**	**4.4**
Perfluorohexane Sulfonic Acid (PFHxS)		**51**	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorononanoic Acid (PFNA)		**6**	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorodecanoic Acid (PFDA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	<4.2	<4.1	<3.9	<4.1	<3.9	<4.0	<3.9	<4.1
Perfluorooctane Sulfonic Acid (**PFOS**)		**16**	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	<4.2	<4.1	<3.9	<4.1	<3.9	<4.0	<3.9	<4.1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		**370**	<2.1	<2.0	<2.0	<2.1	<1.9	<2.0	<1.9	<2.0
Total Per-and Polyfluoroalkyl Substances		--	**19.8**	**26.0**	**16.6**	**16.7**	**0.0**	**0.0**	**17.0**	**10.2**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound	Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	OBG MW-4S 11/2/2020	OBG MW-4S 4/26/2021	OBG MW-5S 7/1/2020	OBG MW-5S (DUP-1) 7/1/2020	OBG MW-5S 10/29/2020	OBG MW-5S (DUP-1) 10/29/2020	OBG MW-5S 4/23/2021	OBG MW-5S (DUP-042321) 4/23/2021
Perfluorobutanoic Acid (PFBA)		--	<150 X	<10	<48 X	<38 X	<20 X	<19 X	<20 X	<22 X
Perfluoropentanoic Acid (PFPeA)		--	<4.2	<4.2	<3.8	<3.8	<4.0	<3.8	<4.0	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)		**400,000**	<2.1	<2.1	<3.8 X	<3.8 X	**3.2**	**3.6**	<2.0	<2.0
Perfluorobutane Sulfonic Acid (PFBS)		**420**	<2.1	<2.1	<3.8 X	<3.8 X	<2.0	<1.9	<2.0	<2.0
Perfluoroheptanoic Acid (PFHpA)		--	<2.1	<2.1	<1.9	**1.8 J**	**1.7 J**	**1.6 J**	<2.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorooctanoic Acid (**PFOA**)		**8**	**4.5**	**2.9**	**8.7**	**9.8**	**11**	**11**	**9.1**	**9.4**
Perfluorohexane Sulfonic Acid (PFHxS)		**51**	<2.1	<2.1	**3.2**	**3.0**	<2.0	<1.9	**2.0**	**2.1**
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	<2.1	<2.1	**2.0**	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorononanoic Acid (PFNA)		**6**	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorodecanoic Acid (PFDA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	<4.2	<4.2	<3.8	<3.8	<4.0	<3.8	<4.0	<4.0
Perfluorooctane Sulfonic Acid (**PFOS**)		**16**	**3.9**	**2.2**	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluoroundecanoic Acid (PFUnDA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)		--	<4.2	<4.2	<3.8	<3.8	<4.0	<3.8	<4.0	<4.0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<2.1	<2.1	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)		**370**	<2.1	<10	<1.9	<1.9	<2.0	<1.9	<9.9	<10
Total Per-and Polyfluoroalkyl Substances		--	**8.4**	**5.1**	**11.9**	**14.6**	**15.9**	**16.2**	**11.1**	**11.5**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound	Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	OBG MW-6S 6/30/2020	OBG MW-6S 10/28/2020	OBG MW-6D 10/28/2020	OBG MW-6D 4/22/2021	OBG MW-7S 6/29/2020	OBG MW-7S 10/27/2020	OBG MW-7S 4/22/2021
Perfluorobutanoic Acid (PFBA)		--	**30 U**	<10	<10	<10	**33 U**	**<10**	<9.7
Perfluoropentanoic Acid (PFPeA)		--	**4.9**	**5.0**	**1.3 J**	**1.7 J**	<3.8	**1.3 J**	<3.9
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorohexanoic Acid (PFHxA)		**400,000**	**5.6**	**4.5**	<2.0	<2.0	**1.4 J**	**1.7 J**	**1.5 J**
Perfluorobutane Sulfonic Acid (PFBS)		**420**	**4.4**	**4.7**	<2.0	<2.0	**1.5 J**	**1.7 J**	**1.7 J**
Perfluoroheptanoic Acid (PFHpA)		--	**2.2**	**2.3**	<2.0	<2.0	<1.9	**1.5 J**	**1.9 J**
Perfluoropentane Sulfonic Acid (PFPeS)		--	<2.0	**2.2**	<2.0	<2.0	<1.9	<2.0	<1.9
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorooctanoic Acid (**PFOA**)		**8**	**8.8**	**4.3**	<2.0	<2.0	**19**	**25**	**19**
Perfluorohexane Sulfonic Acid (PFHxS)		**51**	<2.0	**1.8 J**	<2.0	<2.0	**3.7**	**4.7**	**3.7**
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	<2.0	<2.0	<2.0	<2.0	**2.8**	**3.1**	**2.8**
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorononanoic Acid (PFNA)		**6**	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluoroheptane Sulfonic Acid (PFHpS)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorodecanoic Acid (PFDA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	<4.0	<4.0	<4.1	<4.0	**6.6**	**8.4**	**7.4**
Perfluorooctane Sulfonic Acid (**PFOS**)		**16**	<2.0	<2.0	<2.0	<2.0	**54**	**60**	**37**
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	<2.0	<2.0	<2.0	<2.0	**26**	**29**	**18**
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	<2.0	<2.0	<2.0	<2.0	**27**	**29**	**19**
Perfluoroundecanoic Acid (PFUnDA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorononane Sulfonic Acid (PFNS)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorododecanoic Acid (PFDoDA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorodecane Sulfonic Acid (PFDS)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorotridecanoic Acid (PFTrDA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorooctane Sulfonamide (FOSA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Perfluorotetradecanoic Acid (PFTeDA)		--	<4.0	<4.0	<4.1	<4.0	<3.8	<4.1	<3.9
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<2.0	<2.0	<2.0	<2.0	<1.9	<2.0	<1.9
Hexafluoropropylene oxide dimer (HFPO-DA)		**370**	<2.0	<2.0	<2.0	<2.0	<1.9	**2.2**	<9.7
Total Per-and Polyfluroalkyl Substances		--	**25.9**	**24.8**	**1.3**	**1.7**	**86.2**	**106.5**	**72.2**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	OBG MW-7D 6/29/2020	OBG MW-7D 10/27/2020	OBG MW-7D 4/21/2021	OBG MW-8 6/30/2020	OBG MW-8 10/29/2020	OBG MW-8 4/22/2021	OBG MW-9 10/29/2020	OBG MW-9 4/22/2021
Perfluorobutanoic Acid (PFBA)	--	**28 U**	<11	<9.9	**25 U**	<10	<10	<10.0	<10.0
Perfluoropentanoic Acid (PFPeA)	--	<3.9	<4.2	<3.9	<4.1	<4.1	<4.0	<4.0	<4.0
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorohexanoic Acid (PFHxA)	**400,000**	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	**420**	<1.9	<2.1	<2.0	<2.1	**1.8 J**	**1.6 J**	**2.2**	**2.3**
Perfluoroheptanoic Acid (PFHpA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorooctanoic Acid (**PFOA**)	**8**	<1.9	<2.1	<2.0	<2.1	**1.8 J**	**1.7 J**	<2.0	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	**51**	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorononanoic Acid (PFNA)	**6**	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorodecanoic Acid (PFDA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<3.9	<4.2	<3.9	<4.1	<4.1	<4.0	<4.0	<4.0
Perfluorooctane Sulfonic Acid (**PFOS**)	**16**	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	<3.9	<4.2	<3.9	<4.1	<4.1	<4.0	<4.0	<4.0
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<1.9	<2.1	<2.0	<2.1	<2.1	<2.0	<2.0	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	**370**	<1.9	<2.1	<2.0	<2.1	<2.1	<10	<2.0	<10.0
Total Per-and Polyfluoroalkyl Substances	--	**0.0**	**0.0**	**0.0**	**0.0**	**3.6**	**3.3**	**2.2**	**2.3**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
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TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound	Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	OBG MW-10 7/2/2020	OBG MW-10 11/2/2020	OBG MW-10 4/26/2021	OBG MW-11 10/29/2020	OBG MW-11 4/22/2021	MW-401 11/2/2020	MW-401 4/27/2021
Perfluorobutanoic Acid (PFBA)		--	**26 U**	<49 X	<42 X	<20 X	<25 X	<18 X	<10
Perfluoropentanoic Acid (PFPeA)		--	<3.9	**1.4 J**	<4.2	<4.0	<3.9	<4.1	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorohexanoic Acid (PFHxA)		**400,000**	<2.0	**1.6 J**	<2.6 X	**3.1**	<1.9	<2.0	**2.0 J**
Perfluorobutane Sulfonic Acid (PFBS)		**420**	**1.4**	<2.0	**1.6 J**	<2.0	<1.9	<2.0	<2.1
Perfluoroheptanoic Acid (PFHpA)		--	<2.0	**1.7 J**	<2.1	<2.0	**1.5 J**	<2.0	<2.1
Perfluoropentane Sulfonic Acid (PFPeS)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorooctanoic Acid (**PFOA**)		**8**	**9.6**	**9.6**	**9.8**	**1.9 J**	**3.8**	<2.0	<2.1
Perfluorohexane Sulfonic Acid (PFHxS)		**51**	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorononanoic Acid (PFNA)		**6**	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorodecanoic Acid (PFDA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	**5.6**	<4.9 X	**6.9**	<4.0	<3.9	<4.1	<4.1
Perfluorooctane Sulfonic Acid (**PFOS**)		**16**	**16**	**17**	**14**	**6.5**	**3.3**	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	**7.2**	**7.0**	**6.5**	<2.0	<1.9	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	**8.5**	**8.8**	**7.1**	**4.8**	**2.3**	<2.0	<2.1
Perfluoroundecanoic Acid (PFUnDA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorononane Sulfonic Acid (PFNS)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorododecanoic Acid (PFDoDA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorodecane Sulfonic Acid (PFDS)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorotridecanoic Acid (PFTrDA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorooctane Sulfonamide (FOSA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Perfluorotetradecanoic Acid (PFTeDA)		--	<3.9	<3.9	<4.2	<4.0	<3.9	<4.1	<4.1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<2.0	<2.0	<2.1	<2.0	<1.9	<2.0	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)		**370**	<2.0	<2.0	<10	<2.0	<1.9	<2.0	<10
Total Per-and Polyfluoroalkyl Substances		--	**32.6**	**31.3**	**32.3**	**11.5**	**8.6**	**0.0**	**2.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound	Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	MW-403 11/2/2020	MW-403 4/23/2021	OBG OS MW-3 4/23/2021	OBG OS MW-4 4/23/2021	OBG OS MW-5 4/23/2021
Perfluorobutanoic Acid (PFBA)		--	<16 X	<10	<24 X	<26 X	<21 X
Perfluoropentanoic Acid (PFPeA)		--	<4.1	<4.2	<3.9	<4.0	**3.6 J**
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorohexanoic Acid (PFHxA)		**400,000**	**1.6 J**	<2.1	**3.6**	<2.0	**3.4**
Perfluorobutane Sulfonic Acid (PFBS)		**420**	<2.1	<2.1	**2.2**	<2.0	<2.1
Perfluoroheptanoic Acid (PFHpA)		--	**2.1**	**2.0 J**	**2.4**	<2.0	**1.8 J**
Perfluoropentane Sulfonic Acid (PFPeS)		--	<2.1	<2.1	<2.0	<2.0	<2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)		--	<2.1	**240**	<2.0	<2.0	<2.1
Perfluorooctanoic Acid (**PFOA**)		**8**	**25**	**19**	**10**	**2.6**	**2.8**
Perfluorohexane Sulfonic Acid (PFHxS)		**51**	**3.6**	**2.2**	**1.7 J**	<2.0	<2.1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)		--	**3.5**	<2.1	<2.0	<2.0	<2.1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorononanoic Acid (PFNA)		**6**	<2.1	**2.1**	<2.0	<2.0	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)		--	**7.3**	**2.7**	<2.0	<2.0	<2.1
Perfluorodecanoic Acid (PFDA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)		--	**75**	**61**	**13**	**6.3**	<4.1
Perfluorooctane Sulfonic Acid (**PFOS**)		**16**	**960**	**450**	**36**	**3.6**	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-LN)		--	**710**	**350**	**25**	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-BR)		--	**250**	**100**	**9.2**	<2.0	<2.1
Perfluoroundecanoic Acid (PFUnDA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorononane Sulfonic Acid (PFNS)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorododecanoic Acid (PFDoDA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorodecane Sulfonic Acid (PFDS)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorotridecanoic Acid (PFTrDA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Perfluorooctane Sulfonamide (FOSA)		--	**32**	**33**	**5.4**	<2.0	<2.1
Perfluorotetradecanoic Acid (PFTeDA)		--	<4.1	<4.2	<3.9	<4.0	<4.1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)		--	<2.1	<2.1	<2.0	<2.0	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)		--	<2.1	<2.1	<2.0	<2.0	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)		--	<2.1	<2.1	<2.0	<2.0	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)		**370**	<2.1	<10	<9.9	<10	<10
Total Per-and Polyfluoroalkyl Substances		--	**1106.6**	**812.0**	**74.3**	**12.5**	**11.6**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	Field Blank-062920 (Field Blank) 6/29/2020	Field Blank-070120 (Field Blank) 7/1/2020	Field Blank-070220 (Field Blank) 7/2/2020	Field Blank-102720 10/27/2020	Field Blank-102920 10/29/2020	Field Blank-110220 11/2/2020
Perfluorobutanoic Acid (PFBA)	--	**21**	**35**	**16**	<10.0	<9.7	<10
Perfluoropentanoic Acid (PFPeA)	--	<4.0	<3.9	<4.0	<4.0	<3.9	<4.1
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorohexanoic Acid (PFHxA)	**400,000**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorobutane Sulfonic Acid (PFBS)	**420**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluoroheptanoic Acid (PFHpA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluoropentane Sulfonic Acid (PFPeS)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<2.0	<1.9	<2.0	<2.0	**2.8**	<2.0
Perfluorooctanoic Acid (**PFOA**)	**8**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorohexane Sulfonic Acid (PFHxS)	**51**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorononanoic Acid (PFNA)	**6**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorodecanoic Acid (PFDA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<4.0	<3.9	<4.0	<4.0	<3.9	<4.1
Perfluorooctane Sulfonic Acid (**PFOS**)	**16**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluoroundecanoic Acid (PFUnDA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorononane Sulfonic Acid (PFNS)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorododecanoic Acid (PFDoDA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorodecane Sulfonic Acid (PFDS)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorotridecanoic Acid (PFTrDA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorooctane Sulfonamide (FOSA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Perfluorotetradecanoic Acid (PFTeDA)	--	<4.0	<3.9	<4.0	<4.0	<3.9	<4.1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Hexafluoropropylene oxide dimer (HFPO-DA)	**370**	<2.0	<1.9	<2.0	<2.0	<1.9	<2.0
Total Per-and Polyfluoroalkyl Substances	--	**21.0**	**35.0**	**16.0**	**0.0**	**2.8**	**0.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 1
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - June 2020 - April 2021

Hemphill Road Industrial Land - PFAS Groundwater Sample Results

Perfluorinated Compound Well/Sample ID: Sample Date:	EGLE Drinking Water Maximum Contaminant Levels (MCLs)	Field Blank-042121 *4/21/2021*	Field Blank-042221 *4/22/2021*	Field Blank-042321 *4/23/2021*	Field Blank-042721 *4/27/2021*
Perfluorobutanoic Acid (PFBA)	--	<9.8	<9.9	<11	<11
Perfluoropentanoic Acid (PFPeA)	--	<3.9	<4.0	<4.2	<4.2
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	<2.0	<2.0	<2.1	<2.1
Perfluorohexanoic Acid (PFHxA)	**400,000**	<2.0	<2.0	<2.1	<2.1
Perfluorobutane Sulfonic Acid (PFBS)	**420**	<2.0	<2.0	<2.1	<2.1
Perfluoroheptanoic Acid (PFHpA)	--	<2.0	<2.0	<2.1	<2.1
Perfluoropentane Sulfonic Acid (PFPeS)	--	<2.0	<2.0	<2.1	<2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	<2.0	<2.0	<2.1	<2.1
Perfluorooctanoic Acid (**PFOA**)	**8**	<2.0	<2.0	<2.1	<2.1
Perfluorohexane Sulfonic Acid (PFHxS)	**51**	<2.0	<2.0	<2.1	<2.1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	<2.0	<2.0	<2.1	<2.1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	<2.0	<2.0	<2.1	<2.1
Perfluorononanoic Acid (PFNA)	**6**	<2.0	<2.0	<2.1	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	<2.0	<2.0	<2.1	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)	--	<2.0	<2.0	<2.1	<2.1
Perfluorodecanoic Acid (PFDA)	--	<2.0	<2.0	<2.1	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	<2.0	<2.0	<2.1	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	<3.9	<4.0	<4.2	<4.2
Perfluorooctane Sulfonic Acid (**PFOS**)	**16**	<2.0	<2.0	<2.1	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	<2.0	<2.0	<2.1	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	<2.0	<2.0	<2.1	<2.1
Perfluoroundecanoic Acid (PFUnDA)	--	<2.0	<2.0	<2.1	<2.1
Perfluorononane Sulfonic Acid (PFNS)	--	<2.0	<2.0	<2.1	<2.1
Perfluorododecanoic Acid (PFDoDA)	--	<2.0	<2.0	<2.1	<2.1
Perfluorodecane Sulfonic Acid (PFDS)	--	<2.0	<2.0	<2.1	<2.1
Perfluorotridecanoic Acid (PFTrDA)	--	<2.0	<2.0	<2.1	<2.1
Perfluorooctane Sulfonamide (FOSA)	--	<2.0	<2.0	<2.1	<2.1
Perfluorotetradecanoic Acid (PFTeDA)	--	<3.9	<4.0	<4.2	<4.2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	<2.0	<2.0	<2.1	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	<2.0	<2.0	<2.1	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	<2.0	<2.0	<2.1	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)	**370**	<2.0	<9.9	<11	<11
Total Per-and Polyfluoroalkyl Substances	--	**0.0**	**0.0**	**0.0**	**0.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

TABLE 2
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - November 2020 - April 2021

Hemphill Road Industrial Land - PFAS LNAPL Sample Results

Perfluorinated Compound / Well/Sample ID: / Sample Date:	OBG MW-4S 11/2/2020	OBG MW-4S 4/26/2021	MW-401 11/2/2020	MW-401 4/27/2021	Field Blank-110220 11/2/2020	Field Blank-042721 4/27/2021
Perfluorobutanoic Acid (PFBA)	<650	<630 1	<920	<970 1	<10	<11
Perfluoropentanoic Acid (PFPeA)	<330	<320 1	<460	<480 1	<4.1	<4.2
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorohexanoic Acid (PFHxA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorobutane Sulfonic Acid (PFBS)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluoroheptanoic Acid (PFHpA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluoropentane Sulfonic Acid (PFPeS)	<330	<320 1	<460	<480 1	<2.0	<2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorooctanoic Acid (**PFOA**)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorohexane Sulfonic Acid (PFHxS)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorononanoic Acid (PFNA)	<330	<320 1	<460	<480 1	<2.0	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorodecanoic Acid (PFDA)	<330	<320 1	<460	<480 1	<2.0	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	<330	<320 1	<460	<480 1	<2.0	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	<330	<320 1	**520**	<480 1	<4.1	<4.2
Perfluorooctane Sulfonic Acid (**PFOS**)	<330	<320 1	**320 J**	**99 J1**	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	<330	<320 1	**150 J**	<480 1	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	<330	<320 1	**130 J**	<480 1	<2.0	<2.1
Perfluoroundecanoic Acid (PFUnDA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorononane Sulfonic Acid (PFNS)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorododecanoic Acid (PFDoDA)	<330	<320 1	<460 I	<480 1	<2.0	<2.1
Perfluorodecane Sulfonic Acid (PFDS)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorotridecanoic Acid (PFTrDA)	<330	<320 1	<460 I	<480 1	<2.0	<2.1
Perfluorooctane Sulfonamide (FOSA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Perfluorotetradecanoic Acid (PFTeDA)	<330	<320 1	<460	<480 1	<4.1	<4.2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<330	<320 1	<460	<480 1	<2.0	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	<330	<320 1	<460	<480 1	<2.0	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	<330	<320 1	<460	<480 1	<2.0	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)	<330	<320 1	<460	<480 1	<2.0	<11
Total Per-and Polyfluoroalkyl Substances	**0.0**	**0.0**	**840.0**	**99.0**	**0.0**	**0.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/kg. Field blank concentration in ng/L
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) J - Estimated value less than reporting limit, but greater than MDL.
7) I - Matrix interference with internal standard.
8) 1 - Bottle overfilled, subsample poured off to analyze.

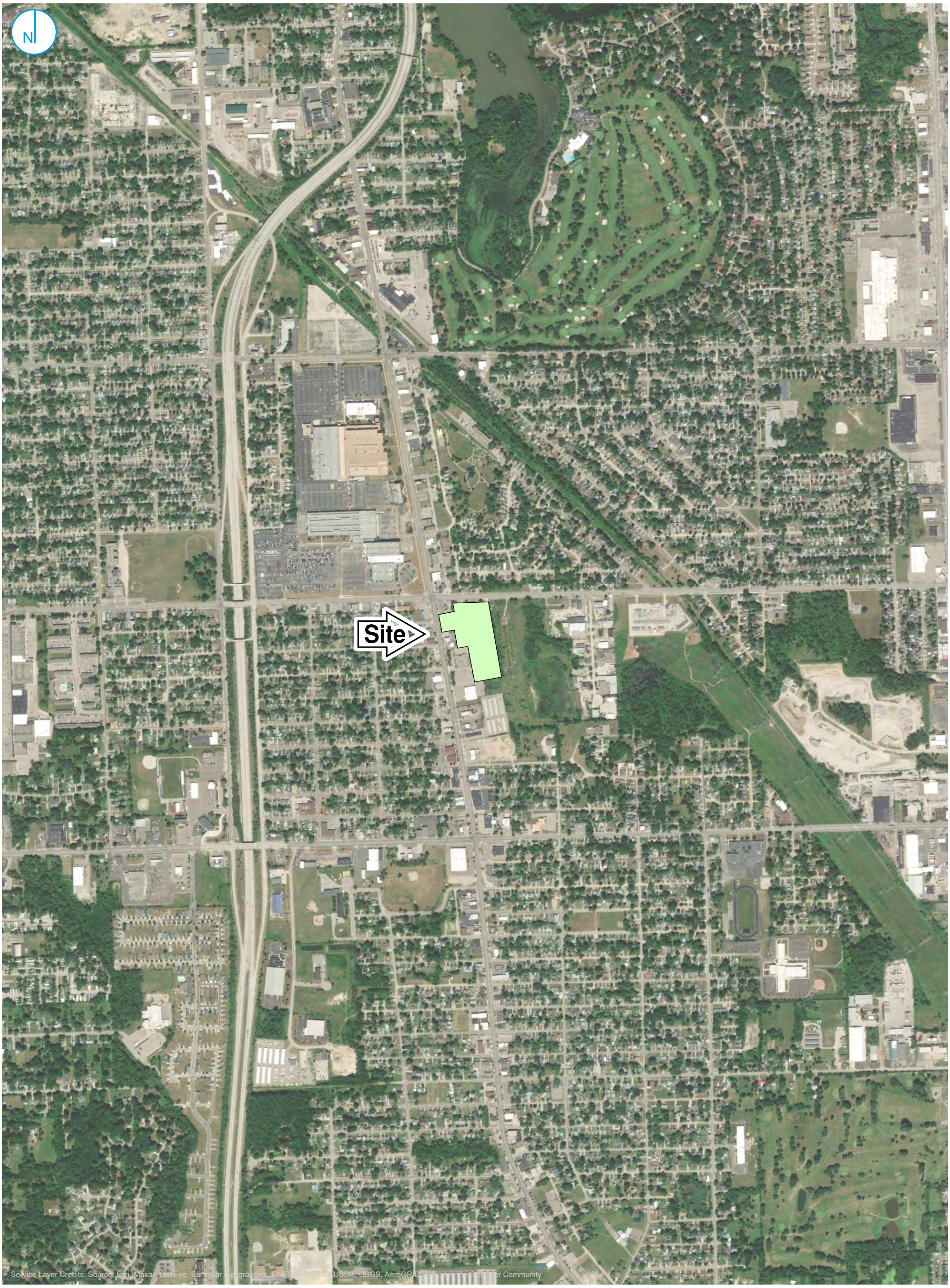
TABLE 3
RACER Trust - Hemphill Road Industrial Land
Pre-and Polyfluroalkyl Substances (PFAS) Sampling Results - November 2020 - April 2021

Hemphill Road Industrial Land - PFAS Sanitary Sewer Sample Results

Perfluorinated Compound / Well/Sample ID: / Sample Date:	EGLE Rule 57 Water Quality Values - Non-Drinking Water	Sanitary Sewer Southeast of Site 11/2/2020	Sanitary Sewer Southeast of Site 4/26/2021	SAN-01 (Sanitary Sewer Sample) 11/2/2020	SAN-01 (Sanitary Sewer Sample) 4/26/2021	SAN-02 (Sanitary Sewer Sample) 4/26/2021	Field Blank-110220 11/2/2020	Field Blank-042721 4/27/2021
Perfluorobutanoic Acid (PFBA)	--	DRY	DRY	<10	<10	<10	<10	<11
Perfluoropentanoic Acid (PFPeA)	--	DRY	DRY	**3.8 J**	**3.8 J**	**4.0 J**	<4.1	<4.2
4:2 Fluorotelomer Sulfonic Acid (4:2 FTSA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorohexanoic Acid (PFHxA)	--	DRY	DRY	**3.1**	**4.8**	**2.7**	<2.0	<2.1
Perfluorobutane Sulfonic Acid (PFBS)	--	DRY	DRY	**6.0**	**3.8**	**4.1**	<2.0	<2.1
Perfluoroheptanoic Acid (PFHpA)	--	DRY	DRY	<2.0	**1.7 J**	<2.1	<2.0	<2.1
Perfluoropentane Sulfonic Acid (PFPeS)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--	DRY	DRY	<2.0	<2.0	<2.1 I	<2.0	<2.1
Perfluorooctanoic Acid (**PFOA**)	**12,000**	DRY	DRY	**2.6**	**2.8**	**2.9**	<2.0	<2.1
Perfluorohexane Sulfonic Acid (PFHxS)	--	DRY	DRY	**2.5**	**3.8**	**2.1**	<2.0	<2.1
Perfluorohexane Sulfonic Acid - LN (PFHxS-LN)	--	DRY	DRY	**1.7 J**	**1.8 J**	<2.1	<2.0	<2.1
Perfluorohexane Sulfonic Acid - BR (PFHxS-BR)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorononanoic Acid (PFNA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
8:2 Fluorotelomer Sulfonic Acid (8:2 FTSA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluoroheptane Sulfonic Acid (PFHpS)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorodecanoic Acid (PFDA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
N-methyl Perfluorooctanesulfonamidoacetic Acid (N-MeFOSAA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--	DRY	DRY	<4.0	<4.1 I	<4.1	<4.1	<4.2
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**	DRY	DRY	**9.9**	**8.4**	**8.9**	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-LN)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorooctane Sulfonic Acid (**PFOS**-BR)	--	DRY	DRY	**7.0**	**6.4**	**6.6**	<2.0	<2.1
Perfluoroundecanoic Acid (PFUnDA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorononane Sulfonic Acid (PFNS)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorododecanoic Acid (PFDoDA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorodecane Sulfonic Acid (PFDS)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorotridecanoic Acid (PFTrDA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorooctane Sulfonamide (FOSA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Perfluorotetradecanoic Acid (PFTeDA)	--	DRY	DRY	<4.0	<4.1	<4.1	<4.1	<4.2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
9-chlorohexadecafluoro-3-oxanone1-sulfonic acid (9Cl-PF3ONS)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	--	DRY	DRY	<2.0	<2.0	<2.1	<2.0	<2.1
Hexafluoropropylene oxide dimer (HFPO-DA)	--	DRY	DRY	<2.0	<10	<10	<2.0	<11
Total Per-and Polyfluoroalkyl Substances	--			**27.9**	**29.1**	**24.7**	**0.0**	**0.0**

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above the EGLE Rule 57 Water Quality Values - Non-Drinking Water criteria are highlighted in yellow.
7) I - Matrix interference with internal standard.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

FIGURES



0 500 1,000 2,000 Feet

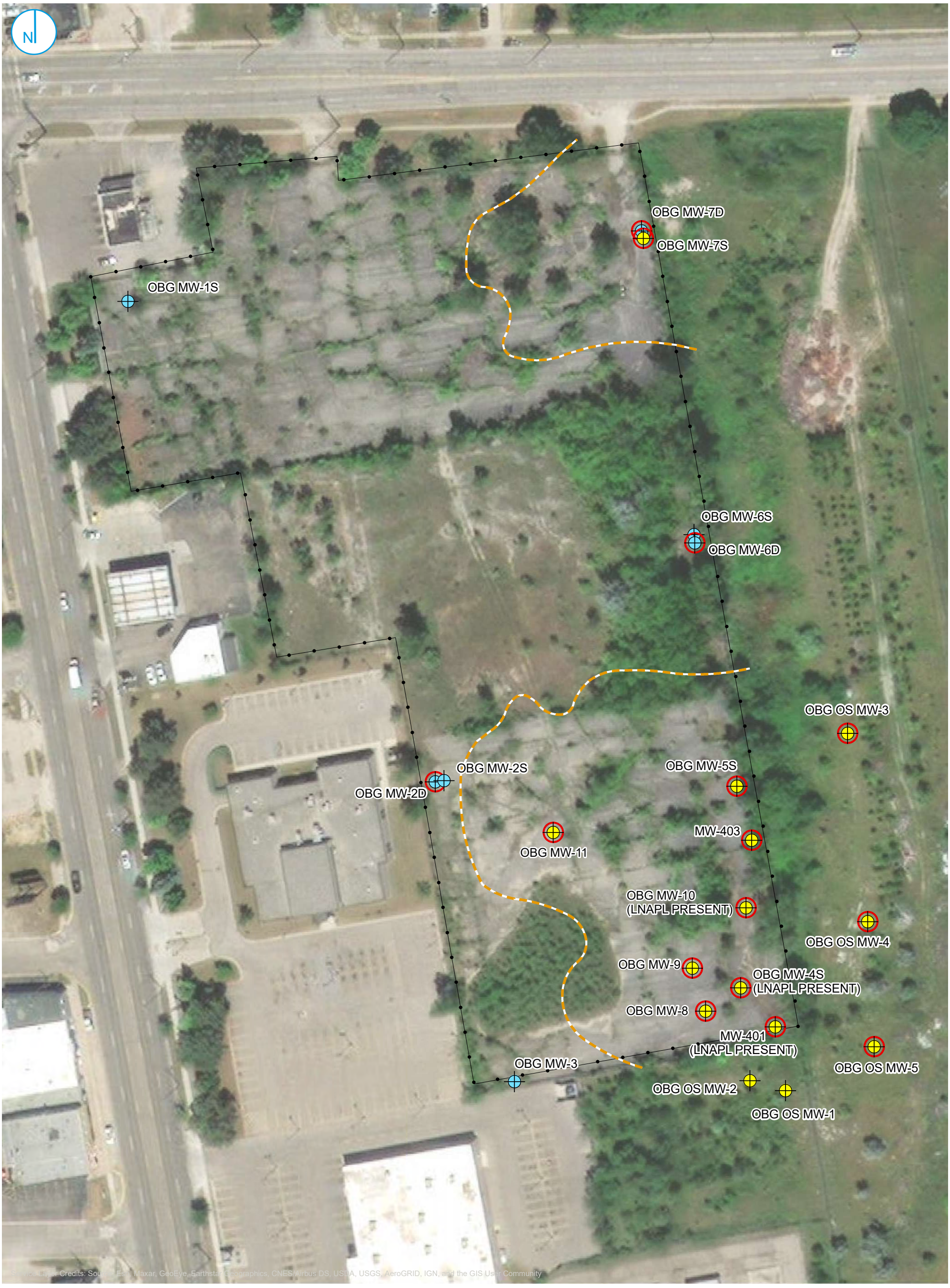
SITE LOCATION MAP

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

FIGURE 01

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RAMBOLL



LEGEND

- MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)
- MONITORING WELL LOCATION (SCREENED IN FILL)
- PFAS SAMPLE LOCATION
- FENCE LINE
- APPROXIMATE EXTENT OF WASTE FILL ONSITE

