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New York State Department of Environmental Conservation
Division of Environmental Remediation – Region 9
270 Michigan Avenue
Buffalo, NY 14203-7226

RE: Vanadium Corporation of America Site OU#3 (#932001)
Baseline Sampling Report

Date: October 11, 2021

Dear Mr. Zwack:

This letter report summarizes the results of the baseline groundwater sampling program for the Former Vanadium Corporation of America Site OU3 located at 4201 Witmer Road, (the Site) in the City of Niagara Falls, New York. Activities summarized in this report were completed according to the March 4, 2021 Baseline Sampling Plan (BSP), and the interim Baseline Sampling Report dated May 10, 2021. Both of which were approved by the New York State Department of Environmental Conservation (NYSDEC) via letters dated April 23, 2019 and March 16, 2021. The purpose of this summary is to provide the analytical results and present recommendations for the sampling program to be included in the Site Management Plan (SMP).

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Background
As outlined in the Well Installation Work Plan dated April 5, 2019 (Ramboll, 2019), a total of eleven groundwater monitoring wells were installed at the Site in December 2020 to serve as groundwater monitoring locations for the Site. The locations of these wells are shown on Figure 1. The well locations were chosen with the approval of the NYSDEC and are located both upgradient and downgradient of the limits of the cap at the Vanadium OU-3 Site. Nine of the wells were constructed to screen the shallow water bearing unit that is present within the upper portion of the glacio-lacustrine deposit which consists primarily of clays, silts, sands, and gravels. Three of the wells were installed to screen the interface between the glacial till unit and the bedrock surface which represents an intermediate water-bearing zone. Table 1 provides details pertaining to well construction.

Groundwater Sampling
Groundwater samples were collected from the monitoring wells during two sampling events to establish baseline groundwater quality. The first sampling event occurred between March 29 and March 31, 2021 and included collection and analysis of groundwater from nine of the eleven monitoring wells installed at the Site. Wells MW-18R and MW-29R were dry at the time groundwater sampling occurred and samples could not be collected.

The second sampling event occurred between June 15 and June 17, 2021. Groundwater samples were collected from ten of the eleven monitoring wells during this sampling event. Similar to the March event, well MW-29R was still dry at the time groundwater sampling occurred and samples could not be collected from this location.

Wells MW-26R, MW-18R and MW-16R were dry following installation and could not be developed at that time. The wells were found to contain water during either the March or June sampling event and were developed prior to collection of the samples during that event. Consistent with the well installation work plan (Ramboll, April 2019), three well volumes were purged, and measurements of pH, specific conductance, temperature, and turbidity were recorded on the development log prior to purging and after the removal of each well volume.

As stated in the recommendations of the interim Baseline Sampling Report dated May 10, 2021, groundwater samples collected from wells MW-24R, MW-26R, MW-30 were analyzed for emerging contaminants (PFAs, PFCs and 1,4-dioxane) in addition to metals and hexavalent chromium.

The monitoring wells were purged and sampled in accordance with low-flow purging methods using a peristaltic pump as outlined in the approved Work Plan. Water quality parameters were measured during purging using an in-line flow cell equipped with temperature, conductivity, pH, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity probes. Prior to sample collection, the water quality parameters were allowed to stabilize for at least three consecutive measurements in accordance with the following stabilization criteria:

- pH within ±0.1 Standard Units (SU)
- Specific conductivity within ±3%
- ORP within ±10 millivolts (mV)
- DO within ±10%
- Turbidity within ±10% (ideally less than 50 nephelometric turbidity units [NTUs])

Well MW-24R and MW-32I went dry during purging or sample collection so the samples were collected from these wells using the peristaltic pump once the water column recovered.

The turbidity of the groundwater removed from well MW-32I was consistently outside the range of the meter. Therefore, a filtered and unfiltered sample was collected from this well for metals analysis to assess potential contributions from suspended solids.

The readings were placed on groundwater sampling forms (Attachment A) along with visual and olfactory observations noted at the start and end of purging. After stabilization, the flow cell was detached from the discharge tubing and the samples were collected directly from the tubing into pre-labelled laboratory-provided bottles.

Surface Water Sampling

As presented in the interim Baseline Sampling Report dated May 10, 2021, surface water (SW) samples were to be collected from three locations during the June 2021 sampling event. The locations of these samples are shown on Figure 1. Samples were collected from two of the three targeted locations, SW-1 and SW-2. The drainage ditch directly north of MW-26R was dry during the sampling event and therefore a surface water sample could not be collected from this location which is designated as SW-3. NYSDEC was informed and agreed that a new location was not necessary. The surface water samples were collected using a peristaltic pump and dedicated tubing.

Sample Analysis
Groundwater samples collected during both events were analyzed for RCRA metals using USEPA series methods 6000/7000/9000 and hexavalent chromium in accordance with USEPA Method 7196A. Groundwater samples from the first sampling event for each well were also analyzed for VOCs using USEPA method 8260.

As outlined in the interim Baseline Sampling Report, during the June sampling event groundwater samples collected from wells MW-24R, MW-26R, MW-30 were analyzed for emerging contaminants as follows:

- Per- and polyfluoroalkyl substances (PFAS) using USEPA Method 537 (modified)
- 1,4-Dioxane using USEPA Method 8270D SIM

The sample identifier, location, date, time, and sample collector were recorded on the sampling logs and a chain-of-custody form. Sample coolers were hand delivered to the Eurofins (former Test America) laboratory in Amherst, New York. The laboratory provided a Category B deliverable per the NYSDEC analysis and reporting guidelines. The analytical data package is provided in Attachment B.

The data packages were reviewed by a data validator who prepared a Data Useability Summary Report (DUSR). Based on the DUSR, the data is useable as qualified. A copy of the DUSR is provided at Attachment C.

The validation report made two notable modifications to the reported concentrations for hexavalent chromium detected in surface water sample SW-1 and groundwater sample from MW-24RI collected in June. These modifications as described in the DUSR are summarized below:

- The SW-1-061621 hexavalent chromium detected concentration of 0.015 mg/L is higher than the total chromium concentration of 0.0051 mg/L. In both bases, the associated QC, which includes matrix spikes of that sample for both fractions, is acceptable, and blanks show no contamination. Because the total chromium concentration is more definitive, interference may be contributory to the hexavalent chromium result. Therefore, the result for hexavalent chromium in SW-1-061621 is edited to reflect non-detection at an elevated reporting limit corresponding to the originally reported concentration, as the actual concentration is not definitively known.

- The hexavalent chromium result for MW-24RI-061721 is below the reporting limit, and therefore qualified as estimated by the laboratory. That concentration is marginally higher than the total chromium result for that sample, and therefore there is likely a high bias to the hexavalent chromium result of the sample.

Groundwater flow
Water levels were measured at each of the wells prior to the initiation of sampling during both sampling events. This information was used to calculate groundwater elevations for each location which are summarized on Table 1 and shown on Figures 2 and 3. Review of these figures indicate that the groundwater flow direction in the shallow and intermediate wells is generally towards the south with some variations to the west and east due to radial flow which is consistent with the information presented in the Remedial Investigation (RI) report prepared for the site by Conestoga-Rovers Associates (CRA) in March 2006.