0 50 100 Feet

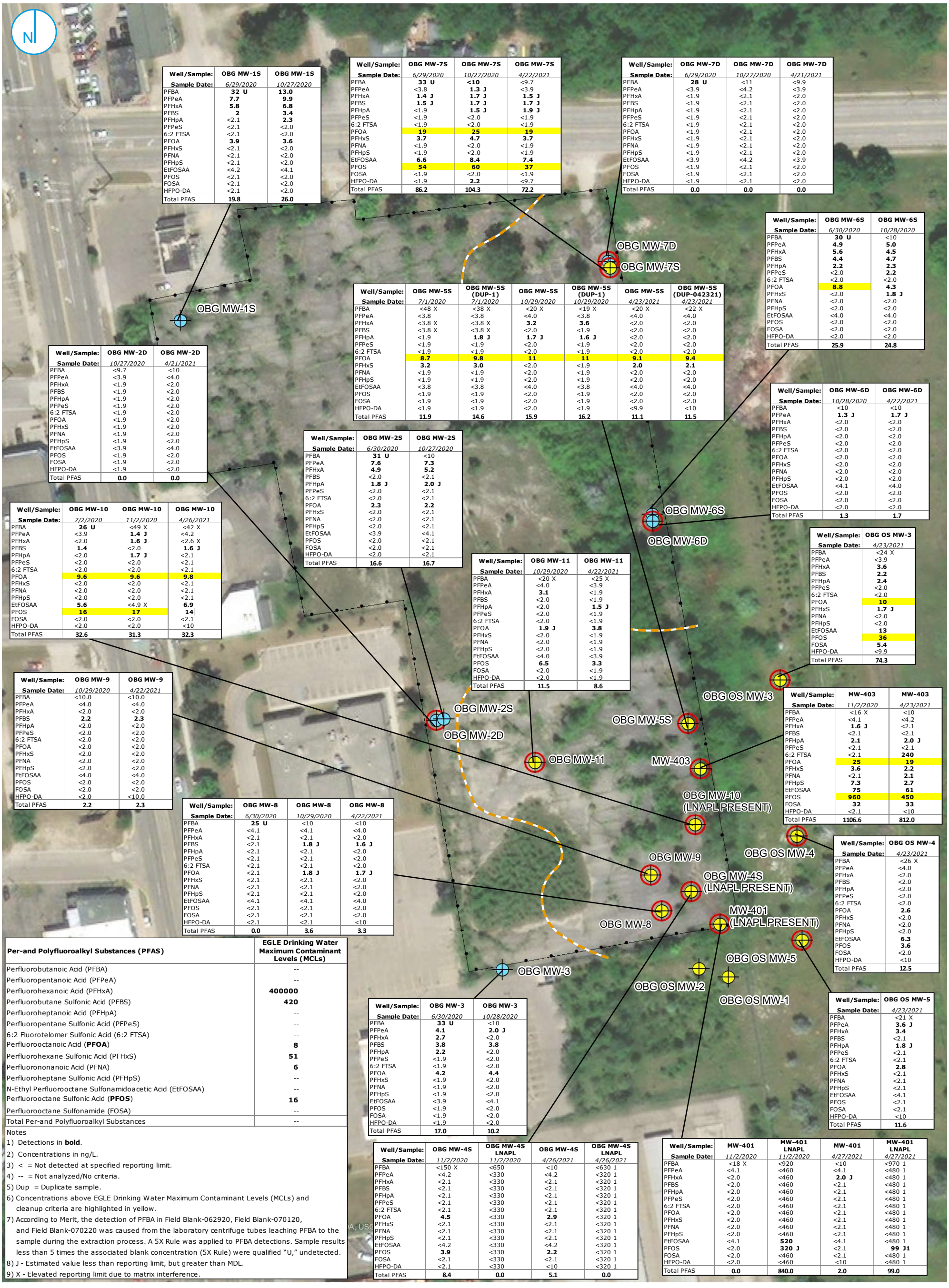
PFAS SAMPLE LOCATIONS

FIGURE 02

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RAMBOLL



Well/Sample:	OBG MW-1S	OBG MW-1S
Sample Date:	6/29/2020	10/27/2020
PFBA	**32 U**	**13.0**
PFPeA	**7.7**	**9.9**
PFHxA	**5.8**	**6.8**
PFBS	**2**	**3.4**
PFHpA	<2.1	**2.3**
PFPeS	<2.1	<2.0
6:2 FTSA	<2.1	<2.0
PFOA	**3.9**	**3.6**
PFHxS	<2.1	<2.0
PFNA	<2.1	<2.0
PFHpS	<2.1	<2.0
EtFOSAA	<4.2	<4.1
PFOS	<2.1	<2.0
FOSA	<2.1	<2.0
HFPO-DA	<2.1	<2.0
Total PFAS	**19.8**	**26.0**

Well/Sample:	OBG MW-7S	OBG MW-7S	OBG MW-7S
Sample Date:	6/29/2020	10/27/2020	4/22/2021
PFBA	**33 U**	**<10**	<9.7
PFPeA	<3.8	**1.3 J**	<3.9
PFHxA	**1.4 J**	**1.7 J**	**1.5 J**
PFBS	**1.5 J**	**1.7 J**	**1.7 J**
PFHpA	<1.9	**1.5 J**	**1.9 J**
PFPeS	<1.9	<2.0	<1.9
6:2 FTSA	<1.9	<2.0	<1.9
PFOA	**19**	**25**	**19**
PFHxS	**3.7**	**4.7**	**3.7**
PFNA	<1.9	<2.0	<1.9
PFHpS	<1.9	<2.0	<1.9
EtFOSAA	**6.6**	**8.4**	**7.4**
PFOS	**54**	**60**	**37**
FOSA	<1.9	<2.0	<1.9
HFPO-DA	<1.9	**2.2**	<9.7
Total PFAS	**86.2**	**104.3**	**72.2**

Well/Sample:	OBG MW-7D	OBG MW-7D	OBG MW-7D
Sample Date:	6/29/2020	10/27/2020	4/21/2021
PFBA	**28 U**	<11	<9.9
PFPeA	<3.9	<4.2	<3.9
PFHxA	<1.9	<2.1	<2.0
PFBS	<1.9	<2.1	<2.0
PFHpA	<1.9	<2.1	<2.0
PFPeS	<1.9	<2.1	<2.0
6:2 FTSA	<1.9	<2.1	<2.0
PFOA	<1.9	<2.1	<2.0
PFHxS	<1.9	<2.1	<2.0
PFNA	<1.9	<2.1	<2.0
PFHpS	<1.9	<2.1	<2.0
EtFOSAA	<3.9	<4.2	<3.9
PFOS	<1.9	<2.1	<2.0
FOSA	<1.9	<2.1	<2.0
HFPO-DA	<1.9	<2.1	<2.0
Total PFAS	**0.0**	**0.0**	**0.0**

Well/Sample:	OBG MW-6S	OBG MW-6S
Sample Date:	6/30/2020	10/28/2020
PFBA	**30 U**	<10
PFPeA	**4.9**	**5.0**
PFHxA	**5.6**	**4.5**
PFBS	**4.4**	**4.7**
PFHpA	**2.2**	**2.3**
PFPeS	<2.0	**2.2**
6:2 FTSA	<2.0	<2.0
PFOA	**8.8**	**4.3**
PFHxS	<2.0	**1.8 J**
PFNA	<2.0	<2.0
PFHpS	<2.0	<2.0
EtFOSAA	<4.0	<4.0
PFOS	<2.0	<2.0
FOSA	<2.0	<2.0
HFPO-DA	<2.0	<2.0
Total PFAS	**25.9**	**24.8**

Well/Sample:	OBG MW-5S	OBG MW-5S (DUP-1)	OBG MW-5S	OBG MW-5S (DUP-1)	OBG MW-5S	OBG MW-5S (DUP-042321)
Sample Date:	7/1/2020	7/1/2020	10/29/2020	10/29/2020	4/23/2021	4/23/2021
PFBA	<48 X	<38 X	<20 X	<19 X	<20 X	<22 X
PFPeA	<3.8	<3.8	<4.0	<3.8	<4.0	<4.0
PFHxA	<3.8 X	<3.8 X	**3.2**	**3.6**	<2.0	<2.0
PFBS	<3.8 X	<3.8 X	<2.0	<1.9	<2.0	<2.0
PFHpA	<1.9	**1.8 J**	**1.7 J**	**1.6 J**	<2.0	<2.0
PFPeS	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
6:2 FTSA	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
PFOA	**8.7**	**9.8**	**11**	**11**	**9.1**	**9.4**
PFHxS	**3.2**	**3.0**	<2.0	<1.9	**2.0**	**2.1**
PFNA	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
PFHpS	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
EtFOSAA	<3.8	<3.8	<4.0	<3.8	<4.0	<4.0
PFOS	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
FOSA	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0
HFPO-DA	<1.9	<1.9	<2.0	<1.9	<9.9	<10
Total PFAS	**11.9**	**14.6**	**15.9**	**16.2**	**11.1**	**11.5**

Well/Sample:	OBG MW-6D	OBG MW-6D
Sample Date:	10/28/2020	4/22/2021
PFBA	<10	<10
PFPeA	**1.3 J**	**1.7 J**
PFHxA	<2.0	<2.0
PFBS	<2.0	<2.0
PFHpA	<2.0	<2.0
PFPeS	<2.0	<2.0
6:2 FTSA	<2.0	<2.0
PFOA	<2.0	<2.0
PFHxS	<2.0	<2.0
PFNA	<2.0	<2.0
PFHpS	<2.0	<2.0
EtFOSAA	<4.1	<4.0
PFOS	<2.0	<2.0
FOSA	<2.0	<2.0
HFPO-DA	<2.0	<2.0
Total PFAS	**1.3**	**1.7**

Well/Sample:	OBG MW-2D	OBG MW-2D
Sample Date:	10/27/2020	4/21/2021
PFBA	<9.7	<10
PFPeA	<3.9	<4.0
PFHxA	<1.9	<2.0
PFBS	<1.9	<2.0
PFHpA	<1.9	<2.0
PFPeS	<1.9	<2.0
6:2 FTSA	<1.9	<2.0
PFOA	<1.9	<2.0
PFHxS	<1.9	<2.0
PFNA	<1.9	<2.0
PFHpS	<1.9	<2.0
EtFOSAA	<3.9	<4.0
PFOS	<1.9	<2.0
FOSA	<1.9	<2.0
HFPO-DA	<1.9	<2.0
Total PFAS	**0.0**	**0.0**

Well/Sample:	OBG MW-2S	OBG MW-2S
Sample Date:	6/30/2020	10/27/2020
PFBA	**31 U**	<10
PFPeA	**7.6**	**7.3**
PFHxA	**4.9**	**5.2**
PFBS	<2.0	<2.1
PFHpA	**1.8 J**	**2.0 J**
PFPeS	<2.0	<2.1
6:2 FTSA	<2.0	<2.1
PFOA	**2.3**	**2.2**
PFHxS	<2.0	<2.1
PFNA	<2.0	<2.1
PFHpS	<2.0	<2.1
EtFOSAA	<3.9	<4.1
PFOS	<2.0	<2.1
FOSA	<2.0	<2.1
HFPO-DA	<2.0	<2.1
Total PFAS	**16.6**	**16.7**

Well/Sample:	OBG MW-11	OBG MW-11
Sample Date:	10/29/2020	4/22/2021
PFBA	<20 X	<25 X
PFPeA	<4.0	<3.9
PFHxA	**3.1**	<1.9
PFBS	<2.0	<1.9
PFHpA	<2.0	**1.5 J**
PFPeS	<2.0	<1.9
6:2 FTSA	<2.0	<1.9
PFOA	**1.9 J**	**3.8**
PFHxS	<2.0	<1.9
PFNA	<2.0	<1.9
PFHpS	<2.0	<1.9
EtFOSAA	<4.0	<3.9
PFOS	**6.5**	**3.3**
FOSA	<2.0	<1.9
HFPO-DA	<2.0	<1.9
Total PFAS	**11.5**	**8.6**

Well/Sample:	OBG OS MW-3
Sample Date:	4/23/2021
PFBA	<24 X
PFPeA	<3.9
PFHxA	**3.6**
PFBS	**2.2**
PFHpA	**2.4**
PFPeS	<2.0
6:2 FTSA	<2.0
PFOA	**10**
PFHxS	**1.7 J**
PFNA	<2.0
PFHpS	<2.0
EtFOSAA	**13**
PFOS	**36**
FOSA	**5.4**
HFPO-DA	<9.9
Total PFAS	**74.3**

Well/Sample:	OBG MW-10	OBG MW-10	OBG MW-10
Sample Date:	7/2/2020	11/2/2020	4/26/2021
PFBA	**26 U**	<49 X	<42 X
PFPeA	<3.9	**1.4 J**	<4.2
PFHxA	<2.0	**1.6 J**	<2.6 X
PFBS	**1.4**	<2.0	**1.6 J**
PFHpA	<2.0	**1.7 J**	<2.1
PFPeS	<2.0	<2.0	<2.1
6:2 FTSA	<2.0	<2.0	<2.1
PFOA	**9.6**	**9.6**	**9.8**
PFHxS	<2.0	<2.0	<2.1
PFNA	<2.0	<2.0	<2.1
PFHpS	<2.0	<2.0	<2.1
EtFOSAA	**5.6**	<4.9 X	**6.9**
PFOS	**16**	**17**	**14**
FOSA	<2.0	<2.0	<2.1
HFPO-DA	<2.0	<2.0	<10
Total PFAS	**32.6**	**31.3**	**32.3**

Well/Sample:	MW-403	MW-403
Sample Date:	11/2/2020	4/23/2021
PFBA	<16 X	<10
PFPeA	<4.1	<4.2
PFHxA	**1.6 J**	<2.1
PFBS	<2.1	<2.1
PFHpA	**2.1**	**2.0 J**
PFPeS	<2.1	<2.1
6:2 FTSA	<2.1	**240**
PFOA	**25**	**19**
PFHxS	**3.6**	**2.2**
PFNA	<2.1	**2.1**
PFHpS	**7.3**	**2.7**
EtFOSAA	**75**	**61**
PFOS	**960**	**450**
FOSA	**32**	**33**
HFPO-DA	<2.1	<10
Total PFAS	**1106.6**	**812.0**

Well/Sample:	OBG MW-9	OBG MW-9
Sample Date:	10/29/2020	4/22/2021
PFBA	<10.0	<10.0
PFPeA	<4.0	<4.0
PFHxA	<2.0	<2.0
PFBS	**2.2**	**2.3**
PFHpA	<2.0	<2.0
PFPeS	<2.0	<2.0
6:2 FTSA	<2.0	<2.0
PFOA	<2.0	<2.0
PFHxS	<2.0	<2.0
PFNA	<2.0	<2.0
PFHpS	<2.0	<2.0
EtFOSAA	<4.0	<4.0
PFOS	<2.0	<2.0
FOSA	<2.0	<2.0
HFPO-DA	<2.0	<10.0
Total PFAS	**2.2**	**2.3**

Well/Sample:	OBG MW-8	OBG MW-8	OBG MW-8
Sample Date:	6/30/2020	10/29/2020	4/22/2021
PFBA	**25 U**	<10	<10
PFPeA	<4.1	<4.1	<4.0
PFHxA	<2.1	<2.1	<2.0
PFBS	<2.1	**1.8 J**	**1.6 J**
PFHpA	<2.1	<2.1	<2.0
PFPeS	<2.1	<2.1	<2.0
6:2 FTSA	<2.1	<2.1	<2.0
PFOA	<2.1	**1.8 J**	**1.7 J**
PFHxS	<2.1	<2.1	<2.0
PFNA	<2.1	<2.1	<2.0
PFHpS	<2.1	<2.1	<2.0
EtFOSAA	<4.1	<4.1	<4.0
PFOS	<2.1	<2.1	<2.0
FOSA	<2.1	<2.1	<2.0
HFPO-DA	<2.1	<2.1	<10
Total PFAS	**0.0**	**3.6**	**3.3**

Well/Sample:	OBG OS MW-4
Sample Date:	4/23/2021
PFBA	<26 X
PFPeA	<4.0
PFHxA	<2.0
PFBS	<2.0
PFHpA	<2.0
PFPeS	<2.0
6:2 FTSA	<2.0
PFOA	**2.6**
PFHxS	<2.0
PFNA	<2.0
PFHpS	<2.0
EtFOSAA	**6.3**
PFOS	**3.6**
FOSA	<2.0
HFPO-DA	<10
Total PFAS	**12.5**

Per-and Polyfluoroalkyl Substances (PFAS)	EGLE Drinking Water Maximum Contaminant Levels (MCLs)
Perfluorobutanoic Acid (PFBA)	--
Perfluoropentanoic Acid (PFPeA)	--
Perfluorohexanoic Acid (PFHxA)	**400000**
Perfluorobutane Sulfonic Acid (PFBS)	**420**
Perfluoroheptanoic Acid (PFHpA)	--
Perfluoropentane Sulfonic Acid (PFPeS)	--
6:2 Fluorotelomer Sulfonic Acid (6:2 FTSA)	--
Perfluorooctanoic Acid (**PFOA**)	**8**
Perfluorohexane Sulfonic Acid (PFHxS)	**51**
Perfluorononanoic Acid (PFNA)	**6**
Perfluoroheptane Sulfonic Acid (PFHpS)	--
N-Ethyl Perfluorooctane Sulfonamidoacetic Acid (EtFOSAA)	--
Perfluorooctane Sulfonic Acid (**PFOS**)	**16**
Perfluorooctane Sulfonamide (FOSA)	--
Total Per-and Polyfluoroalkyl Substances	--

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Dup = Duplicate sample.
6) Concentrations above EGLE Drinking Water Maximum Contaminant Levels (MCLs) and cleanup criteria are highlighted in yellow.
7) According to Merit, the detection of PFBA in Field Blank-062920, Field Blank-070120, and Field Blank-070220 was caused from the laboratory centrifuge tubes leaching PFBA to the sample during the extraction process. A 5X Rule was applied to PFBA detections. Sample results less than 5 times the associated blank concentration (5X Rule) were qualified "U," undetected.
8) J - Estimated value less than reporting limit, but greater than MDL.
9) X - Elevated reporting limit due to matrix interference.

Well/Sample:	OBG MW-3	OBG MW-3
Sample Date:	6/30/2020	10/28/2020
PFBA	**33 U**	<10
PFPeA	**4.1**	**2.0 J**
PFHxA	**2.7**	<2.0
PFBS	**3.8**	**3.8**
PFHpA	**2.2**	<2.0
PFPeS	<1.9	<2.0
6:2 FTSA	<1.9	<2.0
PFOA	**4.2**	**4.4**
PFHxS	<1.9	<2.0
PFNA	<1.9	<2.0
PFHpS	<1.9	<2.0
EtFOSAA	<3.9	<4.1
PFOS	<1.9	<2.0
FOSA	<1.9	<2.0
HFPO-DA	<1.9	<2.0
Total PFAS	**17.0**	**10.2**

Well/Sample:	OBG MW-4S	OBG MW-4S LNAPL	OBG MW-4S	OBG MW-4S LNAPL
Sample Date:	11/2/2020	11/2/2020	4/26/2021	4/26/2021
PFBA	<150 X	<650	<10	<630 1
PFPeA	<4.2	<330	<4.2	<320 1
PFHxA	<2.1	<330	<2.1	<320 1
PFBS	<2.1	<330	<2.1	<320 1
PFHpA	<2.1	<330	<2.1	<320 1
PFPeS	<2.1	<330	<2.1	<320 1
6:2 FTSA	<2.1	<330	<2.1	<320 1
PFOA	**4.5**	<330	**2.9**	<320 1
PFHxS	<2.1	<330	<2.1	<320 1
PFNA	<2.1	<330	<2.1	<320 1
PFHpS	<2.1	<330	<2.1	<320 1
EtFOSAA	<4.2	<330	<4.2	<320 1
PFOS	**3.9**	<330	**2.2**	<320 1
FOSA	<2.1	<330	<2.1	<320 1
HFPO-DA	<2.1	<330	<10	<320 1
Total PFAS	**8.4**	**0.0**	**5.1**	**0.0**

Well/Sample:	MW-401	MW-401 LNAPL	MW-401	MW-401 LNAPL
Sample Date:	11/2/2020	11/2/2020	4/27/2021	4/27/2021
PFBA	<18 X	<920	<10	<970 1
PFPeA	<4.1	<460	<4.1	<480 1
PFHxA	<2.0	<460	**2.0 J**	<480 1
PFBS	<2.0	<460	<2.1	<480 1
PFHpA	<2.0	<460	<2.1	<480 1
PFPeS	<2.0	<460	<2.1	<480 1
6:2 FTSA	<2.0	<460	<2.1	<480 1
PFOA	<2.0	<460	<2.1	<480 1
PFHxS	<2.0	<460	<2.1	<480 1
PFNA	<2.0	<460	<2.1	<480 1
PFHpS	<2.0	<460	<2.1	<480 1
EtFOSAA	<4.1	**520**	<4.1	<480 1
PFOS	<2.0	**320 J**	<2.1	**99 J1**
FOSA	<2.0	<460	<2.1	<480 1
HFPO-DA	<2.0	<460	<10	<480 1
Total PFAS	**0.0**	**840.0**	**2.0**	**99.0**

Well/Sample:	OBG OS MW-5
Sample Date:	4/23/2021
PFBA	<21 X
PFPeA	**3.6 J**
PFHxA	**3.4**
PFBS	<2.1
PFHpA	**1.8 J**
PFPeS	<2.1
6:2 FTSA	<2.1
PFOA	**2.8**
PFHxS	<2.1
PFNA	<2.1
PFHpS	<2.1
EtFOSAA	<4.1
PFOS	<2.1
FOSA	<2.1
HFPO-DA	<10
Total PFAS	**11.6**

LEGEND
- MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)
- MONITORING WELL LOCATION (SCREENED IN FILL)
- PFAS SAMPLE LOCATION
- FENCE LINE
- APPROXIMATE EXTENT OF WASTE FILL ONSITE

0 50 100 Feet

PFAS SAMPLE RESULTS

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

FIGURE 03

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

MONITORING WELL LOCATION (SCREENED IN FILL)

MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)

SHALLOW GROUNDWATER ELEVATION CONTOUR

FENCE LINE

APPROXIMATE EXTENT OF WASTE FILL ONSITE

0 50 100 Feet

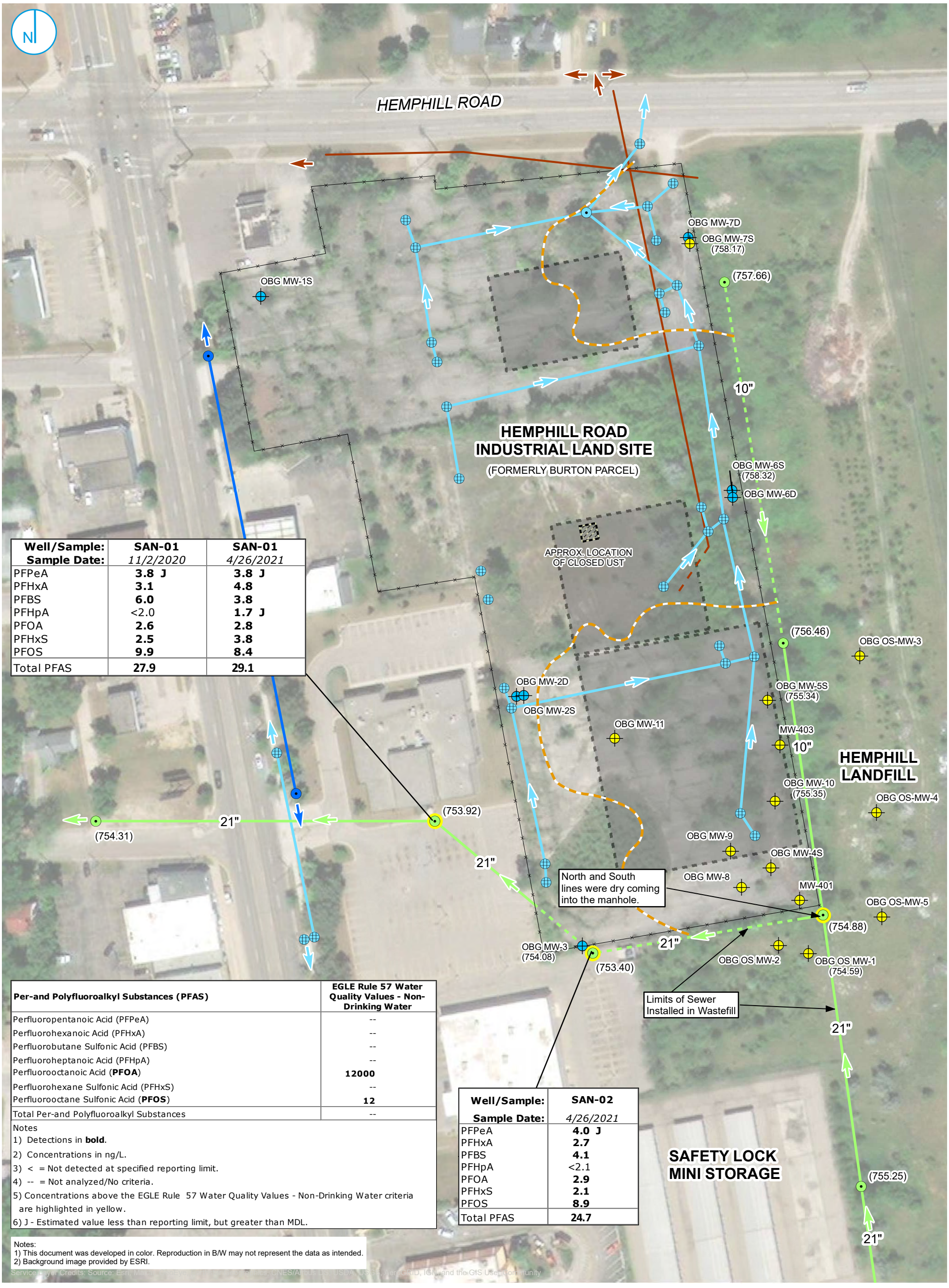
INTERPRETED SHALLOW GROUNDWATER ELEVATION CONTOURS APRIL 21, 2021

FIGURE 04

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

RAMBOLL US CORPORATION
A RAMBOLL COMPANY

RAMBOLL



Well/Sample:	SAN-01	SAN-01
Sample Date:	*11/2/2020*	*4/26/2021*
PFPeA	**3.8 J**	**3.8 J**
PFHxA	**3.1**	**4.8**
PFBS	**6.0**	**3.8**
PFHpA	<2.0	**1.7 J**
PFOA	**2.6**	**2.8**
PFHxS	**2.5**	**3.8**
PFOS	**9.9**	**8.4**
Total PFAS	**27.9**	**29.1**

Well/Sample:	SAN-02
Sample Date:	*4/26/2021*
PFPeA	**4.0 J**
PFHxA	**2.7**
PFBS	**4.1**
PFHpA	<2.1
PFOA	**2.9**
PFHxS	**2.1**
PFOS	**8.9**
Total PFAS	**24.7**

Per-and Polyfluoroalkyl Substances (PFAS)	EGLE Rule 57 Water Quality Values - Non-Drinking Water
Perfluoropentanoic Acid (PFPeA)	--
Perfluorohexanoic Acid (PFHxA)	--
Perfluorobutane Sulfonic Acid (PFBS)	--
Perfluoroheptanoic Acid (PFHpA)	--
Perfluorooctanoic Acid (**PFOA**)	**12000**
Perfluorohexane Sulfonic Acid (PFHxS)	--
Perfluorooctane Sulfonic Acid (**PFOS**)	**12**
Total Per-and Polyfluoroalkyl Substances	--

Notes
1) Detections in **bold**.
2) Concentrations in ng/L.
3) < = Not detected at specified reporting limit.
4) -- = Not analyzed/No criteria.
5) Concentrations above the EGLE Rule 57 Water Quality Values - Non-Drinking Water criteria are highlighted in yellow.
6) J - Estimated value less than reporting limit, but greater than MDL.

Notes:
1) This document was developed in color. Reproduction in B/W may not represent the data as intended.
2) Background image provided by ESRI.

STORM SEWER LINE
SANITARY SEWER LINE (DIAMETER - 21")
INSTALLED BELOW THE WATER TABLE
WATER LINE
MANHOLE (HIGHLIGHTED MANHOLE INDICATES PROPOSED SAMPLE)
CATCH BASIN
ELECTRICAL LINE (ABOVE/BELOW)
FENCE LINE
FORMER BUILDING
APPROXIMATE EXTENT OF WASTE FILL ONSITE

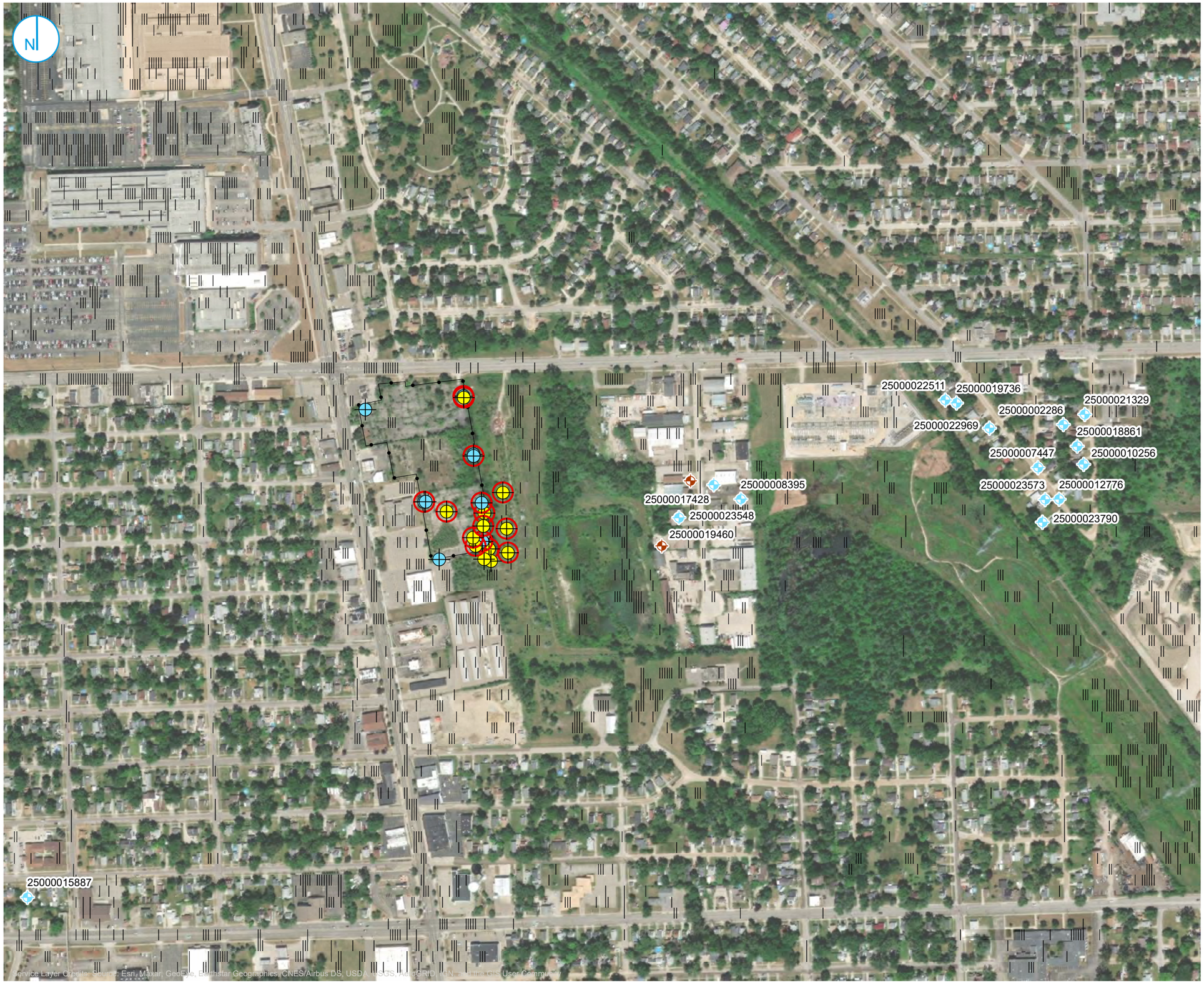
0 50 100 Feet

SITE UTILITY LAYOUT

Racer Trust
Hemphill Road Industrial Land
Burton, Michigan

FIGURE 05

RAMBOLL US CORPORATION
A RAMBOLL COMPANY



LEGEND

- MONITORING WELL LOCATION (SCREENED IN NATIVE SOIL)
- MONITORING WELL LOCATION (SCREENED IN FILL)
- DRIFT AQUIFER WELL LOCATION
- BEDROCK AQUIFER WELL LOCATION
- PFAS SAMPLE LOCATION
- FENCE LINE

0 225 450
Feet

PFAS SAMPLE LOCATIONS AND PRIVATE WELLS

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

FIGURE 06

RAMBOLL US CORPORATION
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I:\Racer-Trust.1088190\GIS\Hemphill Road\MXD\April 2021 PFAS Summary Report\006 - Figure 6 - PFAS Sample Locations and Private Wells.mxd

PROJECT: 1940075237 | DATED: 5/19/2021 | DESIGNER: MONETANT

RAMBOLL

ENVIRONMENT
& HEALTH

ATTACHMENT A
ANALYTICAL REPORTS

Analytical Laboratory Report

Report ID: S23440.01(01)
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Addtional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S23440.01-S23440.05
Project: RACER Hemphill Rd. Industrial Land
Collected Date(s): 04/21/2021 - 04/22/2021
Submitted Date/Time: 04/22/2021 13:20
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23440.01	Field Blank-042121	Liquid	04/21/21 15:20
S23440.02	OBG MW-2D	Groundwater	04/21/21 15:22
S23440.03	OBG MW-7D	Groundwater	04/21/21 16:58
S23440.04	OBG MW-6D	Groundwater	04/22/21 11:22
S23440.05	OBG MW-11	Groundwater	04/22/21 12:27

Analytical Laboratory Report

Lab Sample ID: S23440.01
Sample Tag: Field Blank-042121
Collected Date/Time: 04/21/2021 15:20
Matrix: Liquid
COC Reference: 137308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.46/6.83/11	ASTMD7979-19M	04/23/21 16:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/26/21 14:18, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.8	9.8	ng/L	1.95	375-22-4	
PFPeA*	Not detected	3.9	0.98	ng/L	1.95	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.95	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.95	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.95	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.95	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.95	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.95	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.95	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.95	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.95	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.95	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.95	375-95-1	
8:2 FTSA*	Not detected	2.0	0.98	ng/L	1.95	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.95	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.95	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.95	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.95	2991-50-6	
PFOS*	Not detected	2.0	1.9	ng/L	1.95	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.95	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.95	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.95	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.95	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.95	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.95	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.95	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.95	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.95	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.95	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.95	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.95	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.95	13252-13-6	

Lab Sample ID: S23440.02
Sample Tag: OBG MW-2D
Collected Date/Time: 04/21/2021 15:22
Matrix: Groundwater
COC Reference: 137308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.54/7.08/11	ASTMD7979-19M	04/23/21 16:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/26/21 14:38, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.01	375-22-4	
PFPeA*	Not detected	4.0	1.0	ng/L	2.01	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.01	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.01	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.01	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.01	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.01	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.01	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2.01	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.01	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.01	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.01	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.01	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.01	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.01	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.01	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.01	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.01	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.01	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.01	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.01	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.01	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.01	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.01	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.01	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.01	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.01	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.01	13252-13-6	

Lab Sample ID: S23440.03
Sample Tag: OBG MW-7D
Collected Date/Time: 04/21/2021 16:58
Matrix: Groundwater
COC Reference: 137308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.47/6.90/11	ASTMD7979-19M	04/23/21 16:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/26/21 14:57, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	9.9	ng/L	1.97	375-22-4	
PFPeA*	Not detected	3.9	0.99	ng/L	1.97	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.97	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.97	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.97	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.97	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.97	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.97	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.97	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.97	2355-31-9	
EtFOSAA*	Not detected	3.9	2.0	ng/L	1.97	2991-50-6	
PFOS*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.97	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.97	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.97	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.97	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.97	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.97	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.97	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.97	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.97	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.97	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.97	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	1.97	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S23440.04
Sample Tag: OBG MW-6D
Collected Date/Time: 04/22/2021 11:22
Matrix: Groundwater
COC Reference: 137308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.29/6.85/11	ASTMD7979-19M	04/23/21 16:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/26/21 15:17, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.02	375-22-4	
PFPeA*	1.7	4.0	1.0	ng/L	2.02	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.02	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.02	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.02	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.02	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.02	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.02	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	2.02	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.02	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.02	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.02	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.02	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.02	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.02	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.02	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.02	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.02	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.02	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.02	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.02	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.02	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.02	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.02	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.02	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.02	919005-14-4	
HFPO-DA*	Not detected	2.0	2.0	ng/L	2.02	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S23440.05
Sample Tag: OBG MW-11
Collected Date/Time: 04/22/2021 12:27
Matrix: Groundwater
COC Reference: 137308

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.57/6.87/11	ASTMD7979-19M	04/23/21 16:00	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/26/21 15:36, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	25	9.7	ng/L	1.93	375-22-4	X
PFPeA*	Not detected	3.9	0.97	ng/L	1.93	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.93	757124-72-4	
PFHxA*	Not detected	1.9	1.4	ng/L	1.93	307-24-4	
PFBS*	Not detected	1.9	1.4	ng/L	1.93	375-73-5	
PFHpA*	1.5	1.9	1.4	ng/L	1.93	375-85-9	J
PFPeS*	Not detected	1.9	1.7	ng/L	1.93	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.93	27619-97-2	
PFOA*	3.8	1.9	1.5	ng/L	1.93	335-67-1	
PFHxS*	Not detected	1.9	1.5	ng/L	1.93	355-46-4	
PFHxS-LN*	Not detected	1.9	1.5	ng/L	1.93	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.93	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.93	375-95-1	
8:2 FTSA*	Not detected	1.9	0.97	ng/L	1.93	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.93	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.93	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.93	2355-31-9	
EtFOSAA*	Not detected	3.9	1.9	ng/L	1.93	2991-50-6	
PFOS*	3.3	1.9	1.9	ng/L	1.93	1763-23-1	
PFOS-LN*	Not detected	1.9	1.9	ng/L	1.93	1763-23-1-LN	
PFOS-BR*	2.3	1.9	1.9	ng/L	1.93	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.93	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.93	68259-12-1	
PFDoDA*	Not detected	1.9	1.5	ng/L	1.93	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.93	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.93	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.93	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.93	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.93	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.93	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.93	919005-14-4	
HFPO-DA*	Not detected	1.9	1.9	ng/L	1.93	13252-13-6	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories Login Checklist

Lab Set ID: S23440
Client: OBG02 (Ramboll Americas - East Lansing, MI)
Project: RACER Hemphill Rd. Industrial Land
Submitted: 04/22/2021 13:20 Login User: SRS

Attention: Clifford Yantz
Address: Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.6
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[ ] Yes	[ ] No	[X] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

137308

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court Ste 760
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: clifford.Yantz@Ramboll.com / kevin.schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (3rd)	Special Instructions
23440.01	4/21/21	1520	Field Blank - 042121	QC	1	1							X	Low Level Reporting
.02	↓	1522	OBG MW-2D	GW	3	3							X	Limit with Estimated
.03	↓	1658	OBG MW-7D	GW	3	3							X	Values
.04	4/22/21	1122	OBG MW-6D	GW	3	3							X	
.05	4/22/21	1227	OBG MW-11	GW	3	3							X	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 4/22/21	TIME 1230	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/22/21	TIME 1042	
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/22/21	TIME 1320	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/22/21	TIME 1320	

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 4.6
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S23440-01
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S23440.01-S23440.05
Project: RACER Hemphill Rd. Industrial Land
Submitted Date/Time: 04/22/2021 13:20
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

QC Report Sections

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S23440.01

Sample Tag: Field Blank-042121

Collected Date/Time: 04/21/2021 15:20

Matrix: Liquid

COC Reference: 137308

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/26/21 14:18	AK210426	PF210423W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23440.02
Sample Tag: OBG MW-2D
Collected Date/Time: 04/21/2021 15:22
Matrix: Groundwater
COC Reference: 137308

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/26/21 14:38	AK210426	PF210423W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23440.03
Sample Tag: OBG MW-7D
Collected Date/Time: 04/21/2021 16:58
Matrix: Groundwater
COC Reference: 137308

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/26/21 14:57	AK210426	PF210423W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23440.04

Sample Tag: OBG MW-6D

Collected Date/Time: 04/22/2021 11:22

Matrix: Groundwater

COC Reference: 137308

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/26/21 15:17	AK210426	PF210423W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23440.05

Sample Tag: OBG MW-11

Collected Date/Time: 04/22/2021 12:27

Matrix: Groundwater

COC Reference: 137308

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/26/21 15:36	AK210426	PF210423W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF210423W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23440.01	28 PFAs	ASTMD7979-19M	04/26/21 14:18	AK210426
S23440.02	28 PFAs	ASTMD7979-19M	04/26/21 14:38	AK210426
S23440.03	28 PFAs	ASTMD7979-19M	04/26/21 14:57	AK210426
S23440.04	28 PFAs	ASTMD7979-19M	04/26/21 15:17	AK210426
S23440.05	28 PFAs	ASTMD7979-19M	04/26/21 15:36	AK210426

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23440.01

Sample Tag: Field Blank-042121

Collected Date/Time: 04/21/2021 15:20

Matrix: Liquid

COC Reference: 137308

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210426, Run Date: 04/26/2021 14:18, Matrix: WW, Dilution: 1.95

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**75.9**	50.0	150.0
M2-6:2FTSA		**72.9**	50.0	150.0
M2-8:2FTSA		**77.6**	50.0	150.0
M2PFTeDA		**93.2**	12.0	218.0
M3PFBS		**101.2**	50.0	150.0
M3PFHxS		**101.3**	50.0	150.0
M4PFHpA		**108.6**	50.0	150.0
M5PFHxA		**102.9**	50.0	150.0
M5PFPeA		**104.0**	50.0	150.0
M6PFDA		**108.4**	50.0	150.0
M7PFUnDA		**101.2**	50.0	150.0
M8FOSA		**98.4**	50.0	150.0
M8PFOA		**107.6**	50.0	150.0
M8PFOS		**105.2**	50.0	150.0
M9-PFNA		**105.3**	50.0	150.0
MPFBA		**101.2**	50.0	150.0
MPFDoDA		**96.2**	50.0	150.0
d3N-MeFOSAA		**102.3**	50.0	150.0
d5EtFOSAA		**93.2**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23440.02

Sample Tag: OBG MW-2D

Collected Date/Time: 04/21/2021 15:22

Matrix: Groundwater

COC Reference: 137308

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210426, Run Date: 04/26/2021 14:38, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**79.0**	50.0	150.0
M2-6:2FTSA		**74.9**	50.0	150.0
M2-8:2FTSA		**81.7**	50.0	150.0
M2PFTeDA		**115.4**	12.0	218.0
M3PFBS		**105.4**	50.0	150.0
M3PFHxS		**106.3**	50.0	150.0
M4PFHpA		**102.3**	50.0	150.0
M5PFHxA		**103.9**	50.0	150.0
M5PFPeA		**103.3**	50.0	150.0
M6PFDA		**114.3**	50.0	150.0
M7PFUnDA		**102.1**	50.0	150.0
M8FOSA		**102.9**	50.0	150.0
M8PFOA		**107.9**	50.0	150.0
M8PFOS		**93.1**	50.0	150.0
M9-PFNA		**105.4**	50.0	150.0
MPFBA		**101.6**	50.0	150.0
MPFDoDA		**107.0**	50.0	150.0
d3N-MeFOSAA		**109.8**	50.0	150.0
d5EtFOSAA		**96.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23440.03

Sample Tag: OBG MW-7D

Collected Date/Time: 04/21/2021 16:58

Matrix: Groundwater

COC Reference: 137308

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210426, Run Date: 04/26/2021 14:57, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**77.6**	50.0	150.0
M2-6:2FTSA		**65.6**	50.0	150.0
M2-8:2FTSA		**67.9**	50.0	150.0
M2PFTeDA		**100.2**	12.0	218.0
M3PFBS		**105.2**	50.0	150.0
M3PFHxS		**90.7**	50.0	150.0
M4PFHpA		**99.0**	50.0	150.0
M5PFHxA		**101.1**	50.0	150.0
M5PFPeA		**101.8**	50.0	150.0
M6PFDA		**112.2**	50.0	150.0
M7PFUnDA		**98.9**	50.0	150.0
M8FOSA		**97.7**	50.0	150.0
M8PFOA		**96.0**	50.0	150.0
M8PFOS		**102.8**	50.0	150.0
M9-PFNA		**104.3**	50.0	150.0
MPFBA		**100.9**	50.0	150.0
MPFDoDA		**99.4**	50.0	150.0
d3N-MeFOSAA		**106.3**	50.0	150.0
d5EtFOSAA		**86.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23440.04

Sample Tag: OBG MW-6D

Collected Date/Time: 04/22/2021 11:22

Matrix: Groundwater

COC Reference: 137308

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210426, Run Date: 04/26/2021 15:17, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**73.1**	50.0	150.0
M2-6:2FTSA		**66.3**	50.0	150.0
M2-8:2FTSA		**70.7**	50.0	150.0
M2PFTeDA		**116.4**	12.0	218.0
M3PFBS		**104.4**	50.0	150.0
M3PFHxS		**96.8**	50.0	150.0
M4PFHpA		**92.8**	50.0	150.0
M5PFHxA		**97.3**	50.0	150.0
M5PFPeA		**99.2**	50.0	150.0
M6PFDA		**106.8**	50.0	150.0
M7PFUnDA		**97.5**	50.0	150.0
M8FOSA		**103.2**	50.0	150.0
M8PFOA		**104.6**	50.0	150.0
M8PFOS		**102.6**	50.0	150.0
M9-PFNA		**99.4**	50.0	150.0
MPFBA		**100.5**	50.0	150.0
MPFDoDA		**101.3**	50.0	150.0
d3N-MeFOSAA		**90.2**	50.0	150.0
d5EtFOSAA		**83.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23440.05

Sample Tag: OBG MW-11

Collected Date/Time: 04/22/2021 12:27

Matrix: Groundwater

COC Reference: 137308

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210426, Run Date: 04/26/2021 15:36, Matrix: WW, Dilution: 1.93

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**107.6**	50.0	150.0
M2-6:2FTSA		**84.4**	50.0	150.0
M2-8:2FTSA		**81.9**	50.0	150.0
M2PFTeDA		**60.8**	12.0	218.0
M3PFBS		**108.6**	50.0	150.0
M3PFHxS		**103.4**	50.0	150.0
M4PFHpA		**101.6**	50.0	150.0
M5PFHxA		**101.0**	50.0	150.0
M5PFPeA		**105.5**	50.0	150.0
M6PFDA		**104.2**	50.0	150.0
M7PFUnDA		**105.3**	50.0	150.0
M8FOSA		**103.7**	50.0	150.0
M8PFOA		**101.8**	50.0	150.0
M8PFOS		**99.5**	50.0	150.0
M9-PFNA		**102.2**	50.0	150.0
MPFBA		**110.7**	50.0	150.0
MPFDoDA		**93.3**	50.0	150.0
d3N-MeFOSAA		**82.4**	50.0	150.0
d5EtFOSAA		**88.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210423W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ210423W.BLK210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 20:05, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**117.0**	50.0	150.0
M2-6:2FTSA		**122.8**	50.0	150.0
M2-8:2FTSA		**102.1**	50.0	150.0
M2PFTeDA		**95.3**	12.0	218.0
M3PFBS		**111.2**	50.0	150.0
M3PFHxS		**110.0**	50.0	150.0
M4PFHpA		**110.7**	50.0	150.0
M5PFHxA		**122.4**	50.0	150.0
M5PFPeA		**111.3**	50.0	150.0
M6PFDA		**109.0**	50.0	150.0
M7PFUnDA		**82.9**	50.0	150.0
M8FOSA		**116.9**	50.0	150.0
M8PFOA		**138.1**	50.0	150.0
M8PFOS		**92.1**	50.0	150.0
M9-PFNA		**104.4**	50.0	150.0
MPFBA		**106.3**	50.0	150.0
MPFDoDA		**93.0**	50.0	150.0
d3N-MeFOSAA		**97.9**	50.0	150.0
d5EtFOSAA		**97.9**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: DQ210423W.LCS210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 19:26, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**112.8**	50.0	150.0
M2-6:2FTSA		**120.7**	50.0	150.0
M2-8:2FTSA		**121.3**	50.0	150.0
M2PFTeDA		**92.4**	12.0	218.0
M3PFBS		**111.8**	50.0	150.0
M3PFHxS		**103.9**	50.0	150.0
M4PFHpA		**106.6**	50.0	150.0
M5PFHxA		**111.3**	50.0	150.0
M5PFPeA		**106.9**	50.0	150.0
M6PFDA		**105.3**	50.0	150.0
M7PFUnDA		**84.5**	50.0	150.0
M8FOSA		**110.1**	50.0	150.0
M8PFOA		**136.8**	50.0	150.0
M8PFOS		**86.6**	50.0	150.0
M9-PFNA		**119.0**	50.0	150.0
MPFBA		**105.4**	50.0	150.0
MPFDoDA		**96.3**	50.0	150.0
d3N-MeFOSAA		**99.7**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ210423W.LCSD210423WB, Parent Sample ID: DQ210423W.LCS210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 19:46, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**109.7**	50.0	150.0
M2-6:2FTSA		**105.2**	50.0	150.0
M2-8:2FTSA		**113.3**	50.0	150.0
M2PFTeDA		**86.8**	12.0	218.0
M3PFBS		**102.2**	50.0	150.0
M3PFHxS		**95.6**	50.0	150.0
M4PFHpA		**103.9**	50.0	150.0
M5PFHxA		**115.5**	50.0	150.0
M5PFPeA		**111.0**	50.0	150.0
M6PFDA		**94.0**	50.0	150.0
M7PFUnDA		**74.8**	50.0	150.0
M8FOSA		**109.0**	50.0	150.0
M8PFOA		**140.8**	50.0	150.0
M8PFOS		**93.9**	50.0	150.0
M9-PFNA		**121.9**	50.0	150.0
MPFBA		**105.4**	50.0	150.0
MPFDoDA		**96.8**	50.0	150.0
d3N-MeFOSAA		**89.1**	50.0	150.0
d5EtFOSAA		**76.9**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: DQ210423W.2344002M, Parent Sample ID: S23440.02

Run in Batch: DQ210423W, Run Date: 04/23/2021 23:59, Prep Date: 04/23/2021, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**108.4**	50.0	150.0
M2-6:2FTSA		**118.7**	50.0	150.0
M2-8:2FTSA		**113.9**	50.0	150.0
M2PFTeDA		**93.5**	12.0	218.0
M3PFBS		**112.1**	50.0	150.0
M3PFHxS		**118.6**	50.0	150.0
M4PFHpA		**109.4**	50.0	150.0
M5PFHxA		**132.7**	50.0	150.0
M5PFPeA		**115.2**	50.0	150.0
M6PFDA		**112.9**	50.0	150.0
M7PFUnDA		**86.5**	50.0	150.0
M8FOSA		**122.9**	50.0	150.0
M8PFOA		**132.9**	50.0	150.0
M8PFOS		**100.5**	50.0	150.0
M9-PFNA		**115.4**	50.0	150.0
MPFBA		**115.5**	50.0	150.0
MPFDoDA		**97.6**	50.0	150.0
d3N-MeFOSAA		**107.9**	50.0	150.0
d5EtFOSAA		**100.6**	50.0	150.0

QC Report - Internal Standards per QC Sample

Duplicate (DUP)

Lab Sample ID: DQ210423W.2344003D, Parent Sample ID: S23440.03

Run in Batch: DQ210423W, Run Date: 04/24/2021 00:38, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**104.6**	50.0	150.0
M2-6:2FTSA		**119.6**	50.0	150.0
M2-8:2FTSA		**114.8**	50.0	150.0
M2PFTeDA		**85.9**	12.0	218.0
M3PFBS		**105.9**	50.0	150.0
M3PFHxS		**100.4**	50.0	150.0
M4PFHpA		**106.7**	50.0	150.0
M5PFHxA		**115.6**	50.0	150.0
M5PFPeA		**106.2**	50.0	150.0
M6PFDA		**100.4**	50.0	150.0
M7PFUnDA		**81.0**	50.0	150.0
M8FOSA		**114.6**	50.0	150.0
M8PFOA		**128.9**	50.0	150.0
M8PFOS		**88.5**	50.0	150.0
M9-PFNA		**108.2**	50.0	150.0
MPFBA		**105.8**	50.0	150.0
MPFDoDA		**90.2**	50.0	150.0
d3N-MeFOSAA		**86.5**	50.0	150.0
d5EtFOSAA		**101.6**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210423W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ210423W.BLK210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 20:05, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
HFPO-DA		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
ADONA		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
PFDA		ND	2	ng/l
PFOS		ND	2	ng/l
PFOS-BR		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS-LN		ND	2	ng/l
PFUnDA		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
11CL-PF3OUdS		ND	2	ng/l
PFTeDA		ND	4	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: DQ210423W.LCS210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 19:26, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		94.8	70.0	130.0
PFPeA		90.6	70.0	130.0
4:2 FTSA		93.5	70.0	130.0
PFHxA		94.2	70.0	130.0
PFBS		90.4	70.0	130.0
HFPO-DA		102.0	70.0	130.0
PFHpA		92.7	70.0	130.0
PFPeS		93.3	70.0	130.0
ADONA		86.1	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210423W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: DQ210423W.LCS210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 19:26, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		89.3	70.0	130.0
PFOA		94.6	70.0	130.0
PFHxS		103.0	70.0	130.0
PFNA		77.1	70.0	130.0
8:2 FTSA		96.3	70.0	130.0
PFHpS		103.0	70.0	130.0
N-MeFOSAA		82.2	70.0	130.0
PFDA		114.0	70.0	130.0
PFOS		81.0	70.0	130.0
EtFOSAA		99.2	70.0	130.0
PFUnDA		106.0	70.0	130.0
9CL-PF3ONS		103.0	70.0	130.0
PFNS		107.0	70.0	130.0
PFDoDA		87.4	70.0	130.0
PFDS		108.0	70.0	130.0
PFTrDA		92.1	70.0	130.0
FOSA		109.0	70.0	130.0
11CL-PF3OUdS		83.7	70.0	130.0
PFTeDA		104.0	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ210423W.LCSD210423WB, Parent Sample ID: DQ210423W.LCS210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 19:46, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		95.6	70.0	130.0	0.8	30.0
PFPeA		90.1	70.0	130.0	0.6	30.0
4:2 FTSA		99.5	70.0	130.0	6.2	30.0
PFHxA		94.9	70.0	130.0	0.7	30.0
PFBS		98.8	70.0	130.0	8.9	30.0
HFPO-DA		94.2	70.0	130.0	8.0	30.0
PFHpA		90.5	70.0	130.0	2.4	30.0
PFPeS		99.8	70.0	130.0	6.7	30.0
ADONA		95.8	70.0	130.0	10.7	30.0
6:2 FTSA		112.0	70.0	130.0	22.6	30.0
PFOA		89.6	70.0	130.0	5.4	30.0
PFHxS		109.0	70.0	130.0	5.7	30.0
PFNA		81.6	70.0	130.0	5.7	30.0
8:2 FTSA		89.7	70.0	130.0	7.1	30.0
PFHpS		94.9	70.0	130.0	8.2	30.0
N-MeFOSAA		82.5	70.0	130.0	0.4	30.0
PFDA		105.0	70.0	130.0	8.2	30.0
PFOS		81.2	70.0	130.0	0.2	30.0
EtFOSAA		99.4	70.0	130.0	0.2	30.0
PFUnDA		111.0	70.0	130.0	4.6	30.0
9CL-PF3ONS		86.6	70.0	130.0	17.3	30.0
PFNS		96.9	70.0	130.0	9.9	30.0

Organics - Volatiles, Prep Batch ID: PF210423W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: DQ210423W.LCSD210423WB, Parent Sample ID: DQ210423W.LCS210423WB

Run in Batch: DQ210423W, Run Date: 04/23/2021 19:46, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		92.1	70.0	130.0	5.2	30.0
PFDS		96.9	70.0	130.0	10.8	30.0
PFTrDA		86.0	70.0	130.0	6.9	30.0
FOSA		120.0	70.0	130.0	9.6	30.0
11CL-PF3OUdS		81.0	70.0	130.0	3.3	30.0
PFTeDA		104.0	70.0	130.0	0.0	30.0

Matrix Spike (MS)

Lab Sample ID: DQ210423W.2344002M, Parent Sample ID: S23440.02

Run in Batch: DQ210423W, Run Date: 04/23/2021 23:59, Prep Date: 04/23/2021, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.0	70.0	130.0
PFPeA		98.0	70.0	130.0
4:2 FTSA		95.0	70.0	130.0
PFHxA		88.1	70.0	130.0
PFBS		99.0	70.0	130.0
PFHpA		99.0	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		99.0	70.0	130.0
PFOA		99.0	70.0	130.0
PFHxS		88.1	70.0	130.0
PFNA		92.1	70.0	130.0
8:2 FTSA		95.0	70.0	130.0
PFHpS		97.0	70.0	130.0
PFDA		108.9	70.0	130.0
N-MeFOSAA		84.2	70.0	130.0
EtFOSAA		94.1	70.0	130.0
PFOS		84.2	70.0	130.0
PFUnDA		108.9	70.0	130.0
PFNS		99.0	70.0	130.0
PFDoDA		98.0	70.0	130.0
PFDS		94.1	70.0	130.0
PFTrDA		92.1	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		108.9	70.0	130.0
11CL-PF3OUdS		77.2	70.0	130.0
9CL-PF3ONS		94.1	70.0	130.0
ADONA		99.0	70.0	130.0
HFPO-DA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: DQ210423W.2344003D, Parent Sample ID: S23440.03

Run in Batch: DQ210423W, Run Date: 04/24/2021 00:38, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1.97

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210423W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: DQ210423W.2344003D, Parent Sample ID: S23440.03

Run in Batch: DQ210423W, Run Date: 04/24/2021 00:38, Prep Date: 04/23/2021, Matrix: WW, Dilution: 1.97

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		NC	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
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C.O.C. PAGE # 1 OF 1

137308

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court Ste 760
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: clifford.Yantz@Ramboll.com / kevin.schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (3rd)	Special Instructions
23440.01	4/21/21	1520	Field Blank - 042121	QC	1	1							X	Low Level Reporting
.02	↓	1522	OBG MW-2D	GW	3	3							X	Limit with Estimated
.03	↓	1658	OBG MW-7D	GW	3	3							X	Values
.04	4/22/21	1122	OBG MW-6D	GW	3	3							X	
.05	4/22/21	1227	OBG MW-11	GW	3	3							X	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 4/22/21	TIME 1230	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/22/21	TIME 1042	
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/22/21	TIME 1320	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/22/21	TIME 1320	

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 4.6
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S23499.01(01)
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Addtional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S23499.01-S23499.07
Project: RACER Hemphill Rd. Industrial Land
Collected Date(s): 04/22/2021 - 04/23/2021
Submitted Date/Time: 04/23/2021 14:10
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23499.01	OBG MW-8	Groundwater	04/22/21 13:52
S23499.02	OBG MW-9	Groundwater	04/22/21 15:12
S23499.03	OBG MW-7s	Groundwater	04/22/21 16:48
S23499.04	Field Blank - 042221	Liquid	04/22/21 17:15
S23499.05	OBG OS MW-5	Groundwater	04/23/21 10:38
S23499.06	OBG OS MW-4	Groundwater	04/23/21 11:52
S23499.07	OBG OS MW-3	Groundwater	04/23/21 12:52

Analytical Laboratory Report

Lab Sample ID: S23499.01
Sample Tag: OBG MW-8
Collected Date/Time: 04/22/2021 13:52
Matrix: Groundwater
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.36/6.89/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/28/21 23:27, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.01	375-22-4	
PFPeA*	Not detected	4.0	1.0	ng/L	2.01	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.01	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.01	307-24-4	
PFBS*	1.6	2.0	1.4	ng/L	2.01	375-73-5	J
PFHpA*	Not detected	2.0	1.4	ng/L	2.01	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.01	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.01	27619-97-2	
PFOA*	1.7	2.0	1.6	ng/L	2.01	335-67-1	J
PFHxS*	Not detected	2.0	1.6	ng/L	2.01	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.01	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.01	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.01	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.01	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.01	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.01	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.01	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.01	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.01	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.01	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.01	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.01	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.01	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.01	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.01	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.01	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.01	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.01	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.01	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.01	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S23499.02
Sample Tag: OBG MW-9
Collected Date/Time: 04/22/2021 15:12
Matrix: Groundwater
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.31/6.79/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 00:06, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10.0	10.0	ng/L	1.99	375-22-4	
PFPeA*	Not detected	4.0	1.00	ng/L	1.99	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.99	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.99	307-24-4	
PFBS*	2.3	2.0	1.4	ng/L	1.99	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.99	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.99	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.99	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.99	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.99	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.99	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.99	375-95-1	
8:2 FTSA*	Not detected	2.0	1.00	ng/L	1.99	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.99	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.99	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.99	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.99	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	1.99	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.99	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.99	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.99	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.99	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.99	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.99	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.99	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.99	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.99	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.99	919005-14-4	
HFPO-DA*	Not detected	10.0	2.0	ng/L	1.99	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S23499.03
Sample Tag: OBG MW-7s
Collected Date/Time: 04/22/2021 16:48
Matrix: Groundwater
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.48/6.79/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 00:45, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.7	9.7	ng/L	1.93	375-22-4	
PFPeA*	Not detected	3.9	0.97	ng/L	1.93	2706-90-3	
4:2 FTSA*	Not detected	1.9	1.5	ng/L	1.93	757124-72-4	
PFHxA*	1.5	1.9	1.4	ng/L	1.93	307-24-4	J
PFBS*	1.7	1.9	1.4	ng/L	1.93	375-73-5	J
PFHpA*	1.9	1.9	1.4	ng/L	1.93	375-85-9	J
PFPeS*	Not detected	1.9	1.7	ng/L	1.93	2706-91-4	
6:2 FTSA*	Not detected	1.9	1.9	ng/L	1.93	27619-97-2	
PFOA*	19	1.9	1.5	ng/L	1.93	335-67-1	
PFHxS*	3.7	1.9	1.5	ng/L	1.93	355-46-4	
PFHxS-LN*	2.8	1.9	1.5	ng/L	1.93	355-46-4-LN	
PFHxS-BR*	Not detected	1.9	1.5	ng/L	1.93	355-46-4-BR	
PFNA*	Not detected	1.9	1.7	ng/L	1.93	375-95-1	
8:2 FTSA*	Not detected	1.9	0.97	ng/L	1.93	39108-34-4	
PFHpS*	Not detected	1.9	1.9	ng/L	1.93	375-92-8	
PFDA*	Not detected	1.9	1.9	ng/L	1.93	335-76-2	
N-MeFOSAA*	Not detected	1.9	1.9	ng/L	1.93	2355-31-9	
EtFOSAA*	7.4	3.9	1.9	ng/L	1.93	2991-50-6	
PFOS*	37	1.9	1.9	ng/L	1.93	1763-23-1	
PFOS-LN*	18	1.9	1.9	ng/L	1.93	1763-23-1-LN	
PFOS-BR*	19	1.9	1.9	ng/L	1.93	1763-23-1-BR	
PFUnDA*	Not detected	1.9	1.4	ng/L	1.93	2058-94-8	
PFNS*	Not detected	1.9	1.4	ng/L	1.93	68259-12-1	
PFDoDA*	Not detected	1.9	1.5	ng/L	1.93	307-55-1	
PFDS*	Not detected	1.9	1.4	ng/L	1.93	335-77-3	
PFTrDA*	Not detected	1.9	1.2	ng/L	1.93	72629-94-8	
FOSA*	Not detected	1.9	1.7	ng/L	1.93	754-91-6	
PFTeDA*	Not detected	3.9	1.7	ng/L	1.93	376-06-7	
11Cl-PF3OUdS*	Not detected	1.9	1.7	ng/L	1.93	763051-92-9	
9Cl-PF3ONS*	Not detected	1.9	1.4	ng/L	1.93	756426-58-1	
ADONA*	Not detected	1.9	1.9	ng/L	1.93	919005-14-4	
HFPO-DA*	Not detected	9.7	1.9	ng/L	1.93	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S23499.04
Sample Tag: Field Blank - 042221
Collected Date/Time: 04/22/2021 17:15
Matrix: Liquid
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.52/6.97/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 01:04, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	9.9	9.9	ng/L	1.98	375-22-4	
PFPeA*	Not detected	4.0	0.99	ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.98	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.98	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.98	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.98	27619-97-2	
PFOA*	Not detected	2.0	1.6	ng/L	1.98	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	1.98	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.98	2991-50-6	
PFOS*	Not detected	2.0	1.9	ng/L	1.98	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.98	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.98	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	9.9	2.0	ng/L	1.98	13252-13-6	