Analytical Results

Groundwater Samples
Table 2 presents a summary of the detected constituents in one or more of the groundwater samples collected during the two baseline sampling events. The analytical results are compared to the Class GA groundwater quality standards and guidance values from *New York State Water Quality Regulations for Surface and Groundwater,* 6 NYCRR Parts 700-705, as presented in the NYSDEC Division of Water TOGS (1.1.1) dated June 1998 (GW SGVs).

Acetone, trichloroethylene (TCE) and tetrachloroethene (PCE) were the only VOCs that were detected at concentrations above their respective GW SGV. PCE, TCE and a related compound cis-1,2-dichloroethene were present in a single well MW-26R, located on the north central die of the site. Detected concentrations were slightly above the GW SGV of 5 µg/L for each of these compounds. Based on the location of this well with respect to the Site, the source of these compounds is suspected to be off-site.

As previously discussed, samples collected from wells MW-24R, MW-26R and MW-30 were also analyzed for PFAs and 1,4 dioxane. None of the wells contained detectable concentrations of 1,4 dioxane. One or more PFAS were detected in each of the samples. In general, the highest concentrations were present in the sample from MW-26R. The concentrations of PFOS and PFOA were also 21 ng/L and 22 ng/L, respectively. These concentrations exceed the drinking water standard of 10 ng/L that was established in 2020 for each of these two compounds. As stated above, the groundwater in this well is suspected to be representative of upgradient conditions and not directly related to the Site.

Review of the pH measurements collected during the sampling events reveals that the pH ranges from a low of 6.96 to 12.57. The groundwater pH measurements in both MW-30 and MW-31 are greater than 12. These wells are located on the western side of the Site.

One or more metals were detected in the groundwater samples. Where detected, the concentrations are generally low and with no concentration exceeding 0.5 mg/L. Hexavalent chromium was only detected in three of the wells. Samples collected from MW-24I and MW-32 during the second round of sampling contained estimated concentrations that were an order of magnitude below the GWSGV of 0.05 mg/L but non-detect in the first sampling event. MW-30 contained hexavalent chromium above the GW SGV in both events. This occurrence is discussed further below.

Metals concentrations in groundwater from wells MW-30 and MW-32I exceeded the GW SGVs as follows:

- MW-30 – Concentrations of chromium, selenium and hexavalent chromium exceeded the GW SGV during both sampling events. The concentrations of chromium and hexavalent chromium are approximately one order of magnitude above the GW SGV of 0.05 mg/L while the concentration of selenium in the samples was slightly above the GW SGV of 0.01 mg/L. This well is located along the roadway near the western side of the fill area. Review of the boring log for this well shows that fill was encountered from 2 to 5 feet at this location. The top of the screen is located at the base of this material. The groundwater quality at this location is, therefore, more likely representative of groundwater within the fill rather than groundwater migrating from the Site.
- MW-32I – Lead concentrations exceeded the GW SGV of 0.025 mg/L in the filtered and unfiltered groundwater sample during the June sampling event. It was well below the GW SGV in March and is likely attributable to the elevated turbidity observed in June. Chromium concentrations only exceeded the GW SGV in the unfiltered sample collected during the June sampling event which also suggests that it is attributable to elevated turbidity. This well is an

intermediate well screened at the interface of the glacial till and bedrock. These constituents were not detected above criteria in the shallow well at this location (MW-32) suggesting that the constituents are likely representative of naturally occurring minerals within the subsurface materials.

Surface Water Samples
As discussed, two surface water samples were collected at the Site. SW-1 was collected from the western drainage ditch as it exits the site on the southwest corner. SW-2 was collected from the swale that is connected to the wetland area on the northside, and presumably up stream of the Site. Constituents detected in one or more of the surface water samples are presented on **Table 3.** The detected constituents are compared to the Class A, A-S, AA, AA-S surface water quality standards and guidance values as summarized in *New York State Water Quality Regulations for Surface and Groundwater,* 6 NYCRR Parts 700-705, as presented in the NYSDEC Division of Water TOGS (1.1.1) dated June 1998 (SW SGVs)

As shown on Table 3, no VOCs were detected. In addition, no emerging contaminants (PFAS or 1,4 dioxane) were detected in the surface water samples.

The pH measurements in the surface water samples were similar and generally neutral with values of 7.59 and 7.83 at SW-1 and SW-2, respectively.

The downstream sample, SW-1 contained detectable concentrations of barium, chromium. Although reported as detected at 0.015 mg/L, the hexavalent chromium detection was modified by validation to not detected at an elevated detection limit of 0.015 mg/L based on the fact that the reported concentration was an order of magnitude above the total chromium concentration for this sample. SW-2 contained detectable concentrations of barium, and chromium. These values were below the SW SGVs.

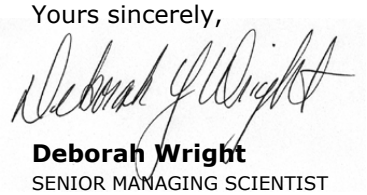
Summary and Recommendations
As presented above, review of the baseline groundwater and surface water quality data collected indicates that there are no site-related constituents migrating away from the fill material and site related constituents are not present in the intermediate groundwater unit. Furthermore, the VOCs and PFAS detected above criteria in MW-26R are not considered to be site-related.

The following monitoring scope is recommended to be included in the Site Management Plan (SMP):

- Collection of groundwater samples from seven of the eight shallow wells if they contain water during the sampling event. Samples should not be collected from MW-30 as this water is more likely to be representative of groundwater that is in contact with the fill material rather than the adjacent groundwater system.
- The groundwater samples should be analyzed for RCRA metals.
- The surface water samples should be collected from each of the three identified locations if water is present and analyzed for RCRA metals. Because of the uncertainty associated with the results of the initial analyses, surface water samples from the first two sampling events should also include analysis of hexavalent chromium to further assess whether it is present in this medium.
- Sampling frequency should be 18 months which allows for evaluation during wet and dry periods.

Should you have any questions or require additional information pertaining to this report, please contact me.

Yours sincerely,



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Attachments: Table 1 – Well Construction Details and Groundwater Elevations
Table 2 – Detected Constituents in Groundwater
Table 3 - Detected Constituents in Surface Water
Figure 1 – Monitoring Well Location Plan
Figure 2 – Groundwater Elevations March 29, 2021
Figure 3 – Groundwater Elevations June 2021
Attachment A - Sampling Logs
Attachment B – Analytical Data Package
Attachment C - DUSR

CC: Edward Holman – NYPA
Brian Stearns, P.E. – National Grid
Steve Beam, National Grid
Erika Cozza – NYPA
Stephen W. Anagnost – Ramboll
William Monette - Ramboll

Table 1
Well Construction Details and Groundwater Elevations
Vanadium Corporation of America Site OU3
Niagara Falls, NY

Location ID	Ground Surface Elevation	Top of Casing Elevation	Screened Interval (Ft bgs)		Date Installed	Well Coordinates		March 29, 2021 Groundwater Elevation (ft)	June 15, 2021 Groundwater Elevation (ft)
			Top	Bottom		X	Y		
MW-16R	601.3	604.41	6	11	12/4/2020	1138146.148	1031556.156	599.71	596.53
MW-16RI	601.4	604.28	14	17	12/3/2020	1138150.316	1031554.172	593.4	596.57
MW-18R	601.9	605.03	6	11	12/4/2020	1138218.698	1032211.359	DRY	593.38
MW-24R	607.1	610.25	8	10	12/4/2020	1139408.205	1031673.202	603.22	601.64
MW-24RI	607	610.34	14.5	16.5	12/4/2020	1139407.794	1031668.735	599.46	598.63
MW-26R	614.5	617.56	8	13	12/9/2020	1139341.502	1030382.678	606.71	606.35
MW-29R	607	610.25	6	9	12/3/2020	1139349.953	1032018.637	DRY	DRY
MW-30	606.7	609.65	5	9	12/1/2020	1138487.562	1030996.791	603.44	602.85
MW-31	610	612.94	14	17	12/1/2020	1138794.629	1030730.829	602.34	602.41
MW-32	606.8	609.61	8	11	12/3/2020	1139404.077	1030938.879	601.09	601.22
MW-32I	607	610.02	16	18	12/2/2020	1139400.654	1139400.654	599.31	597.84

Notes:

1. Elevations are in feet and are referred to the National Geodetic Vertical Datum of 1929 (NGVD29).
2. Coordinate locations are referenced horizontally to the North American Datum of 1983, 2007 adjustment (NAD83/07) and projected on the New York State Plane Coordinate System (Central Zone).