Lab Sample ID: S23499.05
Sample Tag: OBG OS MW-5
Collected Date/Time: 04/23/2021 10:38
Matrix: Groundwater
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.83/6.99/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 01:24, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	21	10	ng/L	2.05	375-22-4	X
PFPeA*	3.6	4.1	1.0	ng/L	2.05	2706-90-3	J
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.05	757124-72-4	
PFHxA*	3.4	2.1	1.4	ng/L	2.05	307-24-4	
PFBS*	Not detected	2.1	1.4	ng/L	2.05	375-73-5	
PFHpA*	1.8	2.1	1.4	ng/L	2.05	375-85-9	J
PFPeS*	Not detected	2.1	1.8	ng/L	2.05	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.05	27619-97-2	
PFOA*	2.8	2.1	1.6	ng/L	2.05	335-67-1	
PFHxS*	Not detected	2.1	1.6	ng/L	2.05	355-46-4	
PFHxS-LN*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.6	ng/L	2.05	355-46-4-BR	
PFNA*	Not detected	2.1	1.8	ng/L	2.05	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.05	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.05	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.05	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.05	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.05	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.05	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.05	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.05	68259-12-1	
PFDoDA*	Not detected	2.1	1.6	ng/L	2.05	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.05	335-77-3	
PFTrDA*	Not detected	2.1	1.2	ng/L	2.05	72629-94-8	
FOSA*	Not detected	2.1	1.8	ng/L	2.05	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.05	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.8	ng/L	2.05	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.05	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.05	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.05	13252-13-6	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S23499.06
Sample Tag: OBG OS MW-4
Collected Date/Time: 04/23/2021 11:52
Matrix: Groundwater
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.85/6.90/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 01:43, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	26	10	ng/L	2.02	375-22-4	X
PFPeA*	Not detected	4.0	1.0	ng/L	2.02	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.02	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.02	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.02	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.02	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.02	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.02	27619-97-2	
PFOA*	2.6	2.0	1.6	ng/L	2.02	335-67-1	
PFHxS*	Not detected	2.0	1.6	ng/L	2.02	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.02	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.02	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.02	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.02	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.02	2355-31-9	
EtFOSAA*	6.3	4.0	2.0	ng/L	2.02	2991-50-6	
PFOS*	3.6	2.0	2.0	ng/L	2.02	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.02	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.02	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.02	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.02	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.02	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.02	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.02	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.02	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.02	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.02	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.02	13252-13-6	

X-Elevated reporting limit due to matrix interference

Analytical Laboratory Report

Lab Sample ID: S23499.07
Sample Tag: OBG OS MW-3
Collected Date/Time: 04/23/2021 12:52
Matrix: Groundwater
COC Reference: 125028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.97/6.89/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 02:03, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	24	9.9	ng/L	1.97	375-22-4	X
PFPeA*	Not detected	3.9	0.99	ng/L	1.97	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.97	757124-72-4	
PFHxA*	3.6	2.0	1.4	ng/L	1.97	307-24-4	
PFBS*	2.2	2.0	1.4	ng/L	1.97	375-73-5	
PFHpA*	2.4	2.0	1.4	ng/L	1.97	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.97	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.97	27619-97-2	
PFOA*	10	2.0	1.6	ng/L	1.97	335-67-1	
PFHxS*	1.7	2.0	1.6	ng/L	1.97	355-46-4	J
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.97	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.97	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.97	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.97	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.97	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.97	2355-31-9	
EtFOSAA*	13	3.9	2.0	ng/L	1.97	2991-50-6	
PFOS*	36	2.0	1.9	ng/L	1.97	1763-23-1	
PFOS-LN*	25	2.0	1.9	ng/L	1.97	1763-23-1-LN	
PFOS-BR*	9.2	2.0	1.9	ng/L	1.97	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.97	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.97	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.97	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.97	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.97	72629-94-8	
FOSA*	5.4	2.0	1.8	ng/L	1.97	754-91-6	
PFTeDA*	Not detected	3.9	1.8	ng/L	1.97	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.97	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.97	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.97	919005-14-4	
HFPO-DA*	Not detected	9.9	2.0	ng/L	1.97	13252-13-6	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories Login Checklist

Lab Set ID: S23499
Client: OBG02 (Ramboll Americas - East Lansing, MI)
Project: RACER Hemphill Rd. Industrial Land
Submitted: 04/23/2021 14:10 Login User: REJ

Attention: Clifford Yantz
Address: Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 2.5
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

125028

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court Ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-533-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com/kevin.schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	ANALYSIS: DFAS (PFAS)	Special Instructions
28499.01	4/22/21	1352	OBG MW-8	GW	3	3							X	Low Level Reporting
.02		1512	OBG MW-9	GW	3	3							X	limit with estimated
.03		1648	OBG MW-7S	GW	3	3							X	values
.04		1715	Field Blank - 042221	QC	1	1							X	
.05	4/23/21	1038	OBG OS MW-5	GW	3	3							X	
.06		1152	OBG OS MW-4	GW	3	3							X	
.07		1252	OBG OS MW-3	GW	3	3							X	

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 4/23/21	TIME 13:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/23/21	TIME 13:30
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/23/21	TIME 14:10
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/23/21	TIME 1410

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 25

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S23499-01
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S23499.01-S23499.07
Project: RACER Hemphill Rd. Industrial Land
Submitted Date/Time: 04/23/2021 14:10
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

QC Report Sections

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S23499.01
Sample Tag: OBG MW-8
Collected Date/Time: 04/22/2021 13:52
Matrix: Groundwater
COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/28/21 23:27	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23499.02
Sample Tag: OBG MW-9
Collected Date/Time: 04/22/2021 15:12
Matrix: Groundwater
COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 00:06	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23499.03
Sample Tag: OBG MW-7s
Collected Date/Time: 04/22/2021 16:48
Matrix: Groundwater
COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 00:45	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23499.04

Sample Tag: Field Blank - 042221

Collected Date/Time: 04/22/2021 17:15

Matrix: Liquid

COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 01:04	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23499.05

Sample Tag: OBG OS MW-5

Collected Date/Time: 04/23/2021 10:38

Matrix: Groundwater

COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 01:24	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23499.06

Sample Tag: OBG OS MW-4

Collected Date/Time: 04/23/2021 11:52

Matrix: Groundwater

COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 01:43	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23499.07

Sample Tag: OBG OS MW-3

Collected Date/Time: 04/23/2021 12:52

Matrix: Groundwater

COC Reference: 125028

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 02:03	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23499.01	28 PFAs	ASTMD7979-19M	04/28/21 23:27	AK210428W2
S23499.02	28 PFAs	ASTMD7979-19M	04/29/21 00:06	AK210428W2
S23499.03	28 PFAs	ASTMD7979-19M	04/29/21 00:45	AK210428W2
S23499.04	28 PFAs	ASTMD7979-19M	04/29/21 01:04	AK210428W2
S23499.05	28 PFAs	ASTMD7979-19M	04/29/21 01:24	AK210428W2
S23499.06	28 PFAs	ASTMD7979-19M	04/29/21 01:43	AK210428W2
S23499.07	28 PFAs	ASTMD7979-19M	04/29/21 02:03	AK210428W2

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.01

Sample Tag: OBG MW-8

Collected Date/Time: 04/22/2021 13:52

Matrix: Groundwater

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:27, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**86.8**	50.0	150.0
M2-6:2FTSA		**84.6**	50.0	150.0
M2-8:2FTSA		**58.8**	50.0	150.0
M2PFTeDA		**113.1**	12.0	218.0
M3PFBS		**109.9**	50.0	150.0
M3PFHxS		**97.4**	50.0	150.0
M4PFHpA		**99.3**	50.0	150.0
M5PFHxA		**105.6**	50.0	150.0
M5PFPeA		**99.8**	50.0	150.0
M6PFDA		**93.3**	50.0	150.0
M7PFUnDA		**87.5**	50.0	150.0
M8FOSA		**104.3**	50.0	150.0
M8PFOA		**92.9**	50.0	150.0
M8PFOS		**109.4**	50.0	150.0
M9-PFNA		**91.2**	50.0	150.0
MPFBA		**101.7**	50.0	150.0
MPFDoDA		**94.5**	50.0	150.0
d3N-MeFOSAA		**86.3**	50.0	150.0
d5EtFOSAA		**90.9**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.02

Sample Tag: OBG MW-9

Collected Date/Time: 04/22/2021 15:12

Matrix: Groundwater

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:06, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**86.9**	50.0	150.0
M2-6:2FTSA		**77.2**	50.0	150.0
M2-8:2FTSA		**63.1**	50.0	150.0
M2PFTeDA		**104.1**	12.0	218.0
M3PFBS		**111.9**	50.0	150.0
M3PFHxS		**92.1**	50.0	150.0
M4PFHpA		**92.1**	50.0	150.0
M5PFHxA		**100.7**	50.0	150.0
M5PFPeA		**93.6**	50.0	150.0
M6PFDA		**91.3**	50.0	150.0
M7PFUnDA		**86.8**	50.0	150.0
M8FOSA		**103.8**	50.0	150.0
M8PFOA		**82.3**	50.0	150.0
M8PFOS		**112.2**	50.0	150.0
M9-PFNA		**97.7**	50.0	150.0
MPFBA		**99.5**	50.0	150.0
MPFDoDA		**93.7**	50.0	150.0
d3N-MeFOSAA		**80.2**	50.0	150.0
d5EtFOSAA		**85.1**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.03

Sample Tag: OBG MW-7s

Collected Date/Time: 04/22/2021 16:48

Matrix: Groundwater

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:45, Matrix: WW, Dilution: 1.93

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**95.0**	50.0	150.0
M2-6:2FTSA		**77.8**	50.0	150.0
M2-8:2FTSA		**59.8**	50.0	150.0
M2PFTeDA		**111.8**	12.0	218.0
M3PFBS		**116.3**	50.0	150.0
M3PFHxS		**104.6**	50.0	150.0
M4PFHpA		**86.5**	50.0	150.0
M5PFHxA		**103.3**	50.0	150.0
M5PFPeA		**96.5**	50.0	150.0
M6PFDA		**97.3**	50.0	150.0
M7PFUnDA		**92.9**	50.0	150.0
M8FOSA		**103.8**	50.0	150.0
M8PFOA		**99.6**	50.0	150.0
M8PFOS		**100.0**	50.0	150.0
M9-PFNA		**94.3**	50.0	150.0
MPFBA		**103.5**	50.0	150.0
MPFDoDA		**91.2**	50.0	150.0
d3N-MeFOSAA		**77.4**	50.0	150.0
d5EtFOSAA		**81.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.04

Sample Tag: Field Blank - 042221

Collected Date/Time: 04/22/2021 17:15

Matrix: Liquid

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 01:04, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**76.6**	50.0	150.0
M2-6:2FTSA		**85.4**	50.0	150.0
M2-8:2FTSA		**69.0**	50.0	150.0
M2PFTeDA		**83.7**	12.0	218.0
M3PFBS		**118.8**	50.0	150.0
M3PFHxS		**107.7**	50.0	150.0
M4PFHpA		**98.0**	50.0	150.0
M5PFHxA		**114.9**	50.0	150.0
M5PFPeA		**101.0**	50.0	150.0
M6PFDA		**101.8**	50.0	150.0
M7PFUnDA		**99.8**	50.0	150.0
M8FOSA		**106.3**	50.0	150.0
M8PFOA		**97.6**	50.0	150.0
M8PFOS		**109.4**	50.0	150.0
M9-PFNA		**110.4**	50.0	150.0
MPFBA		**105.0**	50.0	150.0
MPFDoDA		**90.7**	50.0	150.0
d3N-MeFOSAA		**116.6**	50.0	150.0
d5EtFOSAA		**86.2**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.05

Sample Tag: OBG OS MW-5

Collected Date/Time: 04/23/2021 10:38

Matrix: Groundwater

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 01:24, Matrix: WW, Dilution: 2.05

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**103.1**	50.0	150.0
M2-6:2FTSA		**90.1**	50.0	150.0
M2-8:2FTSA		**68.1**	50.0	150.0
M2PFTeDA		**94.0**	12.0	218.0
M3PFBS		**121.9**	50.0	150.0
M3PFHxS		**99.1**	50.0	150.0
M4PFHpA		**87.7**	50.0	150.0
M5PFHxA		**108.2**	50.0	150.0
M5PFPeA		**105.0**	50.0	150.0
M6PFDA		**99.2**	50.0	150.0
M7PFUnDA		**100.9**	50.0	150.0
M8FOSA		**108.8**	50.0	150.0
M8PFOA		**98.7**	50.0	150.0
M8PFOS		**117.1**	50.0	150.0
M9-PFNA		**104.1**	50.0	150.0
MPFBA		**107.9**	50.0	150.0
MPFDoDA		**100.1**	50.0	150.0
d3N-MeFOSAA		**101.5**	50.0	150.0
d5EtFOSAA		**93.2**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.06

Sample Tag: OBG OS MW-4

Collected Date/Time: 04/23/2021 11:52

Matrix: Groundwater

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 01:43, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**106.3**	50.0	150.0
M2-6:2FTSA		**98.0**	50.0	150.0
M2-8:2FTSA		**69.0**	50.0	150.0
M2PFTeDA		**127.9**	12.0	218.0
M3PFBS		**124.8**	50.0	150.0
M3PFHxS		**98.4**	50.0	150.0
M4PFHpA		**108.6**	50.0	150.0
M5PFHxA		**113.9**	50.0	150.0
M5PFPeA		**104.4**	50.0	150.0
M6PFDA		**94.8**	50.0	150.0
M7PFUnDA		**98.8**	50.0	150.0
M8FOSA		**110.1**	50.0	150.0
M8PFOA		**97.0**	50.0	150.0
M8PFOS		**111.5**	50.0	150.0
M9-PFNA		**102.3**	50.0	150.0
MPFBA		**109.5**	50.0	150.0
MPFDoDA		**106.2**	50.0	150.0
d3N-MeFOSAA		**92.0**	50.0	150.0
d5EtFOSAA		**96.5**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23499.07

Sample Tag: OBG OS MW-3

Collected Date/Time: 04/23/2021 12:52

Matrix: Groundwater

COC Reference: 125028

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 02:03, Matrix: WW, Dilution: 1.97

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**94.2**	50.0	150.0
M2-6:2FTSA		**86.1**	50.0	150.0
M2-8:2FTSA		**65.4**	50.0	150.0
M2PFTeDA		**108.6**	12.0	218.0
M3PFBS		**117.4**	50.0	150.0
M3PFHxS		**95.4**	50.0	150.0
M4PFHpA		**96.9**	50.0	150.0
M5PFHxA		**110.0**	50.0	150.0
M5PFPeA		**107.8**	50.0	150.0
M6PFDA		**107.3**	50.0	150.0
M7PFUnDA		**96.3**	50.0	150.0
M8FOSA		**112.2**	50.0	150.0
M8PFOA		**94.1**	50.0	150.0
M8PFOS		**111.1**	50.0	150.0
M9-PFNA		**96.7**	50.0	150.0
MPFBA		**106.3**	50.0	150.0
MPFDoDA		**97.2**	50.0	150.0
d3N-MeFOSAA		**93.4**	50.0	150.0
d5EtFOSAA		**92.7**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**90.5**	50.0	150.0
M2-6:2FTSA		**94.6**	50.0	150.0
M2-8:2FTSA		**87.6**	50.0	150.0
M2PFTeDA		**83.2**	12.0	218.0
M3PFBS		**113.1**	50.0	150.0
M3PFHxS		**87.0**	50.0	150.0
M4PFHpA		**91.7**	50.0	150.0
M5PFHxA		**100.3**	50.0	150.0
M5PFPeA		**100.7**	50.0	150.0
M6PFDA		**90.3**	50.0	150.0
M7PFUnDA		**91.3**	50.0	150.0
M8FOSA		**99.6**	50.0	150.0
M8PFOA		**95.3**	50.0	150.0
M8PFOS		**101.3**	50.0	150.0
M9-PFNA		**98.0**	50.0	150.0
MPFBA		**98.5**	50.0	150.0
MPFDoDA		**80.2**	50.0	150.0
d3N-MeFOSAA		**100.6**	50.0	150.0
d5EtFOSAA		**95.5**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.2**	50.0	150.0
M2-6:2FTSA		**97.3**	50.0	150.0
M2-8:2FTSA		**87.7**	50.0	150.0
M2PFTeDA		**101.5**	12.0	218.0
M3PFBS		**108.7**	50.0	150.0
M3PFHxS		**97.5**	50.0	150.0
M4PFHpA		**83.6**	50.0	150.0
M5PFHxA		**102.6**	50.0	150.0
M5PFPeA		**98.4**	50.0	150.0
M6PFDA		**91.0**	50.0	150.0
M7PFUnDA		**85.7**	50.0	150.0
M8FOSA		**100.6**	50.0	150.0
M8PFOA		**78.9**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**96.5**	50.0	150.0
MPFBA		**97.4**	50.0	150.0
MPFDoDA		**84.0**	50.0	150.0
d3N-MeFOSAA		**96.3**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**96.1**	50.0	150.0
M2-6:2FTSA		**97.7**	50.0	150.0
M2-8:2FTSA		**78.2**	50.0	150.0
M2PFTeDA		**104.5**	12.0	218.0
M3PFBS		**108.6**	50.0	150.0
M3PFHxS		**91.2**	50.0	150.0
M4PFHpA		**92.4**	50.0	150.0
M5PFHxA		**100.9**	50.0	150.0
M5PFPeA		**100.4**	50.0	150.0
M6PFDA		**84.0**	50.0	150.0
M7PFUnDA		**89.0**	50.0	150.0
M8FOSA		**102.4**	50.0	150.0
M8PFOA		**92.2**	50.0	150.0
M8PFOS		**102.3**	50.0	150.0
M9-PFNA		**99.4**	50.0	150.0
MPFBA		**98.0**	50.0	150.0
MPFDoDA		**97.8**	50.0	150.0
d3N-MeFOSAA		**105.8**	50.0	150.0
d5EtFOSAA		**105.1**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**88.3**	50.0	150.0
M2-6:2FTSA		**87.9**	50.0	150.0
M2-8:2FTSA		**59.2**	50.0	150.0
M2PFTeDA		**114.5**	12.0	218.0
M3PFBS		**115.1**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**96.1**	50.0	150.0
M5PFHxA		**103.9**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**98.4**	50.0	150.0
M7PFUnDA		**88.5**	50.0	150.0
M8FOSA		**107.5**	50.0	150.0
M8PFOA		**95.4**	50.0	150.0
M8PFOS		**107.0**	50.0	150.0
M9-PFNA		**98.3**	50.0	150.0
MPFBA		**102.8**	50.0	150.0
MPFDoDA		**102.9**	50.0	150.0
d3N-MeFOSAA		**88.8**	50.0	150.0
d5EtFOSAA		**92.5**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**89.6**	50.0	150.0
M2-6:2FTSA		**80.2**	50.0	150.0
M2-8:2FTSA		**59.5**	50.0	150.0
M2PFTeDA		**111.3**	12.0	218.0
M3PFBS		**113.3**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**90.2**	50.0	150.0
M5PFHxA		**101.7**	50.0	150.0
M5PFPeA		**98.6**	50.0	150.0
M6PFDA		**100.6**	50.0	150.0
M7PFUnDA		**85.8**	50.0	150.0
M8FOSA		**104.0**	50.0	150.0
M8PFOA		**99.0**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**101.0**	50.0	150.0
MPFBA		**101.2**	50.0	150.0
MPFDoDA		**94.7**	50.0	150.0
d3N-MeFOSAA		**90.5**	50.0	150.0
d5EtFOSAA		**83.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
11CL-PF3OUdS		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
ADONA		ND	2	ng/l
HFPO-DA		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.5	70.0	130.0
PFPeA		100.0	70.0	130.0
4:2 FTSA		97.0	70.0	130.0
PFHxA		97.8	70.0	130.0
PFBS		99.8	70.0	130.0
HFPO-DA		106.0	70.0	130.0
PFHpA		108.0	70.0	130.0
PFPeS		102.0	70.0	130.0
ADONA		120.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		106.0	70.0	130.0
PFOA		117.0	70.0	130.0
PFHxS		101.0	70.0	130.0
PFNA		97.4	70.0	130.0
8:2 FTSA		102.0	70.0	130.0
PFHpS		91.3	70.0	130.0
N-MeFOSAA		105.0	70.0	130.0
PFDA		116.0	70.0	130.0
PFOS		77.2	70.0	130.0
EtFOSAA		112.0	70.0	130.0
PFUnDA		99.7	70.0	130.0
9CL-PF3ONS		93.8	70.0	130.0
PFNS		98.2	70.0	130.0
PFDoDA		107.0	70.0	130.0
PFDS		91.6	70.0	130.0
PFTrDA		108.0	70.0	130.0
11CL-PF3OUdS		92.1	70.0	130.0
FOSA		101.0	70.0	130.0
PFTeDA		98.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		99.3	70.0	130.0	0.2	30.0
PFPeA		97.6	70.0	130.0	2.4	30.0
4:2 FTSA		99.7	70.0	130.0	2.7	30.0
PFHxA		101.0	70.0	130.0	3.2	30.0
PFBS		98.0	70.0	130.0	1.8	30.0
HFPO-DA		115.0	70.0	130.0	8.1	30.0
PFHpA		102.0	70.0	130.0	5.7	30.0
PFPeS		104.0	70.0	130.0	1.9	30.0
ADONA		94.1	70.0	130.0	24.2	30.0
6:2 FTSA		91.3	70.0	130.0	14.9	30.0
PFOA		97.5	70.0	130.0	18.2	30.0
PFHxS		110.0	70.0	130.0	8.5	30.0
PFNA		102.0	70.0	130.0	4.6	30.0
8:2 FTSA		107.0	70.0	130.0	4.8	30.0
PFHpS		103.0	70.0	130.0	12.0	30.0
N-MeFOSAA		95.2	70.0	130.0	9.8	30.0
PFDA		123.0	70.0	130.0	5.9	30.0
PFOS		90.5	70.0	130.0	15.9	30.0
EtFOSAA		106.0	70.0	130.0	5.5	30.0
PFUnDA		111.0	70.0	130.0	10.7	30.0
9CL-PF3ONS		101.0	70.0	130.0	7.4	30.0
PFNS		95.8	70.0	130.0	2.5	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		95.0	70.0	130.0	11.9	30.0
PFDS		102.0	70.0	130.0	10.7	30.0
PFTrDA		88.1	70.0	130.0	20.3	30.0
11CL-PF3OUdS		98.5	70.0	130.0	6.7	30.0
FOSA		100.0	70.0	130.0	1.0	30.0
PFTeDA		89.5	70.0	130.0	9.5	30.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		108.9	70.0	130.0
PFPeA		108.9	70.0	130.0
4:2 FTSA		99.0	70.0	130.0
PFHxA		99.0	70.0	130.0
PFBS		107.3	70.0	130.0
PFHpA		90.1	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		88.1	70.0	130.0
PFOA		97.3	70.0	130.0
PFHxS		108.9	70.0	130.0
PFNA		99.0	70.0	130.0
8:2 FTSA		108.9	70.0	130.0
PFHpS		108.9	70.0	130.0
PFDA		99.0	70.0	130.0
N-MeFOSAA		93.1	70.0	130.0
EtFOSAA		108.9	70.0	130.0
PFOS		82.2	70.0	130.0
PFUnDA		108.9	70.0	130.0
PFNS		99.0	70.0	130.0
PFDoDA		88.1	70.0	130.0
PFDS		108.9	70.0	130.0
PFTrDA		99.0	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		91.1	70.0	130.0
11CL-PF3OUdS		97.0	70.0	130.0
9CL-PF3ONS		108.9	70.0	130.0
ADONA		99.0	70.0	130.0
HFPO-DA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		4.3	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

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C.O.C. PAGE # 1 OF 1

125028

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court Ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-533-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com/kevin.schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	ANALYSIS: DFAS (PFAS)	Special Instructions
28499.01	4/22/21	1352	OBG MW-8	GW	3	3							X	Low Level Reporting
.02		1512	OBG MW-9	GW	3	3							X	limit with estimated
.03		1648	OBG MW-7S	GW	3	3							X	values
.04		1715	Field Blank - 042221	QC	1	1							X	
.05	4/23/21	1038	OBG OS MW-5	GW	3	3							X	
.06		1152	OBG OS MW-4	GW	3	3							X	
.07		1252	OBG OS MW-3	GW	3	3							X	

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 4/23/21	TIME 13:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/23/21	TIME 13:30
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/23/21	TIME 14:10
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/23/21	TIME 1410

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 25

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S23538.01(01)
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Addtional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S23538.01-S23538.04
Project: RACER Hemphill Rd. Industrial Land
Collected Date(s): 04/23/2021
Submitted Date/Time: 04/26/2021 13:40
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

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Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Analytical Laboratory Report

Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23538.01	OBG OS MW-5s	Groundwater	04/23/21 14:47
S23538.02	Field Blank - 042321	Water	04/23/21 16:45
S23538.03	MW-403	Groundwater	04/23/21 16:58
S23538.04	DUP-042321	Groundwater	04/23/21 00:01

Analytical Laboratory Report

Lab Sample ID: S23538.01
Sample Tag: OBG OS MW-5s
Collected Date/Time: 04/23/2021 14:47
Matrix: Groundwater
COC Reference: 137037

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.46/6.91/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 02:22, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	20	9.9	ng/L	1.98	375-22-4	X
PFPeA*	Not detected	4.0	0.99	ng/L	1.98	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	1.98	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	1.98	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	1.98	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	1.98	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	1.98	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	1.98	27619-97-2	
PFOA*	9.1	2.0	1.6	ng/L	1.98	335-67-1	
PFHxS*	2.0	2.0	1.6	ng/L	1.98	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	1.98	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	1.98	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	1.98	375-95-1	
8:2 FTSA*	Not detected	2.0	0.99	ng/L	1.98	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	1.98	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	1.98	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	1.98	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	1.98	2991-50-6	
PFOS*	Not detected	2.0	1.9	ng/L	1.98	1763-23-1	
PFOS-LN*	Not detected	2.0	1.9	ng/L	1.98	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	1.9	ng/L	1.98	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	1.98	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	1.98	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	1.98	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	1.98	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	1.98	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	1.98	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	1.98	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	1.98	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	1.98	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	1.98	919005-14-4	
HFPO-DA*	Not detected	9.9	2.0	ng/L	1.98	13252-13-6	

X-Elevated reporting limit due to matrix interference

Lab Sample ID: S23538.02
Sample Tag: Field Blank - 042321
Collected Date/Time: 04/23/2021 16:45
Matrix: Water
COC Reference: 137037

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.07/6.89/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 02:42, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	11	ng/L	2.12	375-22-4	
PFPeA*	Not detected	4.2	1.1	ng/L	2.12	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.12	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.12	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.12	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.12	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.12	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.12	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.12	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.12	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.12	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.12	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.12	375-95-1	
8:2 FTSA*	Not detected	2.1	1.1	ng/L	2.12	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.12	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.12	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.12	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.12	2991-50-6	
PFOS*	Not detected	2.1	2.1	ng/L	2.12	1763-23-1	
PFOS-LN*	Not detected	2.1	2.1	ng/L	2.12	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.1	ng/L	2.12	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.12	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.12	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.12	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.12	335-77-3	
PFTrDA*	Not detected	2.1	1.3	ng/L	2.12	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.12	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.12	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.12	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.12	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.12	919005-14-4	
HFPO-DA*	Not detected	11	2.1	ng/L	2.12	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S23538.03
Sample Tag: MW-403
Collected Date/Time: 04/23/2021 16:58
Matrix: Groundwater
COC Reference: 137037

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.58/6.82/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 03:01, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.08	375-22-4	
PFPeA*	Not detected	4.2	1.0	ng/L	2.08	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.08	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.08	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.08	375-73-5	
PFHpA*	2.0	2.1	1.5	ng/L	2.08	375-85-9	J
PFPeS*	Not detected	2.1	1.9	ng/L	2.08	2706-91-4	
6:2 FTSA*	240	2.1	2.1	ng/L	2.08	27619-97-2	
PFOA*	19	2.1	1.7	ng/L	2.08	335-67-1	
PFHxS*	2.2	2.1	1.7	ng/L	2.08	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.08	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.08	355-46-4-BR	
PFNA*	2.1	2.1	1.9	ng/L	2.08	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.08	39108-34-4	
PFHpS*	2.7	2.1	2.1	ng/L	2.08	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.08	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.08	2355-31-9	
EtFOSAA*	61	4.2	2.1	ng/L	2.08	2991-50-6	
PFOS*	450	2.1	2.0	ng/L	2.08	1763-23-1	
PFOS-LN*	350	2.1	2.0	ng/L	2.08	1763-23-1-LN	
PFOS-BR*	100	2.1	2.0	ng/L	2.08	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.08	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.08	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.08	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.08	335-77-3	
PFTrDA*	Not detected	2.1	1.2	ng/L	2.08	72629-94-8	
FOSA*	33	2.1	1.9	ng/L	2.08	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.08	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.08	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.08	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.08	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.08	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S23538.04
Sample Tag: DUP-042321
Collected Date/Time: 04/23/2021 00:01
Matrix: Groundwater
COC Reference: 137037

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.87/6.92/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 03:21, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	22	10	ng/L	2.02	375-22-4	X
PFPeA*	Not detected	4.0	1.0	ng/L	2.02	2706-90-3	
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.02	757124-72-4	
PFHxA*	Not detected	2.0	1.4	ng/L	2.02	307-24-4	
PFBS*	Not detected	2.0	1.4	ng/L	2.02	375-73-5	
PFHpA*	Not detected	2.0	1.4	ng/L	2.02	375-85-9	
PFPeS*	Not detected	2.0	1.8	ng/L	2.02	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.02	27619-97-2	
PFOA*	9.4	2.0	1.6	ng/L	2.02	335-67-1	
PFHxS*	2.1	2.0	1.6	ng/L	2.02	355-46-4	
PFHxS-LN*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-LN	
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.02	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.02	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.02	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.02	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.02	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.02	2355-31-9	
EtFOSAA*	Not detected	4.0	2.0	ng/L	2.02	2991-50-6	
PFOS*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-LN	
PFOS-BR*	Not detected	2.0	2.0	ng/L	2.02	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.02	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.02	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.02	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.02	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.02	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.02	754-91-6	
PFTeDA*	Not detected	4.0	1.8	ng/L	2.02	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.02	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.02	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.02	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.02	13252-13-6	

X-Elevated reporting limit due to matrix interference

Merit Laboratories Login Checklist

Lab Set ID: S23538
Client: OBG02 (Ramboll Americas - East Lansing, MI)
Project: RACER Hemphill Rd. Industrial Land
Submitted: 04/26/2021 13:40 Login User: REJ

Attention: Clifford Yantz
Address: Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.7
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

137307

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court Ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: CliffordYantz@Ramboll.com / KevinSchneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RALER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (537.1)	Special Instructions
23588.01	4/23/21	1447	OBG MW-5S	GW	3	3							X	Low Level + Report limit with estimated values
.02	4/23/21	1645	Field Blank-042321	QC	1	1							X	
.03	4/23/21	1658	MW-403	GW	3	3							X	
.04	4/23/21	—	DUP-042321	GW	3	3							X	

Special Instructions: Low Level + Report limit with estimated values

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 4.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18

Quality Control Report

Report ID: QC-S23538-01
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S23538.01-S23538.04
Project: RACER Hemphill Rd. Industrial Land
Submitted Date/Time: 04/26/2021 13:40
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

QC Report Sections

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S23538.01
Sample Tag: OBG OS MW-5s
Collected Date/Time: 04/23/2021 14:47
Matrix: Groundwater
COC Reference: 137037

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 02:22	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23538.02
Sample Tag: Field Blank - 042321
Collected Date/Time: 04/23/2021 16:45
Matrix: Water
COC Reference: 137037

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 02:42	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23538.03
Sample Tag: MW-403
Collected Date/Time: 04/23/2021 16:58
Matrix: Groundwater
COC Reference: 137037

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 03:01	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23538.04

Sample Tag: DUP-042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Groundwater

COC Reference: 137037

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 03:21	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23538.01	28 PFAs	ASTMD7979-19M	04/29/21 02:22	AK210428W2
S23538.02	28 PFAs	ASTMD7979-19M	04/29/21 02:42	AK210428W2
S23538.03	28 PFAs	ASTMD7979-19M	04/29/21 03:01	AK210428W2
S23538.04	28 PFAs	ASTMD7979-19M	04/29/21 03:21	AK210428W2

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23538.01

Sample Tag: OBG OS MW-5s

Collected Date/Time: 04/23/2021 14:47

Matrix: Groundwater

COC Reference: 137037

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 02:22, Matrix: WW, Dilution: 1.98

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**90.3**	50.0	150.0
M2-6:2FTSA		**75.7**	50.0	150.0
M2-8:2FTSA		**63.5**	50.0	150.0
M2PFTeDA		**92.3**	12.0	218.0
M3PFBS		**118.5**	50.0	150.0
M3PFHxS		**103.4**	50.0	150.0
M4PFHpA		**102.7**	50.0	150.0
M5PFHxA		**113.0**	50.0	150.0
M5PFPeA		**103.8**	50.0	150.0
M6PFDA		**110.2**	50.0	150.0
M7PFUnDA		**88.8**	50.0	150.0
M8FOSA		**105.1**	50.0	150.0
M8PFOA		**97.0**	50.0	150.0
M8PFOS		**111.4**	50.0	150.0
M9-PFNA		**102.3**	50.0	150.0
MPFBA		**111.2**	50.0	150.0
MPFDoDA		**87.3**	50.0	150.0
d3N-MeFOSAA		**87.6**	50.0	150.0
d5EtFOSAA		**88.9**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23538.02

Sample Tag: Field Blank - 042321

Collected Date/Time: 04/23/2021 16:45

Matrix: Water

COC Reference: 137037

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 02:42, Matrix: WW, Dilution: 2.12

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**77.5**	50.0	150.0
M2-6:2FTSA		**82.5**	50.0	150.0
M2-8:2FTSA		**72.6**	50.0	150.0
M2PFTeDA		**104.9**	12.0	218.0
M3PFBS		**127.1**	50.0	150.0
M3PFHxS		**108.9**	50.0	150.0
M4PFHpA		**106.2**	50.0	150.0
M5PFHxA		**110.0**	50.0	150.0
M5PFPeA		**109.1**	50.0	150.0
M6PFDA		**107.6**	50.0	150.0
M7PFUnDA		**104.1**	50.0	150.0
M8FOSA		**117.7**	50.0	150.0
M8PFOA		**102.0**	50.0	150.0
M8PFOS		**119.3**	50.0	150.0
M9-PFNA		**101.6**	50.0	150.0
MPFBA		**108.5**	50.0	150.0
MPFDoDA		**102.2**	50.0	150.0
d3N-MeFOSAA		**119.1**	50.0	150.0
d5EtFOSAA		**104.9**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23538.03

Sample Tag: MW-403

Collected Date/Time: 04/23/2021 16:58

Matrix: Groundwater

COC Reference: 137037

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 03:01, Matrix: WW, Dilution: 2.08

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**93.5**	50.0	150.0
M2-6:2FTSA		**88.3**	50.0	150.0
M2-8:2FTSA		**68.0**	50.0	150.0
M2PFTeDA		**122.4**	12.0	218.0
M3PFBS		**125.1**	50.0	150.0
M3PFHxS		**106.5**	50.0	150.0
M4PFHpA		**102.9**	50.0	150.0
M5PFHxA		**107.6**	50.0	150.0
M5PFPeA		**102.4**	50.0	150.0
M6PFDA		**105.6**	50.0	150.0
M7PFUnDA		**98.3**	50.0	150.0
M8FOSA		**112.1**	50.0	150.0
M8PFOA		**88.1**	50.0	150.0
M8PFOS		**119.9**	50.0	150.0
M9-PFNA		**103.0**	50.0	150.0
MPFBA		**108.8**	50.0	150.0
MPFDoDA		**106.5**	50.0	150.0
d3N-MeFOSAA		**87.7**	50.0	150.0
d5EtFOSAA		**92.0**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23538.04

Sample Tag: DUP-042321

Collected Date/Time: 04/23/2021 00:01

Matrix: Groundwater

COC Reference: 137037

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 03:21, Matrix: WW, Dilution: 2.02

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**94.4**	50.0	150.0
M2-6:2FTSA		**80.2**	50.0	150.0
M2-8:2FTSA		**65.3**	50.0	150.0
M2PFTeDA		**117.2**	12.0	218.0
M3PFBS		**125.7**	50.0	150.0
M3PFHxS		**100.2**	50.0	150.0
M4PFHpA		**105.2**	50.0	150.0
M5PFHxA		**112.0**	50.0	150.0
M5PFPeA		**110.2**	50.0	150.0
M6PFDA		**98.7**	50.0	150.0
M7PFUnDA		**96.4**	50.0	150.0
M8FOSA		**120.2**	50.0	150.0
M8PFOA		**100.2**	50.0	150.0
M8PFOS		**108.4**	50.0	150.0
M9-PFNA		**99.9**	50.0	150.0
MPFBA		**114.9**	50.0	150.0
MPFDoDA		**99.2**	50.0	150.0
d3N-MeFOSAA		**83.4**	50.0	150.0
d5EtFOSAA		**97.1**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**90.5**	50.0	150.0
M2-6:2FTSA		**94.6**	50.0	150.0
M2-8:2FTSA		**87.6**	50.0	150.0
M2PFTeDA		**83.2**	12.0	218.0
M3PFBS		**113.1**	50.0	150.0
M3PFHxS		**87.0**	50.0	150.0
M4PFHpA		**91.7**	50.0	150.0
M5PFHxA		**100.3**	50.0	150.0
M5PFPeA		**100.7**	50.0	150.0
M6PFDA		**90.3**	50.0	150.0
M7PFUnDA		**91.3**	50.0	150.0
M8FOSA		**99.6**	50.0	150.0
M8PFOA		**95.3**	50.0	150.0
M8PFOS		**101.3**	50.0	150.0
M9-PFNA		**98.0**	50.0	150.0
MPFBA		**98.5**	50.0	150.0
MPFDoDA		**80.2**	50.0	150.0
d3N-MeFOSAA		**100.6**	50.0	150.0
d5EtFOSAA		**95.5**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.2**	50.0	150.0
M2-6:2FTSA		**97.3**	50.0	150.0
M2-8:2FTSA		**87.7**	50.0	150.0
M2PFTeDA		**101.5**	12.0	218.0
M3PFBS		**108.7**	50.0	150.0
M3PFHxS		**97.5**	50.0	150.0
M4PFHpA		**83.6**	50.0	150.0
M5PFHxA		**102.6**	50.0	150.0
M5PFPeA		**98.4**	50.0	150.0
M6PFDA		**91.0**	50.0	150.0
M7PFUnDA		**85.7**	50.0	150.0
M8FOSA		**100.6**	50.0	150.0
M8PFOA		**78.9**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**96.5**	50.0	150.0
MPFBA		**97.4**	50.0	150.0
MPFDoDA		**84.0**	50.0	150.0
d3N-MeFOSAA		**96.3**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**96.1**	50.0	150.0
M2-6:2FTSA		**97.7**	50.0	150.0
M2-8:2FTSA		**78.2**	50.0	150.0
M2PFTeDA		**104.5**	12.0	218.0
M3PFBS		**108.6**	50.0	150.0
M3PFHxS		**91.2**	50.0	150.0
M4PFHpA		**92.4**	50.0	150.0
M5PFHxA		**100.9**	50.0	150.0
M5PFPeA		**100.4**	50.0	150.0
M6PFDA		**84.0**	50.0	150.0
M7PFUnDA		**89.0**	50.0	150.0
M8FOSA		**102.4**	50.0	150.0
M8PFOA		**92.2**	50.0	150.0
M8PFOS		**102.3**	50.0	150.0
M9-PFNA		**99.4**	50.0	150.0
MPFBA		**98.0**	50.0	150.0
MPFDoDA		**97.8**	50.0	150.0
d3N-MeFOSAA		**105.8**	50.0	150.0
d5EtFOSAA		**105.1**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**88.3**	50.0	150.0
M2-6:2FTSA		**87.9**	50.0	150.0
M2-8:2FTSA		**59.2**	50.0	150.0
M2PFTeDA		**114.5**	12.0	218.0
M3PFBS		**115.1**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**96.1**	50.0	150.0
M5PFHxA		**103.9**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**98.4**	50.0	150.0
M7PFUnDA		**88.5**	50.0	150.0
M8FOSA		**107.5**	50.0	150.0
M8PFOA		**95.4**	50.0	150.0
M8PFOS		**107.0**	50.0	150.0
M9-PFNA		**98.3**	50.0	150.0
MPFBA		**102.8**	50.0	150.0
MPFDoDA		**102.9**	50.0	150.0
d3N-MeFOSAA		**88.8**	50.0	150.0
d5EtFOSAA		**92.5**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**89.6**	50.0	150.0
M2-6:2FTSA		**80.2**	50.0	150.0
M2-8:2FTSA		**59.5**	50.0	150.0
M2PFTeDA		**111.3**	12.0	218.0
M3PFBS		**113.3**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**90.2**	50.0	150.0
M5PFHxA		**101.7**	50.0	150.0
M5PFPeA		**98.6**	50.0	150.0
M6PFDA		**100.6**	50.0	150.0
M7PFUnDA		**85.8**	50.0	150.0
M8FOSA		**104.0**	50.0	150.0
M8PFOA		**99.0**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**101.0**	50.0	150.0
MPFBA		**101.2**	50.0	150.0
MPFDoDA		**94.7**	50.0	150.0
d3N-MeFOSAA		**90.5**	50.0	150.0
d5EtFOSAA		**83.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
11CL-PF3OUdS		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
ADONA		ND	2	ng/l
HFPO-DA		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.5	70.0	130.0
PFPeA		100.0	70.0	130.0
4:2 FTSA		97.0	70.0	130.0
PFHxA		97.8	70.0	130.0
PFBS		99.8	70.0	130.0
HFPO-DA		106.0	70.0	130.0
PFHpA		108.0	70.0	130.0
PFPeS		102.0	70.0	130.0
ADONA		120.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		106.0	70.0	130.0
PFOA		117.0	70.0	130.0
PFHxS		101.0	70.0	130.0
PFNA		97.4	70.0	130.0
8:2 FTSA		102.0	70.0	130.0
PFHpS		91.3	70.0	130.0
N-MeFOSAA		105.0	70.0	130.0
PFDA		116.0	70.0	130.0
PFOS		77.2	70.0	130.0
EtFOSAA		112.0	70.0	130.0
PFUnDA		99.7	70.0	130.0
9CL-PF3ONS		93.8	70.0	130.0
PFNS		98.2	70.0	130.0
PFDoDA		107.0	70.0	130.0
PFDS		91.6	70.0	130.0
PFTrDA		108.0	70.0	130.0
11CL-PF3OUdS		92.1	70.0	130.0
FOSA		101.0	70.0	130.0
PFTeDA		98.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		99.3	70.0	130.0	0.2	30.0
PFPeA		97.6	70.0	130.0	2.4	30.0
4:2 FTSA		99.7	70.0	130.0	2.7	30.0
PFHxA		101.0	70.0	130.0	3.2	30.0
PFBS		98.0	70.0	130.0	1.8	30.0
HFPO-DA		115.0	70.0	130.0	8.1	30.0
PFHpA		102.0	70.0	130.0	5.7	30.0
PFPeS		104.0	70.0	130.0	1.9	30.0
ADONA		94.1	70.0	130.0	24.2	30.0
6:2 FTSA		91.3	70.0	130.0	14.9	30.0
PFOA		97.5	70.0	130.0	18.2	30.0
PFHxS		110.0	70.0	130.0	8.5	30.0
PFNA		102.0	70.0	130.0	4.6	30.0
8:2 FTSA		107.0	70.0	130.0	4.8	30.0
PFHpS		103.0	70.0	130.0	12.0	30.0
N-MeFOSAA		95.2	70.0	130.0	9.8	30.0
PFDA		123.0	70.0	130.0	5.9	30.0
PFOS		90.5	70.0	130.0	15.9	30.0
EtFOSAA		106.0	70.0	130.0	5.5	30.0
PFUnDA		111.0	70.0	130.0	10.7	30.0
9CL-PF3ONS		101.0	70.0	130.0	7.4	30.0
PFNS		95.8	70.0	130.0	2.5	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		95.0	70.0	130.0	11.9	30.0
PFDS		102.0	70.0	130.0	10.7	30.0
PFTrDA		88.1	70.0	130.0	20.3	30.0
11CL-PF3OUdS		98.5	70.0	130.0	6.7	30.0
FOSA		100.0	70.0	130.0	1.0	30.0
PFTeDA		89.5	70.0	130.0	9.5	30.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		108.9	70.0	130.0
PFPeA		108.9	70.0	130.0
4:2 FTSA		99.0	70.0	130.0
PFHxA		99.0	70.0	130.0
PFBS		107.3	70.0	130.0
PFHpA		90.1	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		88.1	70.0	130.0
PFOA		97.3	70.0	130.0
PFHxS		108.9	70.0	130.0
PFNA		99.0	70.0	130.0
8:2 FTSA		108.9	70.0	130.0
PFHpS		108.9	70.0	130.0
PFDA		99.0	70.0	130.0
N-MeFOSAA		93.1	70.0	130.0
EtFOSAA		108.9	70.0	130.0
PFOS		82.2	70.0	130.0
PFUnDA		108.9	70.0	130.0
PFNS		99.0	70.0	130.0
PFDoDA		88.1	70.0	130.0
PFDS		108.9	70.0	130.0
PFTrDA		99.0	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		91.1	70.0	130.0
11CL-PF3OUdS		97.0	70.0	130.0
9CL-PF3ONS		108.9	70.0	130.0
ADONA		99.0	70.0	130.0
HFPO-DA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		4.3	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

Merit Laboratories, Inc.

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C.O.C. PAGE # 1 OF 1

137307

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court Ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: CliffordYantz@Ramboll.com / KevinSchneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RALER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (537.1)	Special Instructions
23588.01	4/23/21	1447	OBG MW-5S	GW	3	3							X	Low Level + Report limit with estimated values
.02	4/23/21	1645	Field Blank-042321	QC	1	1							X	
.03	4/23/21	1658	MW-403	GW	3	3							X	
.04	4/23/21	—	DUP-042321	GW	3	3							X	

Special Instructions: Low Level + Report limit with estimated values

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 4.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18

Analytical Laboratory Report

Report ID: S23565.01(01)
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Addtional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S23565.01-S23565.04
Project: RACER Hemphill Rd. Industrial Land
Collected Date(s): 04/26/2021 - 04/27/2021
Submitted Date/Time: 04/27/2021 14:40
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Analytical Laboratory Report

Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23565.01	OBG MW-10S	Groundwater	04/26/21 14:42
S23565.02	OBG MW-4S	Groundwater	04/26/21 16:30
S23565.03	MW-401	Groundwater	04/27/21 10:22
S23565.04	Field Blank-042721	Water	04/27/21 10:20

Analytical Laboratory Report

Lab Sample ID: S23565.01
Sample Tag: OBG MW-10S
Collected Date/Time: 04/26/2021 14:42
Matrix: Groundwater
COC Reference: 125034

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.62/6.86/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 03:40, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	42	10	ng/L	2.08	375-22-4	X
PFPeA*	Not detected	4.2	1.0	ng/L	2.08	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.08	757124-72-4	
PFHxA*	Not detected	2.6	1.5	ng/L	2.08	307-24-4	X
PFBS*	1.6	2.1	1.5	ng/L	2.08	375-73-5	J
PFHpA*	Not detected	2.1	1.5	ng/L	2.08	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.08	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.08	27619-97-2	
PFOA*	9.8	2.1	1.7	ng/L	2.08	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.08	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.08	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.08	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.08	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.08	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.08	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.08	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.08	2355-31-9	
EtFOSAA*	6.9	4.2	2.1	ng/L	2.08	2991-50-6	
PFOS*	14	2.1	2.0	ng/L	2.08	1763-23-1	
PFOS-LN*	6.5	2.1	2.0	ng/L	2.08	1763-23-1-LN	
PFOS-BR*	7.1	2.1	2.0	ng/L	2.08	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.08	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.08	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.08	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.08	335-77-3	
PFTrDA*	Not detected	2.1	1.2	ng/L	2.08	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.08	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.08	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.08	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.08	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.08	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.08	13252-13-6	

X-Elevated reporting limit due to matrix interference
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S23565.02
Sample Tag: OBG MW-4S
Collected Date/Time: 04/26/2021 16:30
Matrix: Groundwater
COC Reference: 125034

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.14/6.87/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 04:00, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.09	375-22-4	
PFPeA*	Not detected	4.2	1.0	ng/L	2.09	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.09	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.09	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.09	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.09	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.09	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.09	27619-97-2	
PFOA*	2.9	2.1	1.7	ng/L	2.09	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.09	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.09	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.09	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.09	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.09	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.09	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.09	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.09	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.09	2991-50-6	
PFOS*	2.2	2.1	2.0	ng/L	2.09	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.09	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.09	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.09	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.09	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.09	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.09	335-77-3	
PFTrDA*	Not detected	2.1	1.3	ng/L	2.09	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.09	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.09	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.09	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.09	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.09	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.09	13252-13-6	

Analytical Laboratory Report

Lab Sample ID: S23565.03
Sample Tag: MW-401
Collected Date/Time: 04/27/2021 10:22
Matrix: Groundwater
COC Reference: 125034

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.65/6.85/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 04:19, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.07	375-22-4	
PFPeA*	Not detected	4.1	1.0	ng/L	2.07	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.07	757124-72-4	
PFHxA*	2.0	2.1	1.4	ng/L	2.07	307-24-4	J
PFBS*	Not detected	2.1	1.4	ng/L	2.07	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.07	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.07	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.07	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.07	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.07	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.07	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.07	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.07	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.07	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.07	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.07	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.07	2991-50-6	
PFOS*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.0	ng/L	2.07	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.07	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.07	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.07	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.07	335-77-3	
PFTrDA*	Not detected	2.1	1.2	ng/L	2.07	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.07	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.07	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.07	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.07	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.07	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.07	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S23565.04
Sample Tag: Field Blank-042721
Collected Date/Time: 04/27/2021 10:20
Matrix: Water
COC Reference: 125034

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.83/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 04:39, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	11	ng/L	2.11	375-22-4	
PFPeA*	Not detected	4.2	1.1	ng/L	2.11	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.11	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.11	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.11	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.11	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.11	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.11	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.11	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.11	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.11	375-95-1	
8:2 FTSA*	Not detected	2.1	1.1	ng/L	2.11	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.11	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.11	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.11	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.11	2991-50-6	
PFOS*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1	
PFOS-LN*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.11	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.11	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.11	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.11	335-77-3	
PFTrDA*	Not detected	2.1	1.3	ng/L	2.11	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.11	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.11	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.11	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.11	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.11	919005-14-4	
HFPO-DA*	Not detected	11	2.1	ng/L	2.11	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID: S23565
Client: OBG02 (Ramboll Americas - East Lansing, MI)
Project: RACER Hemphill Rd. Industrial Land
Submitted: 04/27/2021 14:40 Login User: SRS

Attention: Clifford Yantz
Address: Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.4
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[ ] Yes	[ ] No	[X] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

125034

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-533-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com / Kevin.Schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Corridor
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (7777)	Special Instructions
23565.01	4/26/21	1442	OBG MW-10S	GW	3	3							X	Low Level Reporting
.02	4/26/21	1630	OBG MW-4S	GW	3	3							X	Limit with estimated
.03	4/27/21	1022	MW-401	GW	3	3							X	values
.04	4/27/21	1020	Field Blank - 042721	L	1	1							X	

10S

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE 4/27/21	TIME 11:55	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 11:55	
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 14:40	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1440	

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 4.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S23565-01
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S23565.01-S23565.04
Project: RACER Hemphill Rd. Industrial Land
Submitted Date/Time: 04/27/2021 14:40
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

QC Report Sections

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S23565.01
Sample Tag: OBG MW-10S
Collected Date/Time: 04/26/2021 14:42
Matrix: Groundwater
COC Reference: 125034

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 03:40	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23565.02
Sample Tag: OBG MW-4S
Collected Date/Time: 04/26/2021 16:30
Matrix: Groundwater
COC Reference: 125034

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 04:00	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Analysis Summary

Lab Sample ID: S23565.03
Sample Tag: MW-401
Collected Date/Time: 04/27/2021 10:22
Matrix: Groundwater
COC Reference: 125034

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 04:19	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23565.04

Sample Tag: Field Blank-042721

Collected Date/Time: 04/27/2021 10:20

Matrix: Water

COC Reference: 125034

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 04:39	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23565.01	28 PFAs	ASTMD7979-19M	04/29/21 03:40	AK210428W2
S23565.02	28 PFAs	ASTMD7979-19M	04/29/21 04:00	AK210428W2
S23565.03	28 PFAs	ASTMD7979-19M	04/29/21 04:19	AK210428W2
S23565.04	28 PFAs	ASTMD7979-19M	04/29/21 04:39	AK210428W2

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23565.01

Sample Tag: OBG MW-10S

Collected Date/Time: 04/26/2021 14:42

Matrix: Groundwater

COC Reference: 125034

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 03:40, Matrix: WW, Dilution: 2.08

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**114.6**	50.0	150.0
M2-6:2FTSA		**109.1**	50.0	150.0
M2-8:2FTSA		**74.2**	50.0	150.0
M2PFTeDA		**126.9**	12.0	218.0
M3PFBS		**123.4**	50.0	150.0
M3PFHxS		**103.9**	50.0	150.0
M4PFHpA		**103.5**	50.0	150.0
M5PFHxA		**119.9**	50.0	150.0
M5PFPeA		**111.8**	50.0	150.0
M6PFDA		**124.5**	50.0	150.0
M7PFUnDA		**104.1**	50.0	150.0
M8FOSA		**119.2**	50.0	150.0
M8PFOA		**112.0**	50.0	150.0
M8PFOS		**123.4**	50.0	150.0
M9-PFNA		**110.8**	50.0	150.0
MPFBA		**114.6**	50.0	150.0
MPFDoDA		**110.1**	50.0	150.0
d3N-MeFOSAA		**99.6**	50.0	150.0
d5EtFOSAA		**101.0**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23565.02

Sample Tag: OBG MW-4S

Collected Date/Time: 04/26/2021 16:30

Matrix: Groundwater

COC Reference: 125034

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 04:00, Matrix: WW, Dilution: 2.09

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**103.9**	50.0	150.0
M2-6:2FTSA		**80.0**	50.0	150.0
M2-8:2FTSA		**70.0**	50.0	150.0
M2PFTeDA		**107.5**	12.0	218.0
M3PFBS		**123.3**	50.0	150.0
M3PFHxS		**109.7**	50.0	150.0
M4PFHpA		**108.4**	50.0	150.0
M5PFHxA		**109.0**	50.0	150.0
M5PFPeA		**105.1**	50.0	150.0
M6PFDA		**110.6**	50.0	150.0
M7PFUnDA		**99.9**	50.0	150.0
M8FOSA		**115.7**	50.0	150.0
M8PFOA		**103.8**	50.0	150.0
M8PFOS		**120.1**	50.0	150.0
M9-PFNA		**113.8**	50.0	150.0
MPFBA		**113.2**	50.0	150.0
MPFDoDA		**106.6**	50.0	150.0
d3N-MeFOSAA		**92.1**	50.0	150.0
d5EtFOSAA		**97.7**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23565.03

Sample Tag: MW-401

Collected Date/Time: 04/27/2021 10:22

Matrix: Groundwater

COC Reference: 125034

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 04:19, Matrix: WW, Dilution: 2.07

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**93.9**	50.0	150.0
M2-6:2FTSA		**88.3**	50.0	150.0
M2-8:2FTSA		**73.2**	50.0	150.0
M2PFTeDA		**122.7**	12.0	218.0
M3PFBS		**127.4**	50.0	150.0
M3PFHxS		**108.9**	50.0	150.0
M4PFHpA		**99.7**	50.0	150.0
M5PFHxA		**113.2**	50.0	150.0
M5PFPeA		**105.5**	50.0	150.0
M6PFDA		**108.7**	50.0	150.0
M7PFUnDA		**99.9**	50.0	150.0
M8FOSA		**118.3**	50.0	150.0
M8PFOA		**99.3**	50.0	150.0
M8PFOS		**116.4**	50.0	150.0
M9-PFNA		**116.8**	50.0	150.0
MPFBA		**111.9**	50.0	150.0
MPFDoDA		**108.6**	50.0	150.0
d3N-MeFOSAA		**94.0**	50.0	150.0
d5EtFOSAA		**95.9**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23565.04

Sample Tag: Field Blank-042721

Collected Date/Time: 04/27/2021 10:20

Matrix: Water

COC Reference: 125034

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 04:39, Matrix: WW, Dilution: 2.11

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**81.5**	50.0	150.0
M2-6:2FTSA		**86.7**	50.0	150.0
M2-8:2FTSA		**73.9**	50.0	150.0
M2PFTeDA		**140.3**	12.0	218.0
M3PFBS		**125.8**	50.0	150.0
M3PFHxS		**109.2**	50.0	150.0
M4PFHpA		**111.3**	50.0	150.0
M5PFHxA		**116.7**	50.0	150.0
M5PFPeA		**111.1**	50.0	150.0
M6PFDA		**116.5**	50.0	150.0
M7PFUnDA		**106.2**	50.0	150.0
M8FOSA		**125.1**	50.0	150.0
M8PFOA		**108.3**	50.0	150.0
M8PFOS		**130.3**	50.0	150.0
M9-PFNA		**115.9**	50.0	150.0
MPFBA		**110.2**	50.0	150.0
MPFDoDA		**114.7**	50.0	150.0
d3N-MeFOSAA		**109.9**	50.0	150.0
d5EtFOSAA		**94.7**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**90.5**	50.0	150.0
M2-6:2FTSA		**94.6**	50.0	150.0
M2-8:2FTSA		**87.6**	50.0	150.0
M2PFTeDA		**83.2**	12.0	218.0
M3PFBS		**113.1**	50.0	150.0
M3PFHxS		**87.0**	50.0	150.0
M4PFHpA		**91.7**	50.0	150.0
M5PFHxA		**100.3**	50.0	150.0
M5PFPeA		**100.7**	50.0	150.0
M6PFDA		**90.3**	50.0	150.0
M7PFUnDA		**91.3**	50.0	150.0
M8FOSA		**99.6**	50.0	150.0
M8PFOA		**95.3**	50.0	150.0
M8PFOS		**101.3**	50.0	150.0
M9-PFNA		**98.0**	50.0	150.0
MPFBA		**98.5**	50.0	150.0
MPFDoDA		**80.2**	50.0	150.0
d3N-MeFOSAA		**100.6**	50.0	150.0
d5EtFOSAA		**95.5**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.2**	50.0	150.0
M2-6:2FTSA		**97.3**	50.0	150.0
M2-8:2FTSA		**87.7**	50.0	150.0
M2PFTeDA		**101.5**	12.0	218.0
M3PFBS		**108.7**	50.0	150.0
M3PFHxS		**97.5**	50.0	150.0
M4PFHpA		**83.6**	50.0	150.0
M5PFHxA		**102.6**	50.0	150.0
M5PFPeA		**98.4**	50.0	150.0
M6PFDA		**91.0**	50.0	150.0
M7PFUnDA		**85.7**	50.0	150.0
M8FOSA		**100.6**	50.0	150.0
M8PFOA		**78.9**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**96.5**	50.0	150.0
MPFBA		**97.4**	50.0	150.0
MPFDoDA		**84.0**	50.0	150.0
d3N-MeFOSAA		**96.3**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**96.1**	50.0	150.0
M2-6:2FTSA		**97.7**	50.0	150.0
M2-8:2FTSA		**78.2**	50.0	150.0
M2PFTeDA		**104.5**	12.0	218.0
M3PFBS		**108.6**	50.0	150.0
M3PFHxS		**91.2**	50.0	150.0
M4PFHpA		**92.4**	50.0	150.0
M5PFHxA		**100.9**	50.0	150.0
M5PFPeA		**100.4**	50.0	150.0
M6PFDA		**84.0**	50.0	150.0
M7PFUnDA		**89.0**	50.0	150.0
M8FOSA		**102.4**	50.0	150.0
M8PFOA		**92.2**	50.0	150.0
M8PFOS		**102.3**	50.0	150.0
M9-PFNA		**99.4**	50.0	150.0
MPFBA		**98.0**	50.0	150.0
MPFDoDA		**97.8**	50.0	150.0
d3N-MeFOSAA		**105.8**	50.0	150.0
d5EtFOSAA		**105.1**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**88.3**	50.0	150.0
M2-6:2FTSA		**87.9**	50.0	150.0
M2-8:2FTSA		**59.2**	50.0	150.0
M2PFTeDA		**114.5**	12.0	218.0
M3PFBS		**115.1**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**96.1**	50.0	150.0
M5PFHxA		**103.9**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**98.4**	50.0	150.0
M7PFUnDA		**88.5**	50.0	150.0
M8FOSA		**107.5**	50.0	150.0
M8PFOA		**95.4**	50.0	150.0
M8PFOS		**107.0**	50.0	150.0
M9-PFNA		**98.3**	50.0	150.0
MPFBA		**102.8**	50.0	150.0
MPFDoDA		**102.9**	50.0	150.0
d3N-MeFOSAA		**88.8**	50.0	150.0
d5EtFOSAA		**92.5**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**89.6**	50.0	150.0
M2-6:2FTSA		**80.2**	50.0	150.0
M2-8:2FTSA		**59.5**	50.0	150.0
M2PFTeDA		**111.3**	12.0	218.0
M3PFBS		**113.3**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**90.2**	50.0	150.0
M5PFHxA		**101.7**	50.0	150.0
M5PFPeA		**98.6**	50.0	150.0
M6PFDA		**100.6**	50.0	150.0
M7PFUnDA		**85.8**	50.0	150.0
M8FOSA		**104.0**	50.0	150.0
M8PFOA		**99.0**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**101.0**	50.0	150.0
MPFBA		**101.2**	50.0	150.0
MPFDoDA		**94.7**	50.0	150.0
d3N-MeFOSAA		**90.5**	50.0	150.0
d5EtFOSAA		**83.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
11CL-PF3OUdS		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
ADONA		ND	2	ng/l
HFPO-DA		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.5	70.0	130.0
PFPeA		100.0	70.0	130.0
4:2 FTSA		97.0	70.0	130.0
PFHxA		97.8	70.0	130.0
PFBS		99.8	70.0	130.0
HFPO-DA		106.0	70.0	130.0
PFHpA		108.0	70.0	130.0
PFPeS		102.0	70.0	130.0
ADONA		120.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		106.0	70.0	130.0
PFOA		117.0	70.0	130.0
PFHxS		101.0	70.0	130.0
PFNA		97.4	70.0	130.0
8:2 FTSA		102.0	70.0	130.0
PFHpS		91.3	70.0	130.0
N-MeFOSAA		105.0	70.0	130.0
PFDA		116.0	70.0	130.0
PFOS		77.2	70.0	130.0
EtFOSAA		112.0	70.0	130.0
PFUnDA		99.7	70.0	130.0
9CL-PF3ONS		93.8	70.0	130.0
PFNS		98.2	70.0	130.0
PFDoDA		107.0	70.0	130.0
PFDS		91.6	70.0	130.0
PFTrDA		108.0	70.0	130.0
11CL-PF3OUdS		92.1	70.0	130.0
FOSA		101.0	70.0	130.0
PFTeDA		98.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		99.3	70.0	130.0	0.2	30.0
PFPeA		97.6	70.0	130.0	2.4	30.0
4:2 FTSA		99.7	70.0	130.0	2.7	30.0
PFHxA		101.0	70.0	130.0	3.2	30.0
PFBS		98.0	70.0	130.0	1.8	30.0
HFPO-DA		115.0	70.0	130.0	8.1	30.0
PFHpA		102.0	70.0	130.0	5.7	30.0
PFPeS		104.0	70.0	130.0	1.9	30.0
ADONA		94.1	70.0	130.0	24.2	30.0
6:2 FTSA		91.3	70.0	130.0	14.9	30.0
PFOA		97.5	70.0	130.0	18.2	30.0
PFHxS		110.0	70.0	130.0	8.5	30.0
PFNA		102.0	70.0	130.0	4.6	30.0
8:2 FTSA		107.0	70.0	130.0	4.8	30.0
PFHpS		103.0	70.0	130.0	12.0	30.0
N-MeFOSAA		95.2	70.0	130.0	9.8	30.0
PFDA		123.0	70.0	130.0	5.9	30.0
PFOS		90.5	70.0	130.0	15.9	30.0
EtFOSAA		106.0	70.0	130.0	5.5	30.0
PFUnDA		111.0	70.0	130.0	10.7	30.0
9CL-PF3ONS		101.0	70.0	130.0	7.4	30.0
PFNS		95.8	70.0	130.0	2.5	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		95.0	70.0	130.0	11.9	30.0
PFDS		102.0	70.0	130.0	10.7	30.0
PFTrDA		88.1	70.0	130.0	20.3	30.0
11CL-PF3OUdS		98.5	70.0	130.0	6.7	30.0
FOSA		100.0	70.0	130.0	1.0	30.0
PFTeDA		89.5	70.0	130.0	9.5	30.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		108.9	70.0	130.0
PFPeA		108.9	70.0	130.0
4:2 FTSA		99.0	70.0	130.0
PFHxA		99.0	70.0	130.0
PFBS		107.3	70.0	130.0
PFHpA		90.1	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		88.1	70.0	130.0
PFOA		97.3	70.0	130.0
PFHxS		108.9	70.0	130.0
PFNA		99.0	70.0	130.0
8:2 FTSA		108.9	70.0	130.0
PFHpS		108.9	70.0	130.0
PFDA		99.0	70.0	130.0
N-MeFOSAA		93.1	70.0	130.0
EtFOSAA		108.9	70.0	130.0
PFOS		82.2	70.0	130.0
PFUnDA		108.9	70.0	130.0
PFNS		99.0	70.0	130.0
PFDoDA		88.1	70.0	130.0
PFDS		108.9	70.0	130.0
PFTrDA		99.0	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		91.1	70.0	130.0
11CL-PF3OUdS		97.0	70.0	130.0
9CL-PF3ONS		108.9	70.0	130.0
ADONA		99.0	70.0	130.0
HFPO-DA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		4.3	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
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C.O.C. PAGE # 1 OF 1