Table 2
Detected Constituents in Groundwater
Vanadium Corporation of America Site OU3
Niagara Falls, NY

	Criteria[1]	MW-16R		MW-16RI		MW-18R		MW-24R		MW-24RI		MW-26R		MW-30		MW-31		MW-32		MW-32I		
		3/30/2021	6/15/2021	3/30/2021	6/15/2021	NA	6/17/2021	3/30/2021	6/17/2021	3/30/2021	6/17/2021	3/31/2021	6/16/2021	3/30/2021	6/15/2021	3/30/2021	6/15/2021	3/30/2021	6/16/2021	3/31/2021	6/16/2021 (filtered)	6/17/2021
VOCs (µg/L)																						
2-Butanone (MEK)	50	ND	NA	ND	NA	NA	2.6 J	8.4 J	NA	ND	NA	ND	ND	9.3 J	NA	8.2 J	NA	ND	NA	ND	NA	NA
Acetone	50	ND	NA	ND	NA	NA	7.1 J	**63**	NA	3.6	NA	ND	ND	**180**	NA	**80**	NA	ND	NA	ND	NA	NA
Carbon disulfide	60	ND	NA	ND	NA	NA	ND	0.88 J	NA	0.85 J	NA	ND	ND	ND	NA	2.3	NA	ND	NA	ND	NA	NA
Toluene	5	ND	NA	ND	NA	NA	ND	ND	NA	0.54	NA	ND	ND	ND	NA	0.54 J+	NA	ND	NA	ND	NA	NA
Methylcyclohexane	NC	ND	NA	ND	NA	NA	ND	ND	NA	0.32	NA	ND	ND	ND	NA	ND	NA	ND	NA	0.95	NA	NA
Chloroform	7	ND	NA	ND	NA	NA	ND	ND	NA	ND	NA	2.5	1.6 J	ND	NA	ND	NA	ND	NA	ND	NA	NA
cis-1,2-Dichloroethene	5	ND	NA	ND	NA	NA	ND	ND	NA	ND	NA	4.7	**5.7**	ND	NA	ND	NA	ND	NA	ND	NA	NA
Trichloroethene	5	ND	NA	ND	NA	NA	ND	ND	NA	ND	NA	**5.7**	**5.7**	ND	NA	ND	NA	ND	NA	ND	NA	NA
Tetrachloroethene	5	ND	NA	ND	NA	NA	ND	ND	NA	ND	NA	**6**	**6.3**	ND	NA	ND	NA	ND	NA	ND	NA	NA
Cyclohexane	NC	ND	NA	ND	NA	NA	ND	ND	NA	0.28	NA	ND	ND	ND	NA	ND	NA	ND	NA	ND	NA	NA
PFAS (ng/L)																						
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	NC	NA	NA	NA	NA	NA	NA	NA	1.9 J	NA	NA	NA	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic acid (PFBS)	NC	NA	NA	NA	NA	NA	NA	NA	1.8 J	NA	NA	NA	3.8	NA	1.7	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic acid (PFBA)	NC	NA	NA	NA	NA	NA	NA	NA	7.2	NA	NA	NA	17	NA	12	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic acid (PFDA)	NC	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	0.54 J	NA	0.31 J	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanesulfonic acid (PFHpS)	NC	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	0.47 J	NA	ND	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic acid (PFHpA)	NC	NA	NA	NA	NA	NA	NA	NA	0.92 J	NA	NA	NA	6.1	NA	2.4	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	NC	NA	NA	NA	NA	NA	NA	NA	0.47 J	NA	NA	NA	12	NA	1.1 J	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanoic acid (PFHxA)	NC	NA	NA	NA	NA	NA	NA	NA	2.1	NA	NA	NA	9	NA	4.7	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	NC	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	9.5	NA	1.5 J	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonamide (PFOSA)	NC	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND	NA	0.50 J	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	10[2]	NA	NA	NA	NA	NA	NA	NA	0.36 J	NA	NA	NA	**21**	NA	6.2	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic acid (PFOA)	10[2]	NA	NA	NA	NA	NA	NA	NA	2.6	NA	NA	NA	**22**	NA	7.2	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic acid (PFPeA)	NC	NA	NA	NA	NA	NA	NA	NA	1.1 J	NA	NA	NA	10	NA	4.1	NA	NA	NA	NA	NA	NA	NA
1,4 Dioxane																						
NONE DETECTED																						
Metals (mg/L)																						
Arsenic	0.025	ND	ND	ND	ND	NA	ND	0.011 J	0.010 J	0.0072 J	0.014 J	ND	ND	ND	ND	ND	ND	ND	ND	0.009	0.0085 J	0.023
Barium	1	0.039	0.038	0.07	0.078	NA	0.034	0.0042	0.0049	0.058	0.047	0.077	0.073	0.23	0.33	0.062	0.088	0.092	0.097	0.071	0.17 H	0.58
Cadmium	0.005	0.00086	ND	0.00072 J	ND	NA	0.00072 J	ND	ND	ND	0.00053 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00057 J	0.003
Chromium	0.05	ND	0.0015 J	0.0024 J	0.0010 J	NA	0.0037 J	0.001 J	0.0014 J	0.0014 J	0.0048	0.011	ND	**0.33**	**0.26**	ND	ND	0.0086	0.0099	0.0076	0.027	**0.19**
Lead	0.025	ND	ND	0.0049 J	ND	NA	ND	ND	ND	0.0071 J	0.023	ND	ND	ND	ND	ND	ND	ND	ND	0.0064	**0.032**	**0.3**
Mercury	0.0007	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	0.01	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	**0.019 J**	**0.014 J**	ND	ND	ND	ND	ND	ND	ND
Silver	0.05	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	0.05	ND	ND	ND	ND	NA	ND	ND	ND	ND	0.0060 J	ND	ND	**0.22**	**0.19**	ND	ND	ND	0.0060 J	ND	ND	ND
pH (SU)																						
pH (field measurement)	NC	7.2	6.96	7.08	6.87	NA	7.51	10.77	10.08	7.76	10.11	7	7.07	**12.57**	12.55	12.46	12.53	8.75	8.46	9.25	8.46	8.5

Notes:

Shaded = Exceeds New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Groundwater Standards and Guidance Values or Department of Health Drinking Water Standards.

[1] New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Standards and Guidance Values, Revised June 1998.

[2] New York State Department of Health Drinking Water Standard Maximum Contaminant Levels, adopted August 2020.