125034

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-533-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com / Kevin.Schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Corridor
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (7777)	Special Instructions
23565.01	4/26/21	1442	OBG MW-10S	GW	3	3							X	Low Level Reporting
.02	4/26/21	1630	OBG MW-4S	GW	3	3							X	Limit with estimated
.03	4/27/21	1022	MW-401	GW	3	3							X	values
.04	4/27/21	1020	Field Blank - 042721	L	1	1							X	

10S

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE 4/27/21	TIME 11:55	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 11:55	
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 14:40	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1440	

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 4.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S23568.01(01)
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Addtional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S23568.01-S23568.03
Project: RACER Hemphill Rd. Industrial Land
Collected Date(s): 04/26/2021 - 04/27/2021
Submitted Date/Time: 04/27/2021 14:40
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23568.01	SAN-01	Liquid	04/26/21 13:15
S23568.02	SAN-02	Liquid	04/26/21 14:40
S23568.03	Field Blank-042721	Water	04/27/21 10:20

Analytical Laboratory Report

Lab Sample ID: S23568.01
Sample Tag: SAN-01
Collected Date/Time: 04/26/2021 13:15
Matrix: Liquid
COC Reference: 131121

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.30/6.91/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 04:58, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.04	375-22-4	
PFPeA*	3.8	4.1	1.0	ng/L	2.04	2706-90-3	J
4:2 FTSA*	Not detected	2.0	1.6	ng/L	2.04	757124-72-4	
PFHxA*	4.8	2.0	1.4	ng/L	2.04	307-24-4	
PFBS*	3.8	2.0	1.4	ng/L	2.04	375-73-5	
PFHpA*	1.7	2.0	1.4	ng/L	2.04	375-85-9	J
PFPeS*	Not detected	2.0	1.8	ng/L	2.04	2706-91-4	
6:2 FTSA*	Not detected	2.0	2.0	ng/L	2.04	27619-97-2	
PFOA*	2.8	2.0	1.6	ng/L	2.04	335-67-1	
PFHxS*	3.8	2.0	1.6	ng/L	2.04	355-46-4	
PFHxS-LN*	1.8	2.0	1.6	ng/L	2.04	355-46-4-LN	J
PFHxS-BR*	Not detected	2.0	1.6	ng/L	2.04	355-46-4-BR	
PFNA*	Not detected	2.0	1.8	ng/L	2.04	375-95-1	
8:2 FTSA*	Not detected	2.0	1.0	ng/L	2.04	39108-34-4	
PFHpS*	Not detected	2.0	2.0	ng/L	2.04	375-92-8	
PFDA*	Not detected	2.0	2.0	ng/L	2.04	335-76-2	
N-MeFOSAA*	Not detected	2.0	2.0	ng/L	2.04	2355-31-9	
EtFOSAA*	Not detected	4.1	2.0	ng/L	2.04	2991-50-6	I
PFOS*	8.4	2.0	2.0	ng/L	2.04	1763-23-1	
PFOS-LN*	Not detected	2.0	2.0	ng/L	2.04	1763-23-1-LN	
PFOS-BR*	6.4	2.0	2.0	ng/L	2.04	1763-23-1-BR	
PFUnDA*	Not detected	2.0	1.4	ng/L	2.04	2058-94-8	
PFNS*	Not detected	2.0	1.4	ng/L	2.04	68259-12-1	
PFDoDA*	Not detected	2.0	1.6	ng/L	2.04	307-55-1	
PFDS*	Not detected	2.0	1.4	ng/L	2.04	335-77-3	
PFTrDA*	Not detected	2.0	1.2	ng/L	2.04	72629-94-8	
FOSA*	Not detected	2.0	1.8	ng/L	2.04	754-91-6	
PFTeDA*	Not detected	4.1	1.8	ng/L	2.04	376-06-7	
11Cl-PF3OUdS*	Not detected	2.0	1.8	ng/L	2.04	763051-92-9	
9Cl-PF3ONS*	Not detected	2.0	1.4	ng/L	2.04	756426-58-1	
ADONA*	Not detected	2.0	2.0	ng/L	2.04	919005-14-4	
HFPO-DA*	Not detected	10	2.0	ng/L	2.04	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL
I-Matrix interference with internal standard

Analytical Laboratory Report

Lab Sample ID: S23568.02
Sample Tag: SAN-02
Collected Date/Time: 04/26/2021 14:40
Matrix: Liquid
COC Reference: 131121

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.67/6.85/12	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 05:18, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	10	10	ng/L	2.06	375-22-4	
PFPeA*	4.0	4.1	1.0	ng/L	2.06	2706-90-3	J
4:2 FTSA*	Not detected	2.1	1.6	ng/L	2.06	757124-72-4	
PFHxA*	2.7	2.1	1.4	ng/L	2.06	307-24-4	
PFBS*	4.1	2.1	1.4	ng/L	2.06	375-73-5	
PFHpA*	Not detected	2.1	1.4	ng/L	2.06	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.06	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.06	27619-97-2	I
PFOA*	2.9	2.1	1.6	ng/L	2.06	335-67-1	
PFHxS*	2.1	2.1	1.6	ng/L	2.06	355-46-4	
PFHxS-LN*	Not detected	2.1	1.6	ng/L	2.06	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.6	ng/L	2.06	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.06	375-95-1	
8:2 FTSA*	Not detected	2.1	1.0	ng/L	2.06	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.06	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.06	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.06	2355-31-9	
EtFOSAA*	Not detected	4.1	2.1	ng/L	2.06	2991-50-6	
PFOS*	8.9	2.1	2.0	ng/L	2.06	1763-23-1	
PFOS-LN*	Not detected	2.1	2.0	ng/L	2.06	1763-23-1-LN	
PFOS-BR*	6.6	2.1	2.0	ng/L	2.06	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.4	ng/L	2.06	2058-94-8	
PFNS*	Not detected	2.1	1.4	ng/L	2.06	68259-12-1	
PFDoDA*	Not detected	2.1	1.6	ng/L	2.06	307-55-1	
PFDS*	Not detected	2.1	1.4	ng/L	2.06	335-77-3	
PFTrDA*	Not detected	2.1	1.2	ng/L	2.06	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.06	754-91-6	
PFTeDA*	Not detected	4.1	1.9	ng/L	2.06	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.06	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.4	ng/L	2.06	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.06	919005-14-4	
HFPO-DA*	Not detected	10	2.1	ng/L	2.06	13252-13-6	

J-Estimated value less than reporting limit, but greater than MDL
I-Matrix interference with internal standard

Analytical Laboratory Report

Lab Sample ID: S23568.03
Sample Tag: Field Blank-042721
Collected Date/Time: 04/27/2021 10:20
Matrix: Water
COC Reference: 131121

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.83/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 04:39, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	11	ng/L	2.11	375-22-4	
PFPeA*	Not detected	4.2	1.1	ng/L	2.11	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.11	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.11	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.11	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.11	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.11	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.11	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.11	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.11	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.11	375-95-1	
8:2 FTSA*	Not detected	2.1	1.1	ng/L	2.11	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.11	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.11	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.11	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.11	2991-50-6	
PFOS*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1	
PFOS-LN*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.11	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.11	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.11	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.11	335-77-3	
PFTrDA*	Not detected	2.1	1.3	ng/L	2.11	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.11	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.11	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.11	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.11	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.11	919005-14-4	
HFPO-DA*	Not detected	11	2.1	ng/L	2.11	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID: S23568
Client: OBG02 (Ramboll Americas - East Lansing, MI)
Project: RACER Hemphill Rd. Industrial Land
Submitted: 04/27/2021 14:40 Login User: SRS

Attention: Clifford Yantz
Address: Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.4
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[ ] Yes	[ ] No	[X] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

131121

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yuntz / Kevin. Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green court Ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yuntz@Ramboll.com / Kevin.Schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (7777)	Special Instructions
235608.01	4/26/21	1315	SAN-01	L	3	3							X	low level reporting
.02	4/26/21	1440	SAN-02	L	3	3							X	with estimated
.03	4/27/21	1020	Field Blank-042721	L	1	1							X	values

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	☒ Sampler	4/27/21	11:58
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		4/27/21	11:58
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		4/27/21	14:40
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		4/27/21	1440

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 4.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S23568-01
Generated on 04/30/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S23568.01-S23568.03
Project: RACER Hemphill Rd. Industrial Land
Submitted Date/Time: 04/27/2021 14:40
Sampled by: Kevin Schneider
P.O. #: HEMPHILL 2021?

QC Report Sections

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S23568.01
Sample Tag: SAN-01
Collected Date/Time: 04/26/2021 13:15
Matrix: Liquid
COC Reference: 131121

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 04:58	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23568.02

Sample Tag: SAN-02

Collected Date/Time: 04/26/2021 14:40

Matrix: Liquid

COC Reference: 131121

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 05:18	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23568.03

Sample Tag: Field Blank-042721

Collected Date/Time: 04/27/2021 10:20

Matrix: Water

COC Reference: 131121

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 04:39	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23568.01	28 PFAs	ASTMD7979-19M	04/29/21 04:58	AK210428W2
S23568.02	28 PFAs	ASTMD7979-19M	04/29/21 05:18	AK210428W2
S23568.03	28 PFAs	ASTMD7979-19M	04/29/21 04:39	AK210428W2

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23568.01

Sample Tag: SAN-01

Collected Date/Time: 04/26/2021 13:15

Matrix: Liquid

COC Reference: 131121

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 04:58, Matrix: WW, Dilution: 2.04

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**138.3**	50.0	150.0
M2-6:2FTSA		**136.4**	50.0	150.0
M2-8:2FTSA		**93.9**	50.0	150.0
M2PFTeDA		**123.6**	12.0	218.0
M3PFBS		**127.1**	50.0	150.0
M3PFHxS		**108.8**	50.0	150.0
M4PFHpA		**109.3**	50.0	150.0
M5PFHxA		**121.6**	50.0	150.0
M5PFPeA		**116.0**	50.0	150.0
M6PFDA		**135.3**	50.0	150.0
M7PFUnDA		**121.8**	50.0	150.0
M8FOSA		**140.9**	50.0	150.0
M8PFOA		**110.0**	50.0	150.0
M8PFOS		**114.7**	50.0	150.0
M9-PFNA		**128.2**	50.0	150.0
MPFBA		**123.2**	50.0	150.0
MPFDoDA		**83.3**	50.0	150.0
d3N-MeFOSAA		**126.7**	50.0	150.0
d5EtFOSAA	*	**170.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23568.02

Sample Tag: SAN-02

Collected Date/Time: 04/26/2021 14:40

Matrix: Liquid

COC Reference: 131121

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 05:18, Matrix: WW, Dilution: 2.06

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**147.5**	50.0	150.0
M2-6:2FTSA	*	**238.5**	50.0	150.0
M2-8:2FTSA		**141.9**	50.0	150.0
M2PFTeDA		**191.9**	12.0	218.0
M3PFBS		**123.4**	50.0	150.0
M3PFHxS		**114.1**	50.0	150.0
M4PFHpA		**114.2**	50.0	150.0
M5PFHxA		**127.8**	50.0	150.0
M5PFPeA		**115.8**	50.0	150.0
M6PFDA		**132.8**	50.0	150.0
M7PFUnDA		**130.7**	50.0	150.0
M8FOSA		**137.1**	50.0	150.0
M8PFOA		**119.5**	50.0	150.0
M8PFOS		**121.9**	50.0	150.0
M9-PFNA		**138.3**	50.0	150.0
MPFBA		**121.8**	50.0	150.0
MPFDoDA		**94.1**	50.0	150.0
d3N-MeFOSAA		**141.5**	50.0	150.0
d5EtFOSAA		**138.4**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23568.03

Sample Tag: Field Blank-042721

Collected Date/Time: 04/27/2021 10:20

Matrix: Water

COC Reference: 131121

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 04:39, Matrix: WW, Dilution: 2.11

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**81.5**	50.0	150.0
M2-6:2FTSA		**86.7**	50.0	150.0
M2-8:2FTSA		**73.9**	50.0	150.0
M2PFTeDA		**140.3**	12.0	218.0
M3PFBS		**125.8**	50.0	150.0
M3PFHxS		**109.2**	50.0	150.0
M4PFHpA		**111.3**	50.0	150.0
M5PFHxA		**116.7**	50.0	150.0
M5PFPeA		**111.1**	50.0	150.0
M6PFDA		**116.5**	50.0	150.0
M7PFUnDA		**106.2**	50.0	150.0
M8FOSA		**125.1**	50.0	150.0
M8PFOA		**108.3**	50.0	150.0
M8PFOS		**130.3**	50.0	150.0
M9-PFNA		**115.9**	50.0	150.0
MPFBA		**110.2**	50.0	150.0
MPFDoDA		**114.7**	50.0	150.0
d3N-MeFOSAA		**109.9**	50.0	150.0
d5EtFOSAA		**94.7**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**90.5**	50.0	150.0
M2-6:2FTSA		**94.6**	50.0	150.0
M2-8:2FTSA		**87.6**	50.0	150.0
M2PFTeDA		**83.2**	12.0	218.0
M3PFBS		**113.1**	50.0	150.0
M3PFHxS		**87.0**	50.0	150.0
M4PFHpA		**91.7**	50.0	150.0
M5PFHxA		**100.3**	50.0	150.0
M5PFPeA		**100.7**	50.0	150.0
M6PFDA		**90.3**	50.0	150.0
M7PFUnDA		**91.3**	50.0	150.0
M8FOSA		**99.6**	50.0	150.0
M8PFOA		**95.3**	50.0	150.0
M8PFOS		**101.3**	50.0	150.0
M9-PFNA		**98.0**	50.0	150.0
MPFBA		**98.5**	50.0	150.0
MPFDoDA		**80.2**	50.0	150.0
d3N-MeFOSAA		**100.6**	50.0	150.0
d5EtFOSAA		**95.5**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.2**	50.0	150.0
M2-6:2FTSA		**97.3**	50.0	150.0
M2-8:2FTSA		**87.7**	50.0	150.0
M2PFTeDA		**101.5**	12.0	218.0
M3PFBS		**108.7**	50.0	150.0
M3PFHxS		**97.5**	50.0	150.0
M4PFHpA		**83.6**	50.0	150.0
M5PFHxA		**102.6**	50.0	150.0
M5PFPeA		**98.4**	50.0	150.0
M6PFDA		**91.0**	50.0	150.0
M7PFUnDA		**85.7**	50.0	150.0
M8FOSA		**100.6**	50.0	150.0
M8PFOA		**78.9**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**96.5**	50.0	150.0
MPFBA		**97.4**	50.0	150.0
MPFDoDA		**84.0**	50.0	150.0
d3N-MeFOSAA		**96.3**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**96.1**	50.0	150.0
M2-6:2FTSA		**97.7**	50.0	150.0
M2-8:2FTSA		**78.2**	50.0	150.0
M2PFTeDA		**104.5**	12.0	218.0
M3PFBS		**108.6**	50.0	150.0
M3PFHxS		**91.2**	50.0	150.0
M4PFHpA		**92.4**	50.0	150.0
M5PFHxA		**100.9**	50.0	150.0
M5PFPeA		**100.4**	50.0	150.0
M6PFDA		**84.0**	50.0	150.0
M7PFUnDA		**89.0**	50.0	150.0
M8FOSA		**102.4**	50.0	150.0
M8PFOA		**92.2**	50.0	150.0
M8PFOS		**102.3**	50.0	150.0
M9-PFNA		**99.4**	50.0	150.0
MPFBA		**98.0**	50.0	150.0
MPFDoDA		**97.8**	50.0	150.0
d3N-MeFOSAA		**105.8**	50.0	150.0
d5EtFOSAA		**105.1**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**88.3**	50.0	150.0
M2-6:2FTSA		**87.9**	50.0	150.0
M2-8:2FTSA		**59.2**	50.0	150.0
M2PFTeDA		**114.5**	12.0	218.0
M3PFBS		**115.1**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**96.1**	50.0	150.0
M5PFHxA		**103.9**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**98.4**	50.0	150.0
M7PFUnDA		**88.5**	50.0	150.0
M8FOSA		**107.5**	50.0	150.0
M8PFOA		**95.4**	50.0	150.0
M8PFOS		**107.0**	50.0	150.0
M9-PFNA		**98.3**	50.0	150.0
MPFBA		**102.8**	50.0	150.0
MPFDoDA		**102.9**	50.0	150.0
d3N-MeFOSAA		**88.8**	50.0	150.0
d5EtFOSAA		**92.5**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**89.6**	50.0	150.0
M2-6:2FTSA		**80.2**	50.0	150.0
M2-8:2FTSA		**59.5**	50.0	150.0
M2PFTeDA		**111.3**	12.0	218.0
M3PFBS		**113.3**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**90.2**	50.0	150.0
M5PFHxA		**101.7**	50.0	150.0
M5PFPeA		**98.6**	50.0	150.0
M6PFDA		**100.6**	50.0	150.0
M7PFUnDA		**85.8**	50.0	150.0
M8FOSA		**104.0**	50.0	150.0
M8PFOA		**99.0**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**101.0**	50.0	150.0
MPFBA		**101.2**	50.0	150.0
MPFDoDA		**94.7**	50.0	150.0
d3N-MeFOSAA		**90.5**	50.0	150.0
d5EtFOSAA		**83.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
11CL-PF3OUdS		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
ADONA		ND	2	ng/l
HFPO-DA		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.5	70.0	130.0
PFPeA		100.0	70.0	130.0
4:2 FTSA		97.0	70.0	130.0
PFHxA		97.8	70.0	130.0
PFBS		99.8	70.0	130.0
HFPO-DA		106.0	70.0	130.0
PFHpA		108.0	70.0	130.0
PFPeS		102.0	70.0	130.0
ADONA		120.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		106.0	70.0	130.0
PFOA		117.0	70.0	130.0
PFHxS		101.0	70.0	130.0
PFNA		97.4	70.0	130.0
8:2 FTSA		102.0	70.0	130.0
PFHpS		91.3	70.0	130.0
N-MeFOSAA		105.0	70.0	130.0
PFDA		116.0	70.0	130.0
PFOS		77.2	70.0	130.0
EtFOSAA		112.0	70.0	130.0
PFUnDA		99.7	70.0	130.0
9CL-PF3ONS		93.8	70.0	130.0
PFNS		98.2	70.0	130.0
PFDoDA		107.0	70.0	130.0
PFDS		91.6	70.0	130.0
PFTrDA		108.0	70.0	130.0
11CL-PF3OUdS		92.1	70.0	130.0
FOSA		101.0	70.0	130.0
PFTeDA		98.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		99.3	70.0	130.0	0.2	30.0
PFPeA		97.6	70.0	130.0	2.4	30.0
4:2 FTSA		99.7	70.0	130.0	2.7	30.0
PFHxA		101.0	70.0	130.0	3.2	30.0
PFBS		98.0	70.0	130.0	1.8	30.0
HFPO-DA		115.0	70.0	130.0	8.1	30.0
PFHpA		102.0	70.0	130.0	5.7	30.0
PFPeS		104.0	70.0	130.0	1.9	30.0
ADONA		94.1	70.0	130.0	24.2	30.0
6:2 FTSA		91.3	70.0	130.0	14.9	30.0
PFOA		97.5	70.0	130.0	18.2	30.0
PFHxS		110.0	70.0	130.0	8.5	30.0
PFNA		102.0	70.0	130.0	4.6	30.0
8:2 FTSA		107.0	70.0	130.0	4.8	30.0
PFHpS		103.0	70.0	130.0	12.0	30.0
N-MeFOSAA		95.2	70.0	130.0	9.8	30.0
PFDA		123.0	70.0	130.0	5.9	30.0
PFOS		90.5	70.0	130.0	15.9	30.0
EtFOSAA		106.0	70.0	130.0	5.5	30.0
PFUnDA		111.0	70.0	130.0	10.7	30.0
9CL-PF3ONS		101.0	70.0	130.0	7.4	30.0
PFNS		95.8	70.0	130.0	2.5	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		95.0	70.0	130.0	11.9	30.0
PFDS		102.0	70.0	130.0	10.7	30.0
PFTrDA		88.1	70.0	130.0	20.3	30.0
11CL-PF3OUdS		98.5	70.0	130.0	6.7	30.0
FOSA		100.0	70.0	130.0	1.0	30.0
PFTeDA		89.5	70.0	130.0	9.5	30.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		108.9	70.0	130.0
PFPeA		108.9	70.0	130.0
4:2 FTSA		99.0	70.0	130.0
PFHxA		99.0	70.0	130.0
PFBS		107.3	70.0	130.0
PFHpA		90.1	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		88.1	70.0	130.0
PFOA		97.3	70.0	130.0
PFHxS		108.9	70.0	130.0
PFNA		99.0	70.0	130.0
8:2 FTSA		108.9	70.0	130.0
PFHpS		108.9	70.0	130.0
PFDA		99.0	70.0	130.0
N-MeFOSAA		93.1	70.0	130.0
EtFOSAA		108.9	70.0	130.0
PFOS		82.2	70.0	130.0
PFUnDA		108.9	70.0	130.0
PFNS		99.0	70.0	130.0
PFDoDA		88.1	70.0	130.0
PFDS		108.9	70.0	130.0
PFTrDA		99.0	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		91.1	70.0	130.0
11CL-PF3OUdS		97.0	70.0	130.0
9CL-PF3ONS		108.9	70.0	130.0
ADONA		99.0	70.0	130.0
HFPO-DA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		4.3	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

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C.O.C. PAGE # 1 OF 1

131121

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yuntz / Kevin. Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green court Ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yuntz@Ramboll.com / Kevin.Schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (7777)	Special Instructions
235608.01	4/26/21	1315	SAN-01	L	3	3							X	low level reporting
.02	4/26/21	1440	SAN-02	L	3	3							X	with estimated
.03	4/27/21	1020	Field Blank-042721	L	1	1							X	values

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	☒ Sampler	4/27/21	11:58
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		4/27/21	11:58
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		4/27/21	14:40
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		4/27/21	1440

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 4.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S23572.01(01)
Generated on 05/18/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Addtional Contacts: Kevin Schneider

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S23572.01-S23572.03
Project: RACER Hemphill Rd. Industrial Land
Collected Date(s): 04/26/2021 - 04/27/2021
Submitted Date/Time: 04/27/2021 14:40
Sampled by: Kevin Schneider
P.O. #: 1940002902

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTM D7968-17M	ASTM Method D7968 - 17 Modified (Isotopic Dilution)
ASTMD7979-19M	ASTM Method D7979 - 19 Modified (Isotopic Dilution)

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S23572.01	OBG MW-4S	Oil	04/26/21 16:45
S23572.02	MW-407	Oil	04/27/21 10:40
S23572.03	Field Blank-042721	Water	04/27/21 10:20

Analytical Laboratory Report

Lab Sample ID: S23572.01
Sample Tag: OBG MW-4S
Collected Date/Time: 04/26/2021 16:45
Matrix: Oil
COC Reference: 125033

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	7.291/6.974/10	ASTM D7968-17M	04/28/21 12:00	KCV	

Organics

28 PFAs, Method: ASTM D7968-17M, Run Date: 04/29/21 12:11, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	630	170	ng/kg	31.5	375-22-4	1
PFPeA*	Not detected	320	100	ng/kg	31.5	2706-90-3	1
4:2 FTSA*	Not detected	320	69	ng/kg	31.5	757124-72-4	1
PFHxA*	Not detected	320	63	ng/kg	31.5	307-24-4	1
PFBS*	Not detected	320	72	ng/kg	31.5	375-73-5	1
PFHpA*	Not detected	320	88	ng/kg	31.5	375-85-9	1
PFPeS*	Not detected	320	88	ng/kg	31.5	2706-91-4	1
6:2 FTSA*	Not detected	320	100	ng/kg	31.5	27619-97-2	1
PFOA*	Not detected	320	54	ng/kg	31.5	335-67-1	1
PFHxS*	Not detected	320	44	ng/kg	31.5	355-46-4	1
PFHxS-LN*	Not detected	320	44	ng/kg	31.5	355-46-4-LN	1
PFHxS-BR*	Not detected	320	44	ng/kg	31.5	355-46-4-BR	1
PFNA*	Not detected	320	82	ng/kg	31.5	375-95-1	1
8:2 FTSA*	Not detected	320	130	ng/kg	31.5	39108-34-4	1
PFHpS*	Not detected	320	95	ng/kg	31.5	375-92-8	1
PFDA*	Not detected	320	150	ng/kg	31.5	335-76-2	1
N-MeFOSAA*	Not detected	320	69	ng/kg	31.5	2355-31-9	1
EtFOSAA*	Not detected	320	120	ng/kg	31.5	2991-50-6	1
PFOS*	Not detected	320	54	ng/kg	31.5	1763-23-1	1
PFOS-LN*	Not detected	320	54	ng/kg	31.5	1763-23-1-LN	1
PFOS-BR*	Not detected	320	54	ng/kg	31.5	1763-23-1-BR	1
PFUnDA*	Not detected	320	76	ng/kg	31.5	2058-94-8	1
PFNS*	Not detected	320	66	ng/kg	31.5	68259-12-1	1
PFDoDA*	Not detected	320	82	ng/kg	31.5	307-55-1	1
PFDS*	Not detected	320	88	ng/kg	31.5	335-77-3	1
PFTrDA*	Not detected	320	72	ng/kg	31.5	72629-94-8	1
FOSA*	Not detected	320	63	ng/kg	31.5	754-91-6	1
PFTeDA*	Not detected	320	60	ng/kg	31.5	376-06-7	1
11Cl-PF3OUdS*	Not detected	320	76	ng/kg	31.5	763051-92-9	1
9Cl-PF3ONS*	Not detected	320	69	ng/kg	31.5	756426-58-1	1
ADONA*	Not detected	320	88	ng/kg	31.5	919005-14-4	1
HFPO-DA*	Not detected	320	79	ng/kg	31.5	13252-13-6	1

1-Bottles overfilled, subsample poured off to analyze.

Analytical Laboratory Report

Lab Sample ID: S23572.02
Sample Tag: MW-407
Collected Date/Time: 04/27/2021 10:40
Matrix: Oil
COC Reference: 125033

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	7.272/7.065/10	ASTM D7968-17M	04/28/21 12:00	KCV	

Organics

28 PFAs, Method: ASTM D7968-17M, Run Date: 04/29/21 12:30, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	970	260	ng/kg	48.3	375-22-4	1
PFPeA*	Not detected	480	150	ng/kg	48.3	2706-90-3	1
4:2 FTSA*	Not detected	480	110	ng/kg	48.3	757124-72-4	1
PFHxA*	Not detected	480	97	ng/kg	48.3	307-24-4	1
PFBS*	Not detected	480	110	ng/kg	48.3	375-73-5	1
PFHpA*	Not detected	480	140	ng/kg	48.3	375-85-9	1
PFPeS*	Not detected	480	140	ng/kg	48.3	2706-91-4	1
6:2 FTSA*	Not detected	480	160	ng/kg	48.3	27619-97-2	1
PFOA*	Not detected	480	82	ng/kg	48.3	335-67-1	1
PFHxS*	Not detected	480	68	ng/kg	48.3	355-46-4	1
PFHxS-LN*	Not detected	480	68	ng/kg	48.3	355-46-4-LN	1
PFHxS-BR*	Not detected	480	68	ng/kg	48.3	355-46-4-BR	1
PFNA*	Not detected	480	130	ng/kg	48.3	375-95-1	1
8:2 FTSA*	Not detected	480	190	ng/kg	48.3	39108-34-4	1
PFHpS*	Not detected	480	140	ng/kg	48.3	375-92-8	1
PFDA*	Not detected	480	230	ng/kg	48.3	335-76-2	1
N-MeFOSAA*	Not detected	480	110	ng/kg	48.3	2355-31-9	1
EtFOSAA*	Not detected	480	190	ng/kg	48.3	2991-50-6	1
PFOS*	99	480	82	ng/kg	48.3	1763-23-1	J1
PFOS-LN*	Not detected	480	82	ng/kg	48.3	1763-23-1-LN	1
PFOS-BR*	Not detected	480	82	ng/kg	48.3	1763-23-1-BR	1
PFUnDA*	Not detected	480	120	ng/kg	48.3	2058-94-8	1
PFNS*	Not detected	480	100	ng/kg	48.3	68259-12-1	1
PFDoDA*	Not detected	480	130	ng/kg	48.3	307-55-1	1
PFDS*	Not detected	480	140	ng/kg	48.3	335-77-3	1
PFTrDA*	Not detected	480	110	ng/kg	48.3	72629-94-8	1
FOSA*	Not detected	480	97	ng/kg	48.3	754-91-6	1
PFTeDA*	Not detected	480	92	ng/kg	48.3	376-06-7	1
11Cl-PF3OUdS*	Not detected	480	120	ng/kg	48.3	763051-92-9	1
9Cl-PF3ONS*	Not detected	480	110	ng/kg	48.3	756426-58-1	1
ADONA*	Not detected	480	140	ng/kg	48.3	919005-14-4	1
HFPO-DA*	Not detected	480	120	ng/kg	48.3	13252-13-6	1

1-Bottles overfilled, subsample poured off to analyze.
J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S23572.03
Sample Tag: Field Blank-042721
Collected Date/Time: 04/27/2021 10:20
Matrix: Water
COC Reference: 125033

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	15ml Centrifuge Tube	None	Yes	4.4	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	12.04/6.83/11	ASTMD7979-19M	04/28/21 17:30	KCV	

Organics

28 PFAs, Method: ASTMD7979-19M, Run Date: 04/29/21 04:39, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	11	11	ng/L	2.11	375-22-4	
PFPeA*	Not detected	4.2	1.1	ng/L	2.11	2706-90-3	
4:2 FTSA*	Not detected	2.1	1.7	ng/L	2.11	757124-72-4	
PFHxA*	Not detected	2.1	1.5	ng/L	2.11	307-24-4	
PFBS*	Not detected	2.1	1.5	ng/L	2.11	375-73-5	
PFHpA*	Not detected	2.1	1.5	ng/L	2.11	375-85-9	
PFPeS*	Not detected	2.1	1.9	ng/L	2.11	2706-91-4	
6:2 FTSA*	Not detected	2.1	2.1	ng/L	2.11	27619-97-2	
PFOA*	Not detected	2.1	1.7	ng/L	2.11	335-67-1	
PFHxS*	Not detected	2.1	1.7	ng/L	2.11	355-46-4	
PFHxS-LN*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-LN	
PFHxS-BR*	Not detected	2.1	1.7	ng/L	2.11	355-46-4-BR	
PFNA*	Not detected	2.1	1.9	ng/L	2.11	375-95-1	
8:2 FTSA*	Not detected	2.1	1.1	ng/L	2.11	39108-34-4	
PFHpS*	Not detected	2.1	2.1	ng/L	2.11	375-92-8	
PFDA*	Not detected	2.1	2.1	ng/L	2.11	335-76-2	
N-MeFOSAA*	Not detected	2.1	2.1	ng/L	2.11	2355-31-9	
EtFOSAA*	Not detected	4.2	2.1	ng/L	2.11	2991-50-6	
PFOS*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1	
PFOS-LN*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-LN	
PFOS-BR*	Not detected	2.1	2.1	ng/L	2.11	1763-23-1-BR	
PFUnDA*	Not detected	2.1	1.5	ng/L	2.11	2058-94-8	
PFNS*	Not detected	2.1	1.5	ng/L	2.11	68259-12-1	
PFDoDA*	Not detected	2.1	1.7	ng/L	2.11	307-55-1	
PFDS*	Not detected	2.1	1.5	ng/L	2.11	335-77-3	
PFTrDA*	Not detected	2.1	1.3	ng/L	2.11	72629-94-8	
FOSA*	Not detected	2.1	1.9	ng/L	2.11	754-91-6	
PFTeDA*	Not detected	4.2	1.9	ng/L	2.11	376-06-7	
11Cl-PF3OUdS*	Not detected	2.1	1.9	ng/L	2.11	763051-92-9	
9Cl-PF3ONS*	Not detected	2.1	1.5	ng/L	2.11	756426-58-1	
ADONA*	Not detected	2.1	2.1	ng/L	2.11	919005-14-4	
HFPO-DA*	Not detected	11	2.1	ng/L	2.11	13252-13-6	

Merit Laboratories Login Checklist

Lab Set ID: S23572
Client: OBG02 (Ramboll Americas - East Lansing, MI)
Project: RACER Hemphill Rd. Industrial Land
Submitted: 04/27/2021 14:40 Login User: SRS

Attention: Clifford Yantz
Address: Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@ramboll.com

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.4
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[ ] Yes	[ ] No	[X] N/A	Do sample have correct chemical preservation	
11.	[ ] Yes	[ ] No	[X] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	Too much volume, subsample will need to be taken
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

125033

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com / Kevin.Schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (37ng)	Special Instructions
23572.01	4/26/21	1445	OBG MW-45	O	3	3							X	Low level Reporting
.02	4/27/21	1040	MW-401	O	3	3							X	Limit with
.03	4/27/21	1020	Field Blank-042721	L	1	1							X	estimated values

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 4/27/21	TIME 1155
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1655
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1640
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1440

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 2.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S23572-01
Generated on 05/18/2021

Report to

Attention: Clifford Yantz
Ramboll Americas
2260 East Saginaw Street
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S23572.01-S23572.03
Project: RACER Hemphill Rd. Industrial Land
Submitted Date/Time: 04/27/2021 14:40
Sampled by: Kevin Schneider
P.O. #: 1940002902

QC Report Sections

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S23572.01
Sample Tag: OBG MW-4S
Collected Date/Time: 04/26/2021 16:45
Matrix: Oil
COC Reference: 125033

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTM D7968-17M	04/29/21 12:11	DQ210428S2	PF210428S2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23572.02
Sample Tag: MW-407
Collected Date/Time: 04/27/2021 10:40
Matrix: Oil
COC Reference: 125033

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTM D7968-17M	04/29/21 12:30	DQ210428S2	PF210428S2	Yes	BLK/LCS/LCSD/MS/DU

Lab Sample ID: S23572.03

Sample Tag: Field Blank-042721

Collected Date/Time: 04/27/2021 10:20

Matrix: Water

COC Reference: 125033

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
28 PFAs	ASTMD7979-19M	04/29/21 04:39	AK210428W2	PF210428W2	Yes	BLK/LCS/LCSD/MS/DU

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: PF210428S2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23572.01	28 PFAs	ASTM D7968-17M	04/29/21 12:11	DQ210428S2
S23572.02	28 PFAs	ASTM D7968-17M	04/29/21 12:30	DQ210428S2

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S23572.03	28 PFAs	ASTMD7979-19M	04/29/21 04:39	AK210428W2

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23572.01

Sample Tag: OBG MW-4S

Collected Date/Time: 04/26/2021 16:45

Matrix: Oil

COC Reference: 125033

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: DQ210428S2, Run Date: 04/29/2021 12:11, Matrix: SO, Dilution: 31.5

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA	*	**152.3**	50.0	150.0
M2-6:2FTSA	*	**166.2**	50.0	150.0
M2-8:2FTSA	*	**152.8**	50.0	150.0
M2PFTeDA		**163.0**	12.0	218.0
M3PFBS		**112.6**	50.0	150.0
M3PFHxS		**106.5**	50.0	150.0
M4PFHpA		**114.3**	50.0	150.0
M5PFHxA		**110.8**	50.0	150.0
M5PFPeA		**113.1**	50.0	150.0
M6PFDA		**121.0**	50.0	150.0
M7PFUnDA		**127.9**	50.0	150.0
M8FOSA		**139.4**	50.0	150.0
M8PFOA		**119.5**	50.0	150.0
M8PFOS		**109.7**	50.0	150.0
M9-PFNA		**119.7**	50.0	150.0
MPFBA		**112.2**	50.0	150.0
MPFDoDA		**147.8**	50.0	150.0
d3N-MeFOSAA		**145.1**	50.0	150.0
d5EtFOSAA		**139.6**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23572.02

Sample Tag: MW-407

Collected Date/Time: 04/27/2021 10:40

Matrix: Oil

COC Reference: 125033

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: DQ210428S2, Run Date: 04/29/2021 12:30, Matrix: SO, Dilution: 48.3

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA	*	**174.0**	50.0	150.0
M2-6:2FTSA	*	**220.4**	50.0	150.0
M2-8:2FTSA	*	**185.9**	50.0	150.0
M2PFTeDA		**165.8**	12.0	218.0
M3PFBS		**105.7**	50.0	150.0
M3PFHxS		**109.8**	50.0	150.0
M4PFHpA		**115.6**	50.0	150.0
M5PFHxA		**113.2**	50.0	150.0
M5PFPeA		**115.2**	50.0	150.0
M6PFDA		**139.0**	50.0	150.0
M7PFUnDA		**138.8**	50.0	150.0
M8FOSA		**148.9**	50.0	150.0
M8PFOA		**119.3**	50.0	150.0
M8PFOS		**107.3**	50.0	150.0
M9-PFNA		**127.9**	50.0	150.0
MPFBA		**119.1**	50.0	150.0
MPFDoDA		**138.9**	50.0	150.0
d3N-MeFOSAA	*	**191.1**	50.0	150.0
d5EtFOSAA	*	**152.5**	50.0	150.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S23572.03

Sample Tag: Field Blank-042721

Collected Date/Time: 04/27/2021 10:20

Matrix: Water

COC Reference: 125033

Organics - Volatiles, Analysis: 28 PFAs

Run in Batch: AK210428W2, Run Date: 04/29/2021 04:39, Matrix: WW, Dilution: 2.11

Internal Standard	Flags	**%Rec**	LCL	UCL
M2-4:2FTSA		**81.5**	50.0	150.0
M2-6:2FTSA		**86.7**	50.0	150.0
M2-8:2FTSA		**73.9**	50.0	150.0
M2PFTeDA		**140.3**	12.0	218.0
M3PFBS		**125.8**	50.0	150.0
M3PFHxS		**109.2**	50.0	150.0
M4PFHpA		**111.3**	50.0	150.0
M5PFHxA		**116.7**	50.0	150.0
M5PFPeA		**111.1**	50.0	150.0
M6PFDA		**116.5**	50.0	150.0
M7PFUnDA		**106.2**	50.0	150.0
M8FOSA		**125.1**	50.0	150.0
M8PFOA		**108.3**	50.0	150.0
M8PFOS		**130.3**	50.0	150.0
M9-PFNA		**115.9**	50.0	150.0
MPFBA		**110.2**	50.0	150.0
MPFDoDA		**114.7**	50.0	150.0
d3N-MeFOSAA		**109.9**	50.0	150.0
d5EtFOSAA		**94.7**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428S2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ210428S2.BLK210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 06:01, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**110.5**	50.0	150.0
M2-6:2FTSA		**97.0**	50.0	150.0
M2-8:2FTSA		**93.7**	50.0	150.0
M2PFTeDA		**108.8**	12.0	218.0
M3PFBS		**92.1**	50.0	150.0
M3PFHxS		**94.5**	50.0	150.0
M4PFHpA		**95.5**	50.0	150.0
M5PFHxA		**96.3**	50.0	150.0
M5PFPeA		**102.1**	50.0	150.0
M6PFDA		**107.0**	50.0	150.0
M7PFUnDA		**97.8**	50.0	150.0
M8FOSA		**98.9**	50.0	150.0
M8PFOA		**100.5**	50.0	150.0
M8PFOS		**112.0**	50.0	150.0
M9-PFNA		**95.6**	50.0	150.0
MPFBA		**98.9**	50.0	150.0
MPFDoDA		**99.1**	50.0	150.0
d3N-MeFOSAA		**86.7**	50.0	150.0
d5EtFOSAA		**89.2**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: DQ210428S2.LCS210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 05:22, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**103.9**	50.0	150.0
M2-6:2FTSA		**91.2**	50.0	150.0
M2-8:2FTSA		**86.3**	50.0	150.0
M2PFTeDA		**125.6**	12.0	218.0
M3PFBS		**95.8**	50.0	150.0
M3PFHxS		**92.6**	50.0	150.0
M4PFHpA		**105.4**	50.0	150.0
M5PFHxA		**96.3**	50.0	150.0
M5PFPeA		**101.8**	50.0	150.0
M6PFDA		**93.7**	50.0	150.0
M7PFUnDA		**98.9**	50.0	150.0
M8FOSA		**96.3**	50.0	150.0
M8PFOA		**102.9**	50.0	150.0
M8PFOS		**101.4**	50.0	150.0
M9-PFNA		**103.4**	50.0	150.0
MPFBA		**99.1**	50.0	150.0
MPFDoDA		**113.9**	50.0	150.0
d3N-MeFOSAA		**83.9**	50.0	150.0
d5EtFOSAA		**84.2**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ210428S2.LCSD210428S2, Parent Sample ID: DQ210428S2.LCS210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 05:41, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**104.0**	50.0	150.0
M2-6:2FTSA		**106.2**	50.0	150.0
M2-8:2FTSA		**101.8**	50.0	150.0
M2PFTeDA		**105.5**	12.0	218.0
M3PFBS		**94.8**	50.0	150.0
M3PFHxS		**105.1**	50.0	150.0
M4PFHpA		**96.6**	50.0	150.0
M5PFHxA		**96.1**	50.0	150.0
M5PFPeA		**104.9**	50.0	150.0
M6PFDA		**104.7**	50.0	150.0
M7PFUnDA		**115.1**	50.0	150.0
M8FOSA		**93.6**	50.0	150.0
M8PFOA		**104.0**	50.0	150.0
M8PFOS		**107.1**	50.0	150.0
M9-PFNA		**95.8**	50.0	150.0
MPFBA		**99.9**	50.0	150.0
MPFDoDA		**108.0**	50.0	150.0
d3N-MeFOSAA		**91.2**	50.0	150.0
d5EtFOSAA		**81.8**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: DQ210428S2.2349826M, Parent Sample ID: S23498.26

Run in Batch: DQ210428S2, Run Date: 04/29/2021 06:40, Prep Date: 04/28/2021, Matrix: SO, Dilution: 6.51

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**114.1**	50.0	150.0
M2-6:2FTSA		**115.3**	50.0	150.0
M2-8:2FTSA		**85.2**	50.0	150.0
M2PFTeDA		**130.9**	12.0	218.0
M3PFBS		**101.0**	50.0	150.0
M3PFHxS		**105.5**	50.0	150.0
M4PFHpA		**110.1**	50.0	150.0
M5PFHxA		**99.1**	50.0	150.0
M5PFPeA		**104.9**	50.0	150.0
M6PFDA		**111.7**	50.0	150.0
M7PFUnDA		**122.9**	50.0	150.0
M8FOSA		**102.3**	50.0	150.0
M8PFOA		**115.1**	50.0	150.0
M8PFOS		**105.8**	50.0	150.0
M9-PFNA		**104.3**	50.0	150.0
MPFBA		**106.1**	50.0	150.0
MPFDoDA		**111.9**	50.0	150.0
d3N-MeFOSAA		**110.4**	50.0	150.0
d5EtFOSAA		**92.9**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: DQ210428S2.2349828D, Parent Sample ID: S23498.28

Run in Batch: DQ210428S2, Run Date: 04/29/2021 07:19, Prep Date: 04/28/2021, Matrix: SO, Dilution: 5.82

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**115.2**	50.0	150.0
M2-6:2FTSA		**105.6**	50.0	150.0
M2-8:2FTSA		**84.5**	50.0	150.0
M2PFTeDA		**111.9**	12.0	218.0
M3PFBS		**99.5**	50.0	150.0
M3PFHxS		**97.6**	50.0	150.0
M4PFHpA		**102.7**	50.0	150.0
M5PFHxA		**95.0**	50.0	150.0
M5PFPeA		**107.0**	50.0	150.0
M6PFDA		**100.4**	50.0	150.0
M7PFUnDA		**106.6**	50.0	150.0
M8FOSA		**96.4**	50.0	150.0
M8PFOA		**103.2**	50.0	150.0
M8PFOS		**106.4**	50.0	150.0
M9-PFNA		**102.0**	50.0	150.0
MPFBA		**105.1**	50.0	150.0
MPFDoDA		**111.5**	50.0	150.0
d3N-MeFOSAA		**94.6**	50.0	150.0
d5EtFOSAA		**87.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428W2

QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**90.5**	50.0	150.0
M2-6:2FTSA		**94.6**	50.0	150.0
M2-8:2FTSA		**87.6**	50.0	150.0
M2PFTeDA		**83.2**	12.0	218.0
M3PFBS		**113.1**	50.0	150.0
M3PFHxS		**87.0**	50.0	150.0
M4PFHpA		**91.7**	50.0	150.0
M5PFHxA		**100.3**	50.0	150.0
M5PFPeA		**100.7**	50.0	150.0
M6PFDA		**90.3**	50.0	150.0
M7PFUnDA		**91.3**	50.0	150.0
M8FOSA		**99.6**	50.0	150.0
M8PFOA		**95.3**	50.0	150.0
M8PFOS		**101.3**	50.0	150.0
M9-PFNA		**98.0**	50.0	150.0
MPFBA		**98.5**	50.0	150.0
MPFDoDA		**80.2**	50.0	150.0
d3N-MeFOSAA		**100.6**	50.0	150.0
d5EtFOSAA		**95.5**	50.0	150.0

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**99.2**	50.0	150.0
M2-6:2FTSA		**97.3**	50.0	150.0
M2-8:2FTSA		**87.7**	50.0	150.0
M2PFTeDA		**101.5**	12.0	218.0
M3PFBS		**108.7**	50.0	150.0
M3PFHxS		**97.5**	50.0	150.0
M4PFHpA		**83.6**	50.0	150.0
M5PFHxA		**102.6**	50.0	150.0
M5PFPeA		**98.4**	50.0	150.0
M6PFDA		**91.0**	50.0	150.0
M7PFUnDA		**85.7**	50.0	150.0
M8FOSA		**100.6**	50.0	150.0
M8PFOA		**78.9**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**96.5**	50.0	150.0
MPFBA		**97.4**	50.0	150.0
MPFDoDA		**84.0**	50.0	150.0
d3N-MeFOSAA		**96.3**	50.0	150.0
d5EtFOSAA		**94.5**	50.0	150.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**96.1**	50.0	150.0
M2-6:2FTSA		**97.7**	50.0	150.0
M2-8:2FTSA		**78.2**	50.0	150.0
M2PFTeDA		**104.5**	12.0	218.0
M3PFBS		**108.6**	50.0	150.0
M3PFHxS		**91.2**	50.0	150.0
M4PFHpA		**92.4**	50.0	150.0
M5PFHxA		**100.9**	50.0	150.0
M5PFPeA		**100.4**	50.0	150.0
M6PFDA		**84.0**	50.0	150.0
M7PFUnDA		**89.0**	50.0	150.0
M8FOSA		**102.4**	50.0	150.0
M8PFOA		**92.2**	50.0	150.0
M8PFOS		**102.3**	50.0	150.0
M9-PFNA		**99.4**	50.0	150.0
MPFBA		**98.0**	50.0	150.0
MPFDoDA		**97.8**	50.0	150.0
d3N-MeFOSAA		**105.8**	50.0	150.0
d5EtFOSAA		**105.1**	50.0	150.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**88.3**	50.0	150.0
M2-6:2FTSA		**87.9**	50.0	150.0
M2-8:2FTSA		**59.2**	50.0	150.0
M2PFTeDA		**114.5**	12.0	218.0
M3PFBS		**115.1**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**96.1**	50.0	150.0
M5PFHxA		**103.9**	50.0	150.0
M5PFPeA		**96.8**	50.0	150.0
M6PFDA		**98.4**	50.0	150.0
M7PFUnDA		**88.5**	50.0	150.0
M8FOSA		**107.5**	50.0	150.0
M8PFOA		**95.4**	50.0	150.0
M8PFOS		**107.0**	50.0	150.0
M9-PFNA		**98.3**	50.0	150.0
MPFBA		**102.8**	50.0	150.0
MPFDoDA		**102.9**	50.0	150.0
d3N-MeFOSAA		**88.8**	50.0	150.0
d5EtFOSAA		**92.5**	50.0	150.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Internal Standard	Flags	%Rec	LCL	UCL
M2-4:2FTSA		**89.6**	50.0	150.0
M2-6:2FTSA		**80.2**	50.0	150.0
M2-8:2FTSA		**59.5**	50.0	150.0
M2PFTeDA		**111.3**	12.0	218.0
M3PFBS		**113.3**	50.0	150.0
M3PFHxS		**99.3**	50.0	150.0
M4PFHpA		**90.2**	50.0	150.0
M5PFHxA		**101.7**	50.0	150.0
M5PFPeA		**98.6**	50.0	150.0
M6PFDA		**100.6**	50.0	150.0
M7PFUnDA		**85.8**	50.0	150.0
M8FOSA		**104.0**	50.0	150.0
M8PFOA		**99.0**	50.0	150.0
M8PFOS		**109.2**	50.0	150.0
M9-PFNA		**101.0**	50.0	150.0
MPFBA		**101.2**	50.0	150.0
MPFDoDA		**94.7**	50.0	150.0
d3N-MeFOSAA		**90.5**	50.0	150.0
d5EtFOSAA		**83.9**	50.0	150.0

Organics - Volatiles, Prep Batch ID: PF210428S2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: DQ210428S2.BLK210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 06:01, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/kg
PFPeA		ND	4	ng/kg
4:2 FTSA		ND	2	ng/kg
PFHxA		ND	2	ng/kg
PFBS		ND	2	ng/kg
HFPO-DA		ND	2	ng/kg
PFHpA		ND	2	ng/kg
PFPeS		ND	2	ng/kg
ADONA		ND	2	ng/kg
6:2 FTSA		ND	2	ng/kg
PFOA		ND	2	ng/kg
PFHxS-BR		ND	2	ng/kg
PFHxS		ND	2	ng/kg
PFHxS-LN		ND	2	ng/kg
PFNA		ND	2	ng/kg
8:2 FTSA		ND	2	ng/kg
PFHpS		ND	2	ng/kg
N-MeFOSAA		ND	2	ng/kg
PFDA		ND	2	ng/kg
EtFOSAA		ND	4	ng/kg
PFOS-BR		ND	2	ng/kg
PFOS		ND	2	ng/kg
PFOS-LN		ND	2	ng/kg
PFUnDA		ND	2	ng/kg
9CL-PF3ONS		ND	2	ng/kg
PFNS		ND	2	ng/kg
PFDoDA		ND	2	ng/kg
PFDS		ND	2	ng/kg
PFTrDA		ND	2	ng/kg
FOSA		ND	2	ng/kg
11CL-PF3OUdS		ND	2	ng/kg
PFTeDA		ND	4	ng/kg

Laboratory Control Sample (LCS)

Lab Sample ID: DQ210428S2.LCS210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 05:22, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		98.7	70.0	130.0
PFPeA		101.0	70.0	130.0
4:2 FTSA		113.0	70.0	130.0
PFHxA		101.0	70.0	130.0
PFBS		101.0	70.0	130.0
HFPO-DA		112.0	70.0	130.0
PFHpA		94.2	70.0	130.0
PFPeS		92.8	70.0	130.0
ADONA		87.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210428S2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: DQ210428S2.LCS210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 05:22, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		109.0	70.0	130.0
PFOA		96.2	70.0	130.0
PFHxS		117.0	70.0	130.0
PFNA		97.9	70.0	130.0
8:2 FTSA		94.7	70.0	130.0
PFHpS		90.7	70.0	130.0
N-MeFOSAA		99.8	70.0	130.0
PFDA		127.0	70.0	130.0
EtFOSAA		101.0	70.0	130.0
PFOS		82.5	70.0	130.0
PFUnDA		90.5	70.0	130.0
9CL-PF3ONS		93.1	70.0	130.0
PFNS		98.7	70.0	130.0
PFDoDA		101.0	70.0	130.0
PFDS		100.0	70.0	130.0
PFTrDA		109.0	70.0	130.0
FOSA		108.0	70.0	130.0
11CL-PF3OUdS		99.1	70.0	130.0
PFTeDA		98.5	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: DQ210428S2.LCSD210428S2, Parent Sample ID: DQ210428S2.LCS210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 05:41, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		97.9	70.0	130.0	0.8	30.0
PFPeA		93.0	70.0	130.0	8.2	30.0
4:2 FTSA		104.0	70.0	130.0	8.3	30.0
PFHxA		101.0	70.0	130.0	0.0	30.0
PFBS		106.0	70.0	130.0	4.8	30.0
HFPO-DA		94.1	70.0	130.0	17.4	30.0
PFHpA		101.0	70.0	130.0	7.0	30.0
PFPeS		104.0	70.0	130.0	11.4	30.0
ADONA		86.1	70.0	130.0	1.0	30.0
6:2 FTSA		87.0	70.0	130.0	22.4	30.0
PFOA		82.4	70.0	130.0	15.5	30.0
PFHxS		102.0	70.0	130.0	13.7	30.0
PFNA		103.0	70.0	130.0	5.1	30.0
8:2 FTSA		85.8	70.0	130.0	9.9	30.0
PFHpS		80.0	70.0	130.0	12.5	30.0
N-MeFOSAA		90.0	70.0	130.0	10.3	30.0
PFDA		107.0	70.0	130.0	17.1	30.0
EtFOSAA		101.0	70.0	130.0	0.0	30.0
PFOS		75.5	70.0	130.0	8.9	30.0
PFUnDA		96.1	70.0	130.0	6.0	30.0
9CL-PF3ONS		92.7	70.0	130.0	0.4	30.0
PFNS		88.2	70.0	130.0	11.2	30.0

Organics - Volatiles, Prep Batch ID: PF210428S2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: DQ210428S2.LCSD210428S2, Parent Sample ID: DQ210428S2.LCS210428S2

Run in Batch: DQ210428S2, Run Date: 04/29/2021 05:41, Prep Date: 04/28/2021, Matrix: SO, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		97.9	70.0	130.0	3.1	30.0
PFDS		89.0	70.0	130.0	11.6	30.0
PFTrDA		96.5	70.0	130.0	12.2	30.0
FOSA		113.0	70.0	130.0	4.5	30.0
11CL-PF3OUdS		92.2	70.0	130.0	7.2	30.0
PFTeDA		96.8	70.0	130.0	1.7	30.0

Matrix Spike (MS)

Lab Sample ID: DQ210428S2.2349826M, Parent Sample ID: S23498.26

Run in Batch: DQ210428S2, Run Date: 04/29/2021 06:40, Prep Date: 04/28/2021, Matrix: SO, Dilution: 6.51

Analyte	Flags	% Rec	LCL	UCL
PFBA		95.1	70.0	130.0
PFPeA		101.2	70.0	130.0
4:2 FTSA		95.1	70.0	130.0
PFHxA		95.1	70.0	130.0
PFBS		92.0	70.0	130.0
PFHpA		92.0	70.0	130.0
PFPeS		85.9	70.0	130.0
6:2 FTSA		89.0	70.0	130.0
PFOA		85.9	70.0	130.0
PFHxS		98.2	70.0	130.0
PFNA		101.2	70.0	130.0
8:2 FTSA		113.5	70.0	130.0
PFHpS		82.8	70.0	130.0
PFDA		92.0	70.0	130.0
N-MeFOSAA		82.8	70.0	130.0
EtFOSAA		89.0	70.0	130.0
PFOS		85.9	70.0	130.0
PFUnDA		79.8	70.0	130.0
PFNS		85.9	70.0	130.0
PFDoDA		116.6	70.0	130.0
PFDS		85.9	70.0	130.0
PFTrDA		122.7	70.0	130.0
FOSA		95.1	70.0	130.0
PFTeDA		92.0	70.0	130.0
11CL-PF3OUdS		92.0	70.0	130.0
9CL-PF3ONS		101.2	70.0	130.0
ADONA		82.8	70.0	130.0
HFPO-DA		95.1	70.0	130.0

Duplicate (DUP)

Lab Sample ID: DQ210428S2.2349828D, Parent Sample ID: S23498.28

Run in Batch: DQ210428S2, Run Date: 04/29/2021 07:19, Prep Date: 04/28/2021, Matrix: SO, Dilution: 5.82

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428S2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: DQ210428S2.2349828D, Parent Sample ID: S23498.28

Run in Batch: DQ210428S2, Run Date: 04/29/2021 07:19, Prep Date: 04/28/2021, Matrix: SO, Dilution: 5.82

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		NC	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Blank (BLK)

Lab Sample ID: AK210428W2.BLK210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:30, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFBA		ND	10	ng/l
PFPeA		ND	4	ng/l
4:2 FTSA		ND	2	ng/l
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFPeS		ND	2	ng/l
6:2 FTSA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFHxS-LN		ND	2	ng/l
PFHxS-BR		ND	2	ng/l
PFNA		ND	2	ng/l
8:2 FTSA		ND	2	ng/l
PFHpS		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	4	ng/l
PFOS		ND	2	ng/l
PFOS-LN		ND	2	ng/l
PFOS-BR		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFNS		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFDS		ND	2	ng/l
PFTrDA		ND	2	ng/l
FOSA		ND	2	ng/l
PFTeDA		ND	4	ng/l
11CL-PF3OUdS		ND	2	ng/l
9CL-PF3ONS		ND	2	ng/l
ADONA		ND	2	ng/l
HFPO-DA		ND	2	ng/l

Laboratory Control Sample (LCS)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFBA		99.5	70.0	130.0
PFPeA		100.0	70.0	130.0
4:2 FTSA		97.0	70.0	130.0
PFHxA		97.8	70.0	130.0
PFBS		99.8	70.0	130.0
HFPO-DA		106.0	70.0	130.0
PFHpA		108.0	70.0	130.0
PFPeS		102.0	70.0	130.0
ADONA		120.0	70.0	130.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 20:51, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
6:2 FTSA		106.0	70.0	130.0
PFOA		117.0	70.0	130.0
PFHxS		101.0	70.0	130.0
PFNA		97.4	70.0	130.0
8:2 FTSA		102.0	70.0	130.0
PFHpS		91.3	70.0	130.0
N-MeFOSAA		105.0	70.0	130.0
PFDA		116.0	70.0	130.0
PFOS		77.2	70.0	130.0
EtFOSAA		112.0	70.0	130.0
PFUnDA		99.7	70.0	130.0
9CL-PF3ONS		93.8	70.0	130.0
PFNS		98.2	70.0	130.0
PFDoDA		107.0	70.0	130.0
PFDS		91.6	70.0	130.0
PFTrDA		108.0	70.0	130.0
11CL-PF3OUdS		92.1	70.0	130.0
FOSA		101.0	70.0	130.0
PFTeDA		98.4	70.0	130.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFBA		99.3	70.0	130.0	0.2	30.0
PFPeA		97.6	70.0	130.0	2.4	30.0
4:2 FTSA		99.7	70.0	130.0	2.7	30.0
PFHxA		101.0	70.0	130.0	3.2	30.0
PFBS		98.0	70.0	130.0	1.8	30.0
HFPO-DA		115.0	70.0	130.0	8.1	30.0
PFHpA		102.0	70.0	130.0	5.7	30.0
PFPeS		104.0	70.0	130.0	1.9	30.0
ADONA		94.1	70.0	130.0	24.2	30.0
6:2 FTSA		91.3	70.0	130.0	14.9	30.0
PFOA		97.5	70.0	130.0	18.2	30.0
PFHxS		110.0	70.0	130.0	8.5	30.0
PFNA		102.0	70.0	130.0	4.6	30.0
8:2 FTSA		107.0	70.0	130.0	4.8	30.0
PFHpS		103.0	70.0	130.0	12.0	30.0
N-MeFOSAA		95.2	70.0	130.0	9.8	30.0
PFDA		123.0	70.0	130.0	5.9	30.0
PFOS		90.5	70.0	130.0	15.9	30.0
EtFOSAA		106.0	70.0	130.0	5.5	30.0
PFUnDA		111.0	70.0	130.0	10.7	30.0
9CL-PF3ONS		101.0	70.0	130.0	7.4	30.0
PFNS		95.8	70.0	130.0	2.5	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: AK210428W2.LCSD210428W2, Parent Sample ID: AK210428W2.LCS210428W2

Run in Batch: AK210428W2, Run Date: 04/28/2021 21:10, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFDoDA		95.0	70.0	130.0	11.9	30.0
PFDS		102.0	70.0	130.0	10.7	30.0
PFTrDA		88.1	70.0	130.0	20.3	30.0
11CL-PF3OUdS		98.5	70.0	130.0	6.7	30.0
FOSA		100.0	70.0	130.0	1.0	30.0
PFTeDA		89.5	70.0	130.0	9.5	30.0

Matrix Spike (MS)

Lab Sample ID: AK210428W2.2349901M, Parent Sample ID: S23499.01

Run in Batch: AK210428W2, Run Date: 04/28/2021 23:46, Prep Date: 04/28/2021, Matrix: WW, Dilution: 2.01

Analyte	Flags	% Rec	LCL	UCL
PFBA		108.9	70.0	130.0
PFPeA		108.9	70.0	130.0
4:2 FTSA		99.0	70.0	130.0
PFHxA		99.0	70.0	130.0
PFBS		107.3	70.0	130.0
PFHpA		90.1	70.0	130.0
PFPeS		99.0	70.0	130.0
6:2 FTSA		88.1	70.0	130.0
PFOA		97.3	70.0	130.0
PFHxS		108.9	70.0	130.0
PFNA		99.0	70.0	130.0
8:2 FTSA		108.9	70.0	130.0
PFHpS		108.9	70.0	130.0
PFDA		99.0	70.0	130.0
N-MeFOSAA		93.1	70.0	130.0
EtFOSAA		108.9	70.0	130.0
PFOS		82.2	70.0	130.0
PFUnDA		108.9	70.0	130.0
PFNS		99.0	70.0	130.0
PFDoDA		88.1	70.0	130.0
PFDS		108.9	70.0	130.0
PFTrDA		99.0	70.0	130.0
FOSA		108.9	70.0	130.0
PFTeDA		91.1	70.0	130.0
11CL-PF3OUdS		97.0	70.0	130.0
9CL-PF3ONS		108.9	70.0	130.0
ADONA		99.0	70.0	130.0
HFPO-DA		108.9	70.0	130.0

Duplicate (DUP)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
PFBA		NC	30.0
PFPeA		NC	30.0

Organics - Volatiles, Prep Batch ID: PF210428W2 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD/MS/DUP

Duplicate (DUP) (continued)

Lab Sample ID: AK210428W2.2349902D, Parent Sample ID: S23499.02

Run in Batch: AK210428W2, Run Date: 04/29/2021 00:25, Prep Date: 04/28/2021, Matrix: WW, Dilution: 1.99

Analyte	Flags	RPD	RPD CL
4:2 FTSA		NC	30.0
PFHxA		NC	30.0
PFBS		4.3	30.0
PFHpA		NC	30.0
PFPeS		NC	30.0
6:2 FTSA		NC	30.0
PFOA		NC	30.0
PFHxS		NC	30.0
PFHxS-LN		NC	30.0
PFHxS-BR		NC	30.0
PFNA		NC	30.0
8:2 FTSA		NC	30.0
PFHpS		NC	30.0
PFDA		NC	30.0
N-MeFOSAA		NC	30.0
EtFOSAA		NC	30.0
PFOS		NC	30.0
PFOS-LN		NC	30.0
PFOS-BR		NC	30.0
PFUnDA		NC	30.0
PFNS		NC	30.0
PFDoDA		NC	30.0
PFDS		NC	30.0
PFTrDA		NC	30.0
FOSA		NC	30.0
PFTeDA		NC	30.0
11CL-PF3OUdS		NC	30.0
9CL-PF3ONS		NC	30.0
ADONA		NC	30.0
HFPO-DA		NC	30.0

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C.O.C. PAGE # 1 OF 1

125033

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 3600 Green Court ste 750
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com / Kevin.Schneider@Ramboll.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Hemphill Rd Industrial Land
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	PFAS (37ng)	Special Instructions
23572.01	4/26/21	1445	OBG MW-45	O	3	3							X	Low level Reporting
.02	4/27/21	1040	MW-401	O	3	3							X	Limit with
.03	4/27/21	1020	Field Blank-042721	L	1	1							X	estimated values

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 4/27/21	TIME 1155
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1655
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1640
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 4/27/21	TIME 1440

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 2.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

ATTACHMENT B
PRIVATE WELL LOGS

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 25077729002

Tax No:	Permit No:	County: Genesee	Township: Burton

Well ID: 25000002286

Elevation: 787 ft.
Latitude: 42.9808883757
Longitude: -83.6613828348
Method of Collection: Interpolation-Map

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29			

Distance and Direction from Road Intersection:
Aquifer: SAGINAW Well #: 250032902

Well Owner:

Well Address:
3307 GLENGARRY
MI

Owner Address:

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 5/29/1985

Casing Type: Unknown **Height:**
Casing Joint: Unknown
Casing Fitting: None

Diameter: 5.00 in. to 160.00 ft. depth

Borehole:

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:**
Manufacturer: Other **Pump Type:** Submersible
Model Number: **Pump Capacity:** 0 GPM
Drop Pipe Length: 0.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 45.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 220.00 ft. after 1.00 hrs. at 30 GPM

Screen Installed: No **Intake:** Unknown

Formation Description	Thickness	Depth to Bottom
Sand	14.00	14.00
Clay	44.00	58.00
Gravel & Clay	23.00	81.00
Clay	75.00	156.00
Sandstone	64.00	220.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Other	0.00	None	0.00 ft. to 0.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
None		

Drilling Machine Operator Name:
Employment: Unknown

Contractor Type: Unknown **Reg No:**
Business Name:
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks: Grouting Material 1:Listed as other in Wellkey, Pump Manufacturer:Pump Manufacturer unknown

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 6663	County: Genesee	Township: Burton

Well ID: 25000007447

Elevation: 787 ft.
Latitude: 42.98032793
Longitude: -83.66184115
Method of Collection: Address Matching-House Number

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Distance and Direction from Road Intersection:
1/10th mile south of hemphill on the west side of redarrow

Well Owner: Scott Richardson

Well Address:	Owner Address:
2216 Redarrow Burton, MI 48529	2216 Redarrow Burton, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 5/8/2002

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 180.00 ft. depth

Borehole: 8.00 in. to 180.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 5/8/2002 **HP:** 0.50
Manufacturer: Goulds **Pump Type:** Submersible
Model Number: 10SB05421 **Pump Capacity:** 10 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:**
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Goulds
Model Number: V-100 **Tank Capacity:** 32.0 Gallons
Pressure Relief Valve Installed: No

Static Water Level: 35.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 55.00 ft. after 0.50 hrs. at 30 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Brown Sand Sandy Brown	15.00	15.00
Gray Clay Clayey Gray	15.00	30.00
Brown Sand Sandy Brown	5.00	35.00
Gray Clay Clayey Gray	65.00	100.00
Brown Sand & Gravel Fine To Coarse Brown	10.00	110.00
Gray Clay Sticky Gray	30.00	140.00
Black Shale Firm Black	35.00	175.00
Gray Limestone Broken Gray	5.00	180.00
Gray Sandstone Firm Water Bearing	40.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	8.00	None	0.00 ft. to 200.00 ft.