ND - Not detected above the method detection limit

NA - Not analyzed

J - Estimated value

J+ - Analyte was positively identified; associated numerical value is an estimated quanity that may be biased high.

JB - Estimated value and detected in blank

NC - No criteria exists

H - Interference Check Standard is outside acceptance limits, high biased.

Table 3
Detected Constituents in Surface Water
Vanadium Corporation of America Site - OU3
Niagara Falls, NY

Constituent	Criteria[1]	SW-01	SW-02
		6/16/2021	6/16/2021
VOCs			
NONE DETECTED			
RCRA Metals (mg/L)			
Arsenic	0.05	ND	ND
Barium	1	0.038	0.019
Cadmium	0.005	ND	ND
Chromium	0.05	0.0051	0.0026 J
Lead	0.05	ND	ND
Mercury	0.0007	ND	ND
Selenium	0.01	ND	ND
Silver	0.05	ND	ND
Hexavalent Chromium	0.011[2]	ND	ND
pH (SU)			
pH (field measurement)	NC	7.59	7.83

Notes:

Shaded = Exceeds New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Groundwater Standards and Guidance Values.

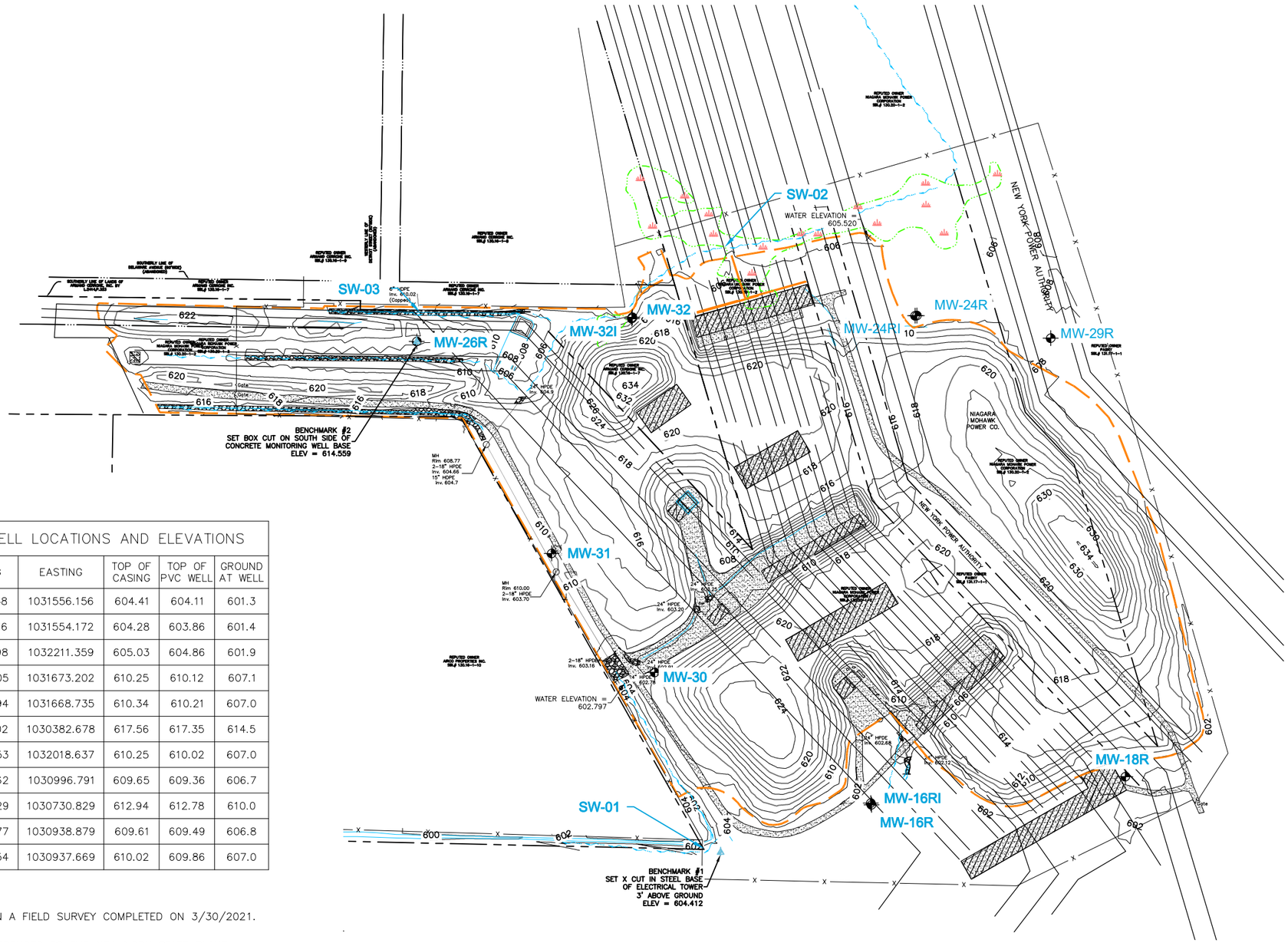
[1] New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class A, A-S, AA, AA-S Standards and Guidance Values, Revised June 1998.

[2] New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class A, A-S, AA, AA-S, B, C (Fish Propagation) Standards and Guidance Values, Revised June 1998.

ND - Not detected above the method detection limit

J - Estimated value

NC - No criteria exists



MONITORING WELL LOCATIONS AND ELEVATIONS					
WELL No.	NORTHING	EASTING	TOP OF CASING	TOP OF PVC WELL	GROUND AT WELL
MW-16R	1138146.148	1031556.156	604.41	604.11	601.3
MW-16RI	1138150.316	1031554.172	604.28	603.86	601.4
MW-18R	1138218.698	1032211.359	605.03	604.86	601.9
MW-24R	1139408.205	1031673.202	610.25	610.12	607.1
MW-24RI	1139407.794	1031668.735	610.34	610.21	607.0
MW-26R	1139341.502	1030382.678	617.56	617.35	614.5
MW-29R	1139349.953	1032018.637	610.25	610.02	607.0
MW-30	1138487.562	1030996.791	609.65	609.36	606.7
MW-31	1138794.629	1030730.829	612.94	612.78	610.0
MW-32	1139404.077	1030938.879	609.61	609.49	606.8
MW-32I	1139400.654	1030937.669	610.02	609.86	607.0

NOTES:

THIS MAP IS BASED ON A FIELD SURVEY COMPLETED ON 3/30/2021.

COORDINATES ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE, NAD 83.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 VERTICAL DATUM.

NORTH

LEGEND

- MW-29R — MONITORING WELL
- UTILITY TOWER
- RIP-RAP
- GRAVEL ROAD/PULL PAD
- LIMITS OF CAP
- CHAIN LINK FENCE
- PROPERTY BOUNDARY
- SW-01 — SURFACE WATER SAMPLE

300' 0 300'

SAMPLE LOCATION PLAN

VANADIUM CORPORATION OF AMERICA

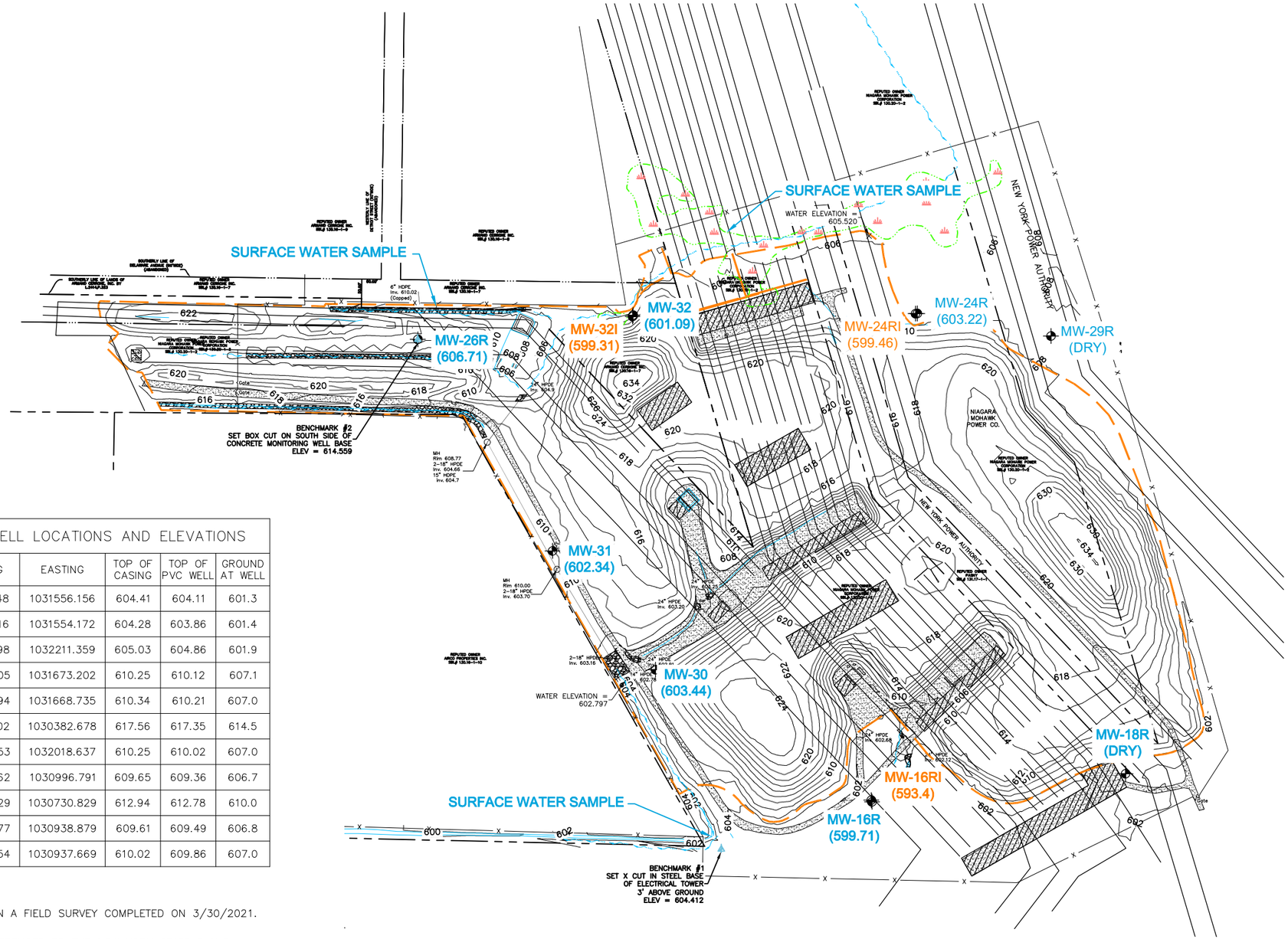
NIAGARA FALLS, NEW YORK

FIGURE 1

O'BRIEN & GERE ENGINEERS
A RAMBOLL COMPANY
333 WEST WASHINGTON ST SYRACUSE, NY 13202
315-956-6100

RAMBOLL

C:\Div71\National Grid Vanadium\Well Locations\SAMPLE LOCATION PLAN - FIG1.dwg
DATED: 9/13/2021 12:06 PM DESIGNER: HULLMW
PROJECT: 1118.50443



NORTH

LEGEND

- MW-29I — INTERMEDIATE MONITORING WELL
- MW-29R — SHALLOW MONITORING WELL
- (620.1) — GROUNDWATER ELEVATION (FT)
- UTILITY TOWER
- RIP-RAP
- GRAVEL ROAD/PULL PAD
- LIMITS OF CAP
- CHAIN LINK FENCE
- PROPERTY BOUNDARY

300' 0 300'

MONITORING WELL LOCATIONS AND ELEVATIONS					
WELL No.	NORTHING	EASTING	TOP OF CASING	TOP OF PVC WELL	GROUND AT WELL
MW-16R	1138146.148	1031556.156	604.41	604.11	601.3
MW-16RI	1138150.316	1031554.172	604.28	603.86	601.4
MW-18R	1138218.698	1032211.359	605.03	604.86	601.9
MW-24R	1139408.205	1031673.202	610.25	610.12	607.1
MW-24RI	1139407.794	1031668.735	610.34	610.21	607.0
MW-26R	1139341.502	1030382.678	617.56	617.35	614.5
MW-29R	1139349.953	1032018.637	610.25	610.02	607.0
MW-30	1138487.562	1030996.791	609.65	609.36	606.7
MW-31	1138794.629	1030730.829	612.94	612.78	610.0
MW-32	1139404.077	1030938.879	609.61	609.49	606.8
MW-32I	1139400.654	1030937.669	610.02	609.86	607.0

NOTES:

THIS MAP IS BASED ON A FIELD SURVEY COMPLETED ON 3/30/2021.

COORDINATES ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE, NAD 83.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 VERTICAL DATUM.

GROUNDWATER ELEVATIONS MARCH 2021

VANADIUM CORPORATION OF AMERICA

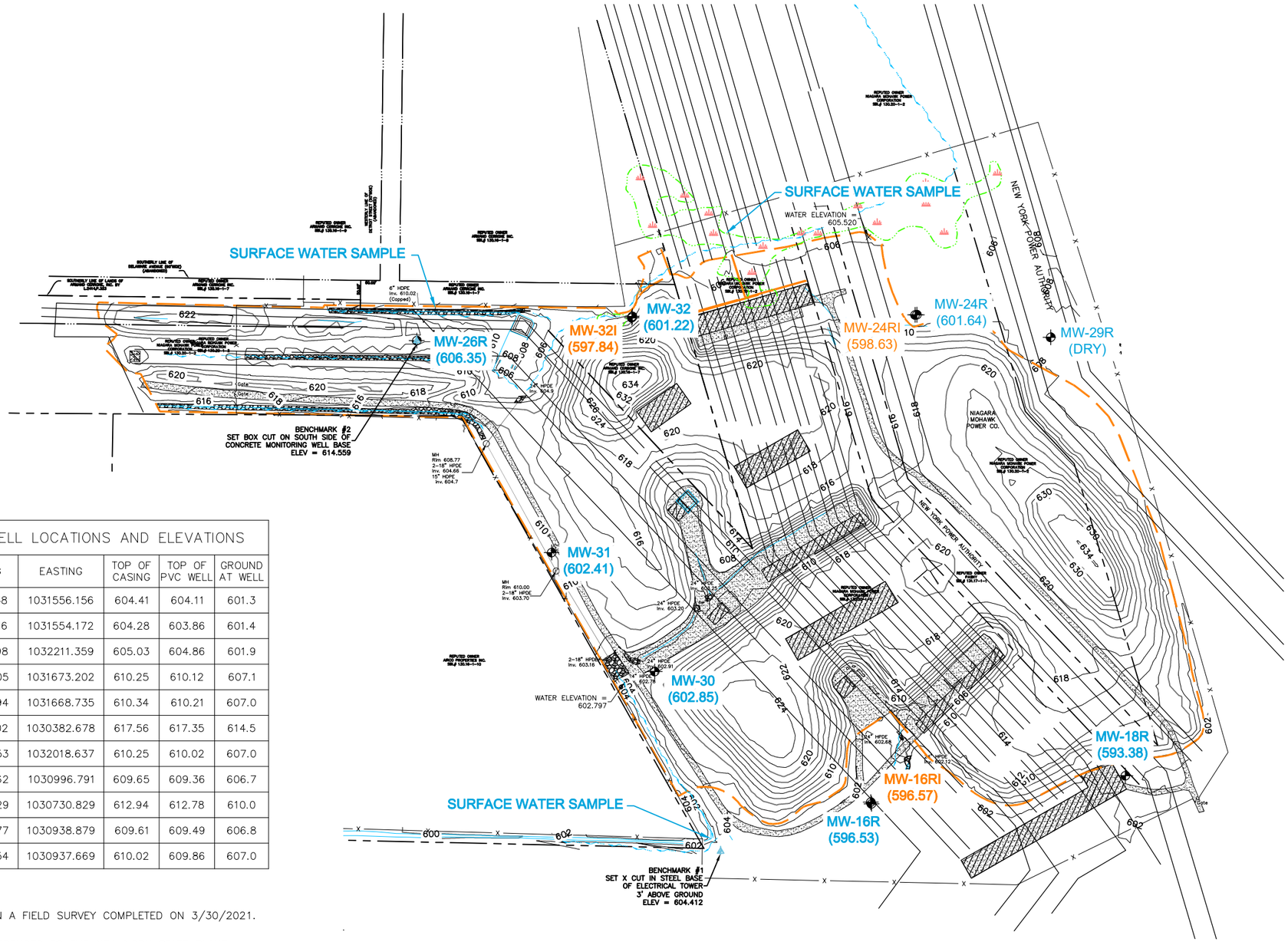
NIAGARA FALLS, NEW YORK

FIGURE 2

O'BRIEN & GERE ENGINEERS
A RAMBOLL COMPANY
333 WEST WASHINGTON ST SYRACUSE, NY 13202
315-956-6100

RAMBOLL

PROJECT: 1118.50443 DATED: 5/7/2021 8:44 AM DESIGNER: HULLMW



MONITORING WELL LOCATIONS AND ELEVATIONS					
WELL No.	NORTHING	EASTING	TOP OF CASING	TOP OF PVC WELL	GROUND AT WELL
MW-16R	1138146.148	1031556.156	604.41	604.11	601.3
MW-16RI	1138150.316	1031554.172	604.28	603.86	601.4
MW-18R	1138218.698	1032211.359	605.03	604.86	601.9
MW-24R	1139408.205	1031673.202	610.25	610.12	607.1
MW-24RI	1139407.794	1031668.735	610.34	610.21	607.0
MW-26R	1139341.502	1030382.678	617.56	617.35	614.5
MW-29R	1139349.953	1032018.637	610.25	610.02	607.0
MW-30	1138487.562	1030996.791	609.65	609.36	606.7
MW-31	1138794.629	1030730.829	612.94	612.78	610.0
MW-32	1139404.077	1030938.879	609.61	609.49	606.8
MW-32I	1139400.654	1030937.669	610.02	609.86	607.0

NOTES:

THIS MAP IS BASED ON A FIELD SURVEY COMPLETED ON 3/30/2021.

COORDINATES ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE, NAD 83.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 VERTICAL DATUM.

NORTH

LEGEND

- MW-29I — INTERMEDIATE MONITORING WELL
- MW-29R — SHALLOW MONITORING WELL
- (620.1) — GROUNDWATER ELEVATION (FT)
- UTILITY TOWER
- RIP-RAP
- GRAVEL ROAD/PULL PAD
- LIMITS OF CAP
- CHAIN LINK FENCE
- PROPERTY BOUNDARY

300' 0 300'

GROUNDWATER ELEVATIONS JUNE 2021

VANADIUM CORPORATION OF AMERICA

NIAGARA FALLS, NEW YORK

FIGURE 3

O'BRIEN & GERE ENGINEERS
A RAMBOLL COMPANY
333 WEST WASHINGTON ST SYRACUSE, NY 13202
315-956-6100

RAMBOLL

C:\Div71\National Grid Vanadium\Well Locations\Ground Water Elevations - March-June 21 - Fig23.dwg
PROJECT: 1118.50443 DATED: 8/18/2021 8:25 AM DESIGNER: HULLMW

ATTACHMENT A

Sampling Logs

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-32I
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #:

Sampling Method: low flow
Equipment Used: peri pump
Pump/Controller ID#: FAV0343

Field Personnel: ECL
Date: 3/30/21
Weather: Sun

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 20.08 ft. bmp.
Depth to Water*: 10.52 ft. bmp.
Length of Water Column (LWC): 9.56 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
4 in. = 0.653 gal/ft
6 in. = 1.469 gal/ft
8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: gal.
Pump Intake Depth*: 19.08 ft. bmp.

Start Purge Time: 14:45

Initial Observations: Color ~~translucent brown~~ opaque Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity µS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	10.52	13.1	9.12	1.41	174.2	4.16	average	150	
5	12.42	12.8	9.18	1.41	~~3.6~~ 124.7	3.69	average	150	
10	13.03	13.0	9.16	1.41	80.7	3.42	average	180	
15	14.0	12.7	9.16	1.41	88.1	3.60	502.2	120	
20	14.95	13.3	9.13	1.41	97.2	3.25	539.9	100	
25	15.54	13.2	9.12	1.41	93.4	3.22	551.7	100	
30	16.26	13.1	9.12	1.41	94.7	3.16	504.8	100	
35	16.89	13.6	9.14	1.40	90.9	2.89	474.0	100	
40	17.42	13.9	9.16	1.40	96.9	2.65	413.0	100	
45	18.82	14.1	9.13	1.38	97.6	2.14	266.1	100	
50	18.15	14.4	9.13	1.37	93.9	1.84	196.0	100	
55	18.38	14.5	9.11	1.36	100.1	1.50	167.7	100	
60	18.50	14.9	9.13	1.34	92.2	1.13	117.4	100	
			well dry at	15:45					
9:24	10.54	9.4	9.25	1.42	118.5	3.28	359.4	—	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: ~~3/30/21~~ 09:15
Total volume of groundwater purged: ~2.0 gal.

DO Titrataion: mg/L

Final Observations: Color translucent brown Odor none Sheen/Free Product none

Analytical Sample ID: MW-32I-033021 Date: 3/30/21 Time: 0920

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes: After 60 mins, purged well dry

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-32
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls
Project #:

Sampling Method: Low Flow
Equipment Used: peri Pump
Pump/Controller ID#:

Field Personnel: MAZ
Date: 7/30/21
Weather: sunny, 60°F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: ft. bmp.
Depth to Water*: 7.77 ft. bmp.
Length of Water Column (LWC): ft.
Well Diameter: in.

Well Volume Multipliers:

1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
4 in. = 0.653 gal/ft
6 in. = 1.469 gal/ft
8 in. = 2.611 gal/ft

Measurement Point*: ToC
MP Notes:
Well Volume: gal.
Pump Intake Depth*: ft. bmp.

Start Purge Time: 15:00

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity µS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
			Select Units from Dropdown Menus						
0	7.77	10.9	8.86	1.72	85.8	5.91	150	150	
5	9.84	11.0	8.91	1.73	85.4	5.85	458	150	
10	11.11	10.3	8.91	1.72	86.9	5.42	107.3	150	
15	11.15	11.3	8.84	1.70	89.8	4.08	29.2	150	
20	11.35	10.7	8.80	1.76	89.7	3.27	128.2	150	
25	11.60	10.8	8.84	1.77	89.8	2.58	73.4	150	
30	11.82	10.8	8.82	1.78	90.1	2.28	19.6	150	
35	11.98	10.9	8.76	1.76	90.8	2.21	18.6	150	
40	12.25	10.8	8.75	1.75	90.5	2.09	19.4	150	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1540
DO Titrataion: X mg/L
Total volume of groundwater purged: gal.

Final Observations: Color Odor Sheen/Free Product

Analytical Sample ID: MW-32-033021 Date: 3/30/21 Time: 15:50

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-31
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls
Project #:

Sampling Method: Low Flow
Equipment Used: peri pump
Pump/Controller ID#: FA01205

Field Personnel: MAZ
Date: 3/30/21
Weather: Sunny 55°F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: ~19 ft. bmp.
10.44 Depth to Water*: ~~16~~ ft. bmp.
Length of Water Column (LWC): ft.
Well Diameter: in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:

Well Volume: gal.
Pump Intake Depth*: ft. bmp.

Start Purge Time: 1250

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius ✓	pH SU	Specific Conductivity mS/cm	ORP ✓ mV	Dissolved Oxygen ✓ mg/L	Turbidity ✓ NTU	Flow Rate ✓ ml/min	Other
	Select Units from Dropdown Menus								
0	10.44	11.8	11.56	1.24	-96.2	0.67	4.95	100	
5	10.54	12.0	11.68	1.24	-112.3	0.32	5.82	100	
10	10.58	11.8	11.78	1.31	-120.9	0.21	4.65	100	
15	10.58	11.7	11.90	1.59	-127.8	0.19	4.22	100	
20	10.58	11.9	12.04	2.19	-140.9	0.18	5.34	100	
25	10.58	12.0	12.16	2.79	-150.4	0.17	3.22	100	
30	10.58	12.1	12.25	3.38	-159.0	0.16	4.28	100	
35	10.58	12.2	12.31	3.72	-164.3	0.16	4.34	100	
40	10.58	12.3	12.36	4.08	-166.4	0.14	5.22	100	
45	10.58	12.1	12.41	4.40	-166.6	0.14	4.08	100	
50	10.58	11.8	12.46	4.46	-166.1	0.14	3.83	100	
55	10.58	11.9	12.46	4.48	-166.1	0.13	4.03	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 13:45
Total volume of groundwater purged: 2 gal.
DO Titrataion: X mg/L

Final Observations: Color clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-31-033021 Date: 3/30/21 Time: 13:50

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-24RI
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #:

Sampling Method: low flow
Equipment Used: peri pump
Pump/Controller ID#: FA00343

Field Personnel: ECL
Date: 3/30/21
Weather: Sun, 54°F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 18.89 ft. bmp.
Depth to Water*: 11.22 ft. bmp.
Length of Water Column (LWC): 7.67 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
4 in. = 0.653 gal/ft
6 in. = 1.469 gal/ft
8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 1.25 gal.
Pump Intake Depth*: 17.89 ft. bmp.

Start Purge Time: 10:07

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
			Select Units from Dropdown Menus						
0	11.22	9.7	10.02	0.374	-77.5	5.76	23.5	120	
5	11.96	9.9	10.03	0.362	84.0	4.49	23.8	120	
10	12.57	9.9	10.07	0.359	83.4	4.17	20.6	120	
15	13.01	10.1	10.06	0.361	85.3	3.88	26.2	120	
20	13.38	10.3	9.97	0.379	86.5	3.31	58.4	120	
25	13.66	10.4	9.04	0.470	57.1	2.22	63.2	160	
30	13.87	10.7	8.53	0.525	-4.1	1.84	63.3	120	
35	14.09	10.7	8.32	0.544	-74.9	1.38	62.1	140	
40	14.39	10.6	8.52	0.535	-82.9	1.63	53.2	140	
45	14.68	10.7	8.32	0.541	-87.4	1.43	45.7	140	
50	15.01	10.8	8.32	0.542	-95.7	1.40	47.8	140	
55	15.31	10.8	8.39	0.535	-82.2	1.41	57.3	140	
60	15.61	10.9	8.32	0.541	-89.8	1.32	61.7	140	
65	16.02	11.1	8.42	0.530	-82.9	1.51	69.4	140	
70	16.32	11.2	8.35	0.534	-84.1	1.25	74.8	140	
73	16.55	11.2	8.32	0.528	-89.3	1.32	77.5	140	
76	16.75	11.3	8.84	0.500	-82.1	1.39	73.5	140	
79	16.82	11.3	7.94	0.396	-86.1	4.10	101.2	140	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time:
Total volume of groundwater purged: gal.
DO Titratalon: mg/L

Final Observations: Color Odor none Sheen/Free Product none

Analytical Sample ID: MW-24RI-033021 Date: 3/30/21 Time:

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-24RI
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #:

Sampling Method: Low-flow
Equipment Used: peri pump
Pump/Controller ID#: FA00343

Field Personnel: E'CL
Date: 3/30/21
Weather: Sun, 54°F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 18.89 ft. bmp.
Depth to Water*: 11.22 ft. bmp.
Length of Water Column (LWC): 7.67 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

	1 in. = 0.041 gal/ft
X	2 in. = 0.163 gal/ft
	4 in. = 0.653 gal/ft
	6 in. = 1.469 gal/ft
	8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 1.25 gal.
Pump Intake Depth*: 17.89 ft. bmp.

Start Purge Time:

Initial Observations: Color Odor Sheen/Free Product

Elapsed Time (Minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Other
			Select Units from Dropdown Menus						
82	16.85	12.1	7.79	0.609	-74.2	5.34	105.7	140	
85	16.86	12.1	7.74	0.616	-70.8	5.29	104.5	140	
90	16.86	12.2	7.76	0.617	-70.8	5.34	109.5	140	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 11:35
Total volume of groundwater purged: ~3 gal.

DO Titrataion: mg/L

Final Observations: Color Cloudy Odor None Sheen/Free Product ~~11:45~~ none

Analytical Sample ID: MW-24RI-033021 Date: 3/31/21 Time: 11:45

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-24R
Northing:
Easting:

Site Name: Vanadium
Site Location:
Project #:

Sampling Method: Low Flow
Equipment Used: peri pump
Pump/Controller ID#: FA01205

Field Personnel: MAZ
Date: 3/30/21
Weather: sunny, 50°F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: ft. bmp.
Depth to Water*: 6.88 ft. bmp.
Length of Water Column (LWC): ft.
Well Diameter: in.

Well Volume Multipliers:

1 in. = 0.041 gal/ft
[X] 2 in. = 0.163 gal/ft
4 in. = 0.653 gal/ft
6 in. = 1.469 gal/ft
8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: gal.
Pump Intake Depth*: ft. bmp.

Start Purge Time: 10:15

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time (Minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Other
	Select Units from Dropdown Menus								
0	6.88	8.4	10.75	0.342	128.5	0.16	7.24	100	
5	8.34	8.3	10.76	0.346	100.5	0.15	8.33	100	
10	8.95	8.2	10.81	0.351	102.6	0.17	6.58	100	
15	9.85	8.2	10.81	0.354	101.0	0.15	7.55	100	
20	10.48	8.2	10.79	0.355	107.8	0.17	8.33	100	
25	11.20	8.5	10.79	0.356	99.8	0.15	8.66	100	
30	11.25	8.7	10.78	0.359	108.4	0.14	7.28	100	
35	11.28	8.9	10.77	0.360	106.5	0.13	6.86	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 10:50

DO Titrataion: X mg/L

Total volume of groundwater purged: 1.5 gal.

Final Observations: Color Clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-24R-033021 **Date:** 3/30/21 **Time:** 11:00

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-16R
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls
Project #:

Sampling Method: Low Flow
Equipment Used: peri pump
Pump/Controller ID#: FAN1205

Field Personnel: MAZ
Date: 3/30/21
Weather: Sunny, 45° F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: ft. bmp.
Depth to Water*: 4.39 ft. bmp.
Length of Water Column (LWC): ft.
Well Diameter: 2 in.

Well Volume Multipliers:

1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
4 in. = 0.653 gal/ft
6 in. = 1.469 gal/ft
8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: gal.
Pump Intake Depth*: ft. bmp.

Start Purge Time: 0845

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity µS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
			Select Units from Dropdown Menus						
0	4.38	7.3	7.11	1.53	300.0	8.32	9.45	200	
5	5.99	7.5	7.15	1.51	250.9	7.57	10.07	200	
10	6.55	7.6	7.17	1.52	203.5	7.61	9.27	100	
15	7.10	7.7	7.18	1.52	192.5	7.50	8.37	100	
20	7.61	7.8	7.20	1.52	180.3	7.46	9.20	100	
25	8.05	7.9	7.19	1.52	177.8	7.38	8.98	100	
30	8.46	8.0	7.20	1.52	174.6	7.32	9.3	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 0915
Total volume of groundwater purged: 1 gal.

DO Titrataion: X mg/L

Final Observations: Color Clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-16R-033021 Date: 3/30/21 Time: 0920

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-16RI
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #:

Sampling Method: ~~peristaltic pump~~ low flow
Equipment Used: ~~Geotech~~ QED pump
Pump/Controller ID#: FA00343

Field Personnel: ECL
Date: 3/30/21
Weather: Sun, 41°F

Well information:

Installed Depth of Well*: ___ ft. bmp.
Measured Depth of Well*: 18.79 ft. bmp.
Depth to Water*: 4.33 ft. bmp.
Length of Water Column (LWC): 14.46 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:

Well Volume: 2.36 gal.
Pump Intake Depth*: 17.79 ft. bmp.

Start Purge Time: 4:35

Initial Observations: Color slightly cloudy Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS µS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	4.33	8.0	7.21	1.57	230.5	2.61	254.5	100	
5	4.51	8.0	7.10	1.53	78.0	1.68	390.2	100	
10	4.51	8.2	7.04	1.47	20.6	1.18	334.6	100	
15	4.50	8.3	7.08	1.47	10.7	0.90	101.4	100	
20	4.50	8.4	7.06	1.47	4.2	0.79	86.2	100	
25	4.50	8.4	7.07	1.47	1.9	0.71	49.0	100	
30	4.51	8.5	7.06	1.46	-1.3	0.64	49.6	100	
35	4.51	8.6	7.07	1.46	-5.0	0.58	28.3	100	
40	4.51	8.6	7.06	1.45	-8.0	0.55	25.6	100	
45	4.51	8.8	7.07	1.43	-11.0	0.50	23.8	100	
50	4.51	8.8	7.08	1.43	-11.0	0.50	23.2	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 9:25

Total volume of groundwater purged: ~2 gal.

DO Titrataion: ___ mg/L

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-16RI-033021 Date: 3/30/21 Time: 9:35

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW 30
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #:

Sampling Method: Low-flow
Equipment Used: Peri Pump
Pump/Controller ID#: FA00343

Field Personnel: ECL
Date: 3/30/21
Weather: Sun, 63°F

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 11.88 ft. bmp.
Depth to Water*: 6.45 ft. bmp.
Length of Water Column (LWC): 5.43 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: gal.
Pump Intake Depth*: 10.88 ft. bmp.

Start Purge Time: ~~12:18~~ 12:22

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
	Select Units from Dropdown Menus								
0	~~6.45~~ 6.45	9.8	12.26	3.93	89.4	0.53	6.22	100	
5	6.45	10.5	12.37	4.06	80.4	0.47	3.16	100	
10	6.45	10.5	12.41	4.09	69.8	0.53	1.55	100	
15	6.45	10.5	12.44	4.23	76.6	0.65	1.99	100	
20	6.47	10.6	12.49	4.31	75.5	0.67	1.60	100	
25	6.45	10.8	12.51	4.39	75.1	0.73	1.70	100	
30	6.46	11.0	12.58	4.45	75.7	0.77	1.36	100	
35	6.47	11.2	12.52	4.50	75.5	0.83	1.83	100	
40	6.47	10.8	12.58	4.56	81.5	0.97	1.19	100	
45	6.46	11.1	12.55	4.59	79.2	0.97	1.79	100	
50	6.46	11.1	12.57	4.61	76.3	0.92	1.79	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 13:12
Total volume of groundwater purged: ~1.5 gal.

DO Titrataion: ___ mg/L

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-30-033021 Date: 3/30/21 Time: 13:20

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL **Low Flow Groundwater Sampling Log**

Well ID: MW-28R
Northing:
Easting:

Site Name: [redacted] Vanadium
Site Location: Niagara Falls, NY
Project #:

Sampling Method: ~~Bladder Pump~~
Equipment Used: ~~Bladder Pump~~ peri pump
Pump/Controller ID#: FAO 1205

Field Personnel: MAZ
Date: 3/31/21
Weather: Rainy, 40°F

Well Information:

Installed Depth of Well*: ______ ft. bmp.
Measured Depth of Well*: ______ ft. bmp.
Depth to Water*: 10.85 ft. bmp.
Length of Water Column (LWC): ______ ft.
Well Diameter: ______ in.

Well Volume Multipliers:

- ___ 1 in. = 0.041 gal/ft
- X 2 in. = 0.163 gal/ft
- ___ 4 in. = 0.653 gal/ft
- ___ 6 in. = 1.469 gal/ft
- ___ 8 in. = 2.611 gal/ft

Measurement Point*: ToC
MP Notes:
Well Volume: ______ gal.
Pump Intake Depth*: ______ ft. bmp.

Start Purge Time:

Initial Observations: Color ______ Odor ______ Sheen/Free Product ______

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity µS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	10.85	7.6	6.99	1.63	86.3	1.87	318	—	
			Dry at 10:00						
3/31 ~~[illegible]~~	~~12.45~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~			—	
10:00	12.45	7.4	7.[illegible]	1.61	112.6	[illegible]	416	—	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 0950
Total volume of groundwater purged: .5 gal.

DO Titrataion: ______ mg/L

Final Observations: Color Brown Odor None Sheen/Free Product None

Analytical Sample ID: MW-28R-033021 Date: 3/30/21 