Geology Remarks:

Wellhead Completion: 12 inches above grade

Drilling Machine Operator Name: Matt Sckelsky
Employment: Subcontractor

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	15 ft.	North-Northeast
Sewer line	18 ft.	South

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-2203
Business Name: Snider Well Drilling, Inc.
Business Address: 3274 Alpena St

Abandoned Well Plugged: Yes

Casing Removed:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks: The pressure tank was 1 year old installed previously
Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 25077724003	County: Genesee	Township: Burton

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Inactive	2047925	001

Well ID: 25000008395

Elevation: 784 ft.
Latitude: 42.97995
Longitude: -83.66713
Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
2/10 mi E of Saginaw St, one block S of Hemphill Rd

Well Owner: Ed Kropiewnicki

Well Address:
3333 Associates
Flint, MI 48529

Owner Address:
3333 Associates
Flint, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Type II public
Well Type: Replacement **Date Completed:** 3/8/1994

Casing Type: PVC plastic **Height:**
Casing Joint: Unknown
Casing Fitting: Unknown

Diameter: 5.00 in. to 170.00 ft. depth

Borehole: 7.88 in. to 170.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:** 0.50
Manufacturer: Aermotor **Pump Type:** Submersible
Model Number: **Pump Capacity:** 12 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Unknown
Manufacturer: Well-X-Trol
Model Number: 203 **Tank Capacity:** 12.0 Gallons
Pressure Relief Valve Installed: No

Static Water Level: 40.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 50.00 ft. after 0.50 hrs. at 30 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Brown Clay	12.00	12.00
Gray Clay	20.00	32.00
Clay & Sand	40.00	72.00
Gravel Fine	7.00	79.00
Gray Clay Sticky	63.00	142.00
Gray Shale	10.00	152.00
Stones	12.00	164.00
White Sandstone	40.00	204.00
Gray Shale	5.00	209.00
White Sandstone	11.00	220.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Bentonite slurry	0.00	None	0.00 ft. to 140.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	100 ft.	West

Drilling Machine Operator Name: David D Coon
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-2152
Business Name: Coon Well Drilling
Business Address: 2265 Rollins St Grand, Blanc, MI

Abandoned Well Plugged: Yes

Casing Removed:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:
Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 07995	County: Genesee	Township: Burton

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Well ID: 25000010256

Elevation:

Latitude: 42.98036719

Longitude: -83.66102913

Method of Collection: Address Matching-House Number

Distance and Direction from Road Intersection:
SOUTH OF HEMPHILL RD BETWEEN SAGINAW ST & DORT HWY

Well Owner: GAYLE TALHELM

Well Address:
3312 OGEMA
BURTON, MI

Owner Address:
3389 LUCE ROAD
FLUSHING, MI 48433

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 12/9/2002

Casing Type: PVC plastic **Height:**
Casing Joint: Unknown
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 157.00 ft. depth

Borehole: 7.88 in. to 157.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:** 0.50
Manufacturer: Sta-Rite **Pump Type:** Submersible
Model Number: 10SP4C01J **Pump Capacity:** 10 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:**
Drop Pipe Diameter: **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Unknown
Manufacturer: Sta-Rite Signature
Model Number: SR-35 **Tank Capacity:** 80.0 Gallons
Pressure Relief Valve Installed: No

Static Water Level: 50.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 100.00 ft. after 1.00 hrs. at 33 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	30.00	30.00
Clay	107.00	137.00
Shale	17.00	154.00
Sandstone	66.00	220.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Bentonite slurry	6.00	None	0.00 ft. to 157.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	25 ft.	South

Drilling Machine Operator Name: EDDIE EATON
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-1947
Business Name: BURNS WELL DRLG
Business Address:

Abandoned Well Plugged: Yes

Casing Removed:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks: WEIGHT: SDR17 & SDR 21

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No:	County: Genesee	Township: Burton

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Well ID: 25000012776

Elevation:

Latitude: 42.97991531

Longitude: -83.661472

Method of Collection: Address Matching-House Number

Distance and Direction from Road Intersection:

Well Owner:

Well Address:
2242 ARROW
BURTON, MI 48529

Owner Address:
2242 ARROW
BURTON, MI 48529

Drilling Method: Rotary
Well Depth: 200.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 6/20/1990

Casing Type: PVC plastic **Height:**
Casing Joint: Unknown
Casing Fitting: Drive shoe

Diameter: 5.00 in. to 163.00 ft. depth

Borehole: 7.88 in. to 163.00 ft. depth

Pump Installed: No
Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 40.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Unknown
Pumping level 100.00 ft. after 2.00 hrs. at 20 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	10.00	10.00
Yellow Clay	5.00	15.00
Blue Clay	110.00	125.00
Clay Sandy	15.00	140.00
Gravel	12.00	152.00
Shale	8.00	160.00
Sandstone	40.00	200.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Bentonite slurry	0.00	None	0.00 ft. to 163.00 ft.

Geology Remarks:

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line		

Drilling Machine Operator Name: BRIAN SUNDE
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-1710
Business Name: GIL SUNDE WELL DRLG
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged: Unknown

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: W11985	County: Genesee	Township: Burton

Well ID: 25000015887

Elevation:
Latitude: 42.974842
Longitude: -83.679872
Method of Collection: Address Matching-House Number

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	30	Active		

Distance and Direction from Road Intersection:
North of Bristol, West of Greenley St.

Well Owner: Davvid Carrill

Well Address:	Owner Address:
1346 Connell St Burton, MI 48529	1346 Connell St Burton, MI 48529-2216

Drilling Method: Rotary
Well Depth: 180.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 6/16/2006

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 159.00 ft. depth

Borehole: 8.50 in. to 159.00 ft. depth
4.50 in. to 195.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 6/16/2006 **HP:** 0.50
Manufacturer: Other **Pump Type:** Submersible
Model Number: T5L4Y12P7 **Pump Capacity:** 10 GPM
Drop Pipe Length: 60.00 ft. **Pump Voltage:**
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Perma-Air
Model Number: pad20 **Tank Capacity:** 20.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 25.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 20.00 ft. after 2.00 hrs. at 30 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	10.00	10.00
Clay	30.00	40.00
Clay Gravely	40.00	80.00
Clay W/Shale Hard	60.00	140.00
Sandstone	40.00	180.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite dry granular	10.00	None	0.00 ft. to 140.00 ft.

Geology Remarks:

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	20 ft.	East

Drilling Machine Operator Name: Carl Kirklin
Employment: Employee
Pump Installer: Derrec Coulter

Contractor Type: Water Well Drilling Contractor **Reg No:** 44-2047
Business Name: Tim Kirklin Well Drilling
Business Address: 4718 Davison Rd, Lapeer, MI, 48446

Abandoned Well Plugged: No
Reason Not Plugged: Other

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks: Pump Manufacturer:Schaefer Pump installed, Not Plugged Reason:Dug up old well, already abandoned. , Coordinate Source:Google well address geocoding

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 10801	County: Genesee	Township: Burton

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Well ID: 25000017428

Elevation:

Latitude: 42.98014

Longitude: -83.66761

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
Between Saginaw and Dort Hwy. South off Hemphill Rd.

Well Owner: Recovery Services

Well Address:	Owner Address:
3323 Associates Dr. Burton, MI 48529	3323 Associates Dr. Burton, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Type III public
Well Type: Replacement **Date Completed:** 6/6/2008

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 175.00 ft. depth

Borehole: 8.00 in. to 175.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 6/10/2008 **HP:** 0.50
Manufacturer: AquaDuty **Pump Type:** Submersible
Model Number: T5M4C12P71 **Pump Capacity:** 12 GPM
Drop Pipe Length: 60.00 ft. **Pump Voltage:**
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Challenger
Model Number: 122 **Tank Capacity:** 32.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 25.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 200.00 ft. after 2.00 hrs. at 45 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Clay	50.00	50.00
Gravel	38.00	88.00
Clay	57.00	145.00
Gravel	15.00	160.00
Clay & Gravel	11.00	171.00
Sandstone	49.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	8.00	None	0.00 ft. to 175.00 ft.

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	12 ft.	South
None		

Abandoned Well Plugged: Yes

Casing Diameter: 2 in. **Casing Removed:** No
Plugging Material: Bentonite chips/pellets
No. of Bags: 4.00 **Well Depth:** 93 ft.

Geology Remarks:

Drilling Machine Operator Name: Mike Munsell
Employment: Employee
Pump Installer: Percy Buck

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-1886
Business Name: Lyons Well Drilling
Business Address: 8107 N Dort Hwy, Mt Morris, MI, 48458

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

General Remarks: Old well coordinates N42.98013 W083.66774

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 15939	County: Genesee	Township: Burton

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Well ID: 25000018861

Elevation:

Latitude: 42.980606

Longitude: -83.66114

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
SOUTH OF HEMPHILL ROAD BETWEEN SAGINAW STREET & DORT BAY

Well Owner: KATHI BENSON

Well Address:	Owner Address:
3306 OGEMA BURTON, MI 48529	3410 NOBE HILL DRIVE HUDSONVILLE, MI 49426

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 11/4/2009

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Unknown
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 130.00 ft. depth SDR: 21.00
5.00 in. to 25.00 ft. depth SDR: 17.00

Borehole: 7.88 in. to 155.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 11/4/2009 **HP:** 0.50
Manufacturer: AquaDuty **Pump Type:** Submersible
Model Number: T5M4C12P7-S1 **Pump Capacity:** 12 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Goulds
Model Number: V-100 **Tank Capacity:** 32.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 50.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 200.00 ft. after 1.00 hrs. at 33 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	20.00	20.00
Clay	40.00	60.00
Gravel	7.00	67.00
Clay	73.00	140.00
Shale	10.00	150.00
Sandstone	70.00	220.00

Well Grouted: Yes **Grouting Method:** Unknown

Grouting Material	Bags	Additives	Depth
Bentonite slurry	5.50	None	0.00 ft. to 155.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	12 ft.	North

Drilling Machine Operator Name: CLINTON BURNS
Employment: Unknown

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-1947
Business Name: BURNS WELL DRILLING
Business Address:

Abandoned Well Plugged: No
Reason Not Plugged: Other

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks: WELL IS UNDER DRIVEWAY. WE CEMENTED THE WATER LINES UNDER HOUSE

Other Remarks: Not Plugged Reason:SEE GENERAL REMARKS

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	**Permit No:** 17776	**County:** Genesee		**Township:** Burton
Town/Range: 07N 07E	**Section:** 29	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000019460

Elevation:

Latitude: 42.97935

Longitude: -83.668543

Method of Collection: Interpolation-Map

Distance and Direction from Road Intersection:
South of Hemphill, on the east side of Associates Drive

Well Owner: Emerald Landscaping

Well Address:	**Owner Address:**
3364 Associates Drive Burton, MI 48529	3364 Associates Drive Burton, MI 48529

Drilling Method: Rotary
Well Depth: 150.00 ft. **Well Use:** Irrigation
Well Type: Replacement **Date Completed:** 1/5/2012

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: None

Diameter: 5.00 in. to 140.00 ft. depth SDR: 21.00

Borehole: 8.75 in. to 150.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 1/10/2012 **HP:** 0.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: T5L4Y10P9 **Pump Capacity:** 10 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 220
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: No
Pressure Relief Valve Installed: Yes

Static Water Level: 40.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 150.00 ft. after 1.00 hrs. at 75 GPM

Formation Description	Thickness	Depth to Bottom
Clay	102.00	102.00
Gravel	48.00	150.00

Screen Installed: Yes **Filter Packed:** Yes
Screen Diameter: 5.00 in. **Blank:**
Screen Material Type: PVC-slotted
Screen Installation Type: Attached

Slot	Length	Set Between
15.00	10.00 ft.	140.00 ft. and 150.00 ft.

Fittings: None

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	10.00	None	0.00 ft. to 135.00 ft.

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Storm sewer	70 ft.	East-Northeast

Abandoned Well Plugged: Yes

Casing Diameter: 2 in. **Casing Removed:** No
Plugging Material: Bentonite chips/pellets
No. of Bags: 2.50 **Well Depth:** 130 ft.

Geology Remarks:

Drilling Machine Operator Name: Paul Wenlding
Employment: Employee
Pump Installer: Andy Birchmeier

Contractor Type: Water Well Drilling Contractor **Reg No:** 78-1607
Business Name: Ed Birkmeier Well Drilling
Business Address: 9471 Genesee Street, New Lothrop, MI, 48460

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks: USED OWNERS EXISTING BLADDER TANK
Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: WM6242

Tax No:	Permit No: w-17935	County: Genesee	Township: Burton

Well ID: 25000019736

Elevation:
Latitude: 42.98118
Longitude: -83.66328
Method of Collection: GPS Std Positioning Svc SA Off

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Distance and Direction from Road Intersection:
E. OF SAGINAW RD; S. OFF HAMPHILL RD.

Well Owner: Judith Belote

Well Address:	Owner Address:
2192 Red Arrow Dr. Burton, MI 48529	2192 Red Arrow Dr. Burton, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 7/15/2012

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 172.00 ft. depth SDR: 21.00

Borehole: 8.50 in. to 172.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 7/16/2012 **HP:** 0.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 12FV05-2W1 **Pump Capacity:** 12 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Goulds
Model Number: V100 **Tank Capacity:** 10.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 30.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 70.00 ft. after 0.50 hrs. at 15 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	15.00	15.00
Gray Clay	70.00	85.00
Clay & Gravel	60.00	145.00
Gray Clay	20.00	165.00
Sandstone	55.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	9.00	None	0.00 ft. to 170.00 ft.

Geology Remarks:

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	14 ft.	South

Drilling Machine Operator Name: Matt Sekelsky
Employment: Employee
Pump Installer: Perry Jones

Abandoned Well Plugged: Yes

Latitude: 42.98118 **Longitude:** -83.66328
Casing Diameter: 2 in. **Casing Removed:** No
Plugging Material: Neat cement
No. of Bags: 12.00 **Well Depth:** 215 ft.

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-2152
Business Name: COON WELL DRILLING, INC.
Business Address: 2265 Rollins St., Grand Blanc, MI, 48439

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks:
Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No: 59-29-551-024	**Permit No:** 19665	**County:** Genesee		**Township:** Burton
		Town/Range: 07N 07E	**Section:** 29	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000021167

Elevation:

Latitude: 42.980196

Longitude: -83.668023

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
East of Saginaw Street, south of Hemphill Road, ont eh west side of Associates Drive

Well Owner: Scott Larson Auto Group, LLC

Well Address:	**Owner Address:**
3234 Associates Drive Burton, MI 48429	3234 Associates Drive Burton, MI 48429

Drilling Method: Rotary
Well Depth: 90.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 3/30/2015

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: None

Diameter: 5.00 in. to 80.00 ft. depth SDR: 21.00

Borehole: 8.75 in. to 80.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:** 0.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 10FV05P4-2W115 **Pump Capacity:** 10 GPM
Drop Pipe Length: 40.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Challenger
Model Number: PC 122 **Tank Capacity:** 10.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 20.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 90.00 ft. after 1.00 hrs. at 50 GPM

Formation Description	Thickness	Depth to Bottom
Brown Clay	20.00	20.00
Gray Clay	30.00	50.00
Gray Sand	15.00	65.00
Gray Gravel	25.00	90.00

Screen Installed: Yes **Filter Packed:** Yes
Screen Diameter: 5.00 in. **Blank:**
Screen Material Type: PVC-slotted
Screen Installation Type: Attached

Slot	Length	Set Between
15.00	10.00 ft.	80.00 ft. and 90.00 ft.

Fittings: None

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	8.00	None	0.00 ft. to 80.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	15 ft.	South

Drilling Machine Operator Name: Matt Trnka
Employment: Employee
Pump Installer: Andy Birchmeier

Abandoned Well Plugged: Yes

Casing Diameter: 2 in. **Casing Removed:** No
Plugging Material: Bentonite chips/pellets
No. of Bags: 2.00 **Well Depth:** 90 ft.

Contractor Type: Water Well Drilling Contractor **Reg No:** 78-1607
Business Name: Ed Birkmeier Well Drilling
Business Address: PO Box 324, New Lothrop, MI, 48460

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 19896	County: Genesee	Township: Burton

Well ID: 25000021329

Elevation:
Latitude: 42.981018
Longitude: -83.661001
Method of Collection: Interpolation-Map

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Distance and Direction from Road Intersection:
SOUTH OF HEMPHILL ROAD, BETWEEN SAGINAW ROAD AND DORT HIGHWAY

Well Owner: ANTHONY & VALERIE TALHELM

Well Address:	Owner Address:
3318 OGEMA AVENUE BURTON, MI 48529	1054 N. MORRISH ROAD FLINT, MI 48532

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 8/26/2015

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Spline joint/CertaLok
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 130.00 ft. depth SDR: 21.00
5.00 in. to 40.00 ft. depth SDR: 17.00

Borehole: 7.87 in. to 170.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 8/26/2015 **HP:** 0.50
Manufacturer: AquaDuty **Pump Type:** Submersible
Model Number: T5M4C12P7-S **Pump Capacity:** 12 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Goulds
Model Number: V-100 **Tank Capacity:** 32.0 Gallons
Pressure Relief Valve Installed: No

Static Water Level: 50.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 220.00 ft. after 1.00 hrs. at 33 GPM

Screen Installed: No **Intake:** Unknown

Formation Description	Thickness	Depth to Bottom
Sand	23.00	23.00
Clay	27.00	50.00
Gravel	3.00	53.00
Clay	73.00	126.00
Gravel	9.00	135.00
Clay	8.00	143.00
Shale W/Sandstone	23.00	166.00
Sandstone	54.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	6.00	None	0.00 ft. to 170.00 ft.

Geology Remarks:
EZ-MUD

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	20 ft.	North

Drilling Machine Operator Name: CLINTON BURNS
Employment: Employee

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-1947
Business Name: BURNS WELL DRILLING
Business Address: 5370 CORUNNA ROAD, FLINT, MI, 48532

Abandoned Well Plugged: Yes

Latitude: 42.58799 **Longitude:** -83.39663
Casing Diameter: 2 in. **Casing Removed:** No
Plugging Material: Neat cement
No. of Bags: 5.00 **Well Depth:** 220 ft.

Water Well Contractor's Certification

This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code.

Signature of Registered Contractor **Date**

General Remarks:
Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	**Permit No:** w-21304	**County:** Genesee		**Township:** Burton
		Town/Range: 07N 07E	**Section:** 29	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000022511

Elevation:

Latitude: 42.98122

Longitude: -83.66348

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
1/2 mile east of saginaw rd, south west side of red arrow

Well Owner: Wray Properties llc

Well Address:	**Owner Address:**
2188 Red Arrow Burton, MI 48429	3136 Redbarn rd Flint, MI 48460

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 8/28/2017

Casing Type: PVC plastic **Height:**
Casing Joint:
Casing Fitting:

Diameter: 5.00 in. to 182.00 ft. depth SDR: 21.00

Borehole: 8.75 in. to 180.00 ft. depth
6.88 in. to 188.00 ft. depth
4.75 in. to 220.00 ft. depth

Pump Installed: No
Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 50.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 220.00 ft. after 1.00 hrs. at 40 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	10.00	10.00
Clay	113.00	123.00
Sand	4.00	127.00
Sand & Clay	9.00	136.00
Sand & Clay Fine	35.00	171.00
Sandstone	49.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	16.00	None	0.00 ft. to 180.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sanitary sewer	40 ft.	East

Drilling Machine Operator Name: Matt Trnka
Employment: Employee
Pump Installer: Jeff Babinger

Contractor Type: Water Well Drilling Contractor **Reg No:** 78-1607
Business Name: Ed Birkmeier Well Drilling
Business Address: PO Box 324, New Lothrop, MI, 48460

Abandoned Well Plugged: No
Reason Not Plugged: Well being plugged by another driller

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	**Permit No:** 22247	**County:** Genesee		**Township:** Burton
		Town/Range: 07N 07E	**Section:** 29	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000022969

Elevation:

Latitude: 42.98085

Longitude: -83.6627

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
Between E Hemphill Rd and S Dort Hwy on the west side of Red Arrow Rd

Well Owner: James Miller

Well Address:	**Owner Address:**
2212 Red Arrow Rd Burton, MI 48529	2212 Red Arrow Rd Burton, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 7/31/2018

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 178.00 ft. depth

Borehole: 8.00 in. to 178.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 8/1/2018 **HP:** 0.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 10FA05P4-2W115 **Pump Capacity:** 10 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Flex-Lite-Flexcon
Model Number: FL7 **Tank Capacity:** 22.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 37.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 200.00 ft. after 2.00 hrs. at 40 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand	12.00	12.00
Clay	83.00	95.00
Clay & Gravel	20.00	115.00
Clay	25.00	140.00
Clay & Gravel Sandy	20.00	160.00
Clay	8.00	168.00
Sandstone	3.00	171.00
Shale	4.00	175.00
Sandstone	12.00	187.00
Slate W/Sandstone Strips	8.00	195.00
Sandstone	25.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	9.00	None	0.00 ft. to 178.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	12 ft.	North

Drilling Machine Operator Name: Mike Munsell
Employment: Employee
Pump Installer: Coleman Brock

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-2380
Business Name: Lyons Well Drilling
Business Address: 3159 E. Bristol Rd., Burton, MI, 48529

Abandoned Well Plugged: Yes

Latitude: 42.98079 **Longitude:** -83.66285
Casing Diameter: 2 in. **Casing Removed:** Yes
Plugging Material: Bentonite chips/pellets
No. of Bags: 2.00 **Well Depth:** 60 ft.

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	**Permit No:** 21890	**County:** Genesee		**Township:** Burton
		Town/Range: 07N 07E	**Section:** 29	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000023548

Elevation:

Latitude: 42.9797186

Longitude: -83.668233

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
Between S Saginaw St and S Dort Hwy off E Hemphill Rd on the west side of the road

Well Owner: JP Machining

Well Address:	**Owner Address:**
3336 Associates Dr Burton, MI 48529	3336 Associates Dr Burton, MI 48529

Drilling Method: Rotary
Well Depth: 240.00 ft. **Well Use:** Type III public
Well Type: New **Date Completed:** 7/22/2019

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 160.00 ft. depth SDR: 21.00
5.00 in. to 199.00 ft. depth SDR: 17.00

Borehole: 8.50 in. to 199.00 ft. depth
4.50 in. to 240.00 ft. depth

Static Water Level: 26.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 220.00 ft. after 2.00 hrs. at 50 GPM

Screen Installed: No **Intake:** Bedrock Well

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 7/24/2019 **HP:** 0.75
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 10FB07P4-2W230 **Pump Capacity:** 10 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 230
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Flex-Lite-Flexcon
Model Number: FL12 **Tank Capacity:** 35.0 Gallons
Pressure Relief Valve Installed: Yes

Formation Description	Thickness	Depth to Bottom
Clay	72.00	72.00
Clay & Gravel	13.00	85.00
Gravel	11.00	96.00
Clay & Gravel	12.00	108.00
Clay	12.00	120.00
Sand & Gravel	75.00	195.00
Sandstone	10.00	205.00
Slate	7.00	212.00
Sandstone	28.00	240.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Neat cement	17.00	None	0.00 ft. to 199.00 ft.

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	13 ft.	South

Geology Remarks:

Drilling Machine Operator Name: Percy Buck
Employment: Employee
Pump Installer: Coleman Brock

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-2380
Business Name: Lyons Well Drilling
Business Address: 3159 E. Bristol Rd., Burton, MI, 48529

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks:

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	**Permit No:** 22790	**County:** Genesee		**Township:** Burton
		Town/Range: 07N 07E	**Section:** 29	**Well Status:** Active	**WSSN:**	**Source ID/Well No:**

Well ID: 25000023573

Elevation:

Latitude: 42.979914

Longitude: -83.66172

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
800' S OF E HEMPHILL RD 30' W OF RED ARROW

Well Owner: BRIAN HOLT

Well Address:	**Owner Address:**
2250 RED ARROW BURTON, MI 48529	2250 RED ARROW BURTON, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 8/7/2019

Casing Type: PVC plastic **Height:** 1.50 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 168.00 ft. depth SDR: 21.00

Borehole: 8.00 in. to 168.00 ft. depth
4.75 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: 8/8/2019 **HP:** 0.50
Manufacturer: Franklin Electric **Pump Type:** Submersible
Model Number: 10FA05P4 **Pump Capacity:** 10 GPM
Drop Pipe Length: 80.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Challenger
Model Number: PC122 **Tank Capacity:** 33.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 25.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 120.00 ft. after 3.00 hrs. at 30 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Sand & Clay	30.00	30.00
Clay	50.00	80.00
Gravel	10.00	90.00
Clay	60.00	150.00
Shale	15.00	165.00
Sandstone	55.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	10.00	None	0.00 ft. to 168.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sanitary sewer	18 ft.	East

Drilling Machine Operator Name: MIKE KUREK
Employment: Employee
Pump Installer: AL WHITNEY

Contractor Type: Water Well Drilling Contractor **Reg No:** 44-2007
Business Name: Metamora Water Services, Inc
Business Address: 3601 W Genesee, Lapeer, MI, 48446

Abandoned Well Plugged: No
Reason Not Plugged: Well inaccessible for plugging

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks: CEMENTED LINES IN BASEMENT OLD WELL IS UNDER ASPHALT DRIVEWAY

Other Remarks:

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:

Tax No:	Permit No: 21036	County: Genesee	Township: Burton

Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
07N 07E	29	Active		

Well ID: 25000023790

Elevation:

Latitude: 42.97962

Longitude: -83.66177

Method of Collection: GPS Std Positioning Svc SA Off

Distance and Direction from Road Intersection:
//2 mile of O, 1/3 mile of Dopt HW

Well Owner:

Well Address:	Owner Address:
2254 Red Arrow Rd. Burton, MI 48529	2254 Red Arrow Rd. Burton, MI 48529

Drilling Method: Rotary
Well Depth: 220.00 ft. **Well Use:** Household
Well Type: Replacement **Date Completed:** 9/21/2017

Casing Type: PVC plastic **Height:** 1.00 ft. above grade
Casing Joint: Solvent welded/glued
Casing Fitting: Shale packer/trap

Diameter: 5.00 in. to 170.00 ft. depth SDR: 21.00

Borehole: 8.50 in. to 170.00 ft. depth
4.50 in. to 220.00 ft. depth

Pump Installed: Yes **Pump Installation Only:** No
Pump Installation Date: **HP:** 0.50
Manufacturer: Berkeley **Pump Type:** Submersible
Model Number: B10K05121-02 **Pump Capacity:** 10 GPM
Drop Pipe Length: 100.00 ft. **Pump Voltage:** 115
Drop Pipe Diameter: 1.00 in. **Drilling Record ID:**
Draw Down Seal Used: No

Pressure Tank Installed: Yes
Pressure Tank Type: Diaphragm/bladder
Manufacturer: Flex-Lite-Flexcon
Model Number: FL12 **Tank Capacity:** 35.0 Gallons
Pressure Relief Valve Installed: Yes

Static Water Level: 50.00 ft. Below Grade
Well Yield Test: **Yield Test Method:** Air
Pumping level 100.00 ft. after 2.00 hrs. at 20 GPM

Screen Installed: No **Intake:** Bedrock Well

Formation Description	Thickness	Depth to Bottom
Clay	160.00	160.00
Sandstone	10.00	170.00
Black Shale	10.00	180.00
Sandstone	40.00	220.00

Well Grouted: Yes **Grouting Method:** Grout pipe outside casing

Grouting Material	Bags	Additives	Depth
Bentonite slurry	8.00	Retarder	0.00 ft. to 170.00 ft.

Geology Remarks:

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

Type	Distance	Direction
Sewer line	40 ft.	North

Drilling Machine Operator Name: George Dugdale Jr.
Employment: Employee
Pump Installer: Wesley C Snider II

Contractor Type: Water Well Drilling Contractor **Reg No:** 25-2203
Business Name: Wes Snider Pump & Well LLC
Business Address: 3459 E Atherton Road, Burton, MI, 48529

Abandoned Well Plugged: Yes

Latitude: 42.97969 **Longitude:** -83.66171
Casing Diameter: 2 in. **Casing Removed:** No
Plugging Material: Bentonite chips/pellets
No. of Bags: 1.00 **Well Depth:** 168 ft.

Water Well Contractor's Certification

This well and/or pump installation was performed under my registration.

Signature of Registered Contractor **Date**

General Remarks: oct remained stuck in the well

Other Remarks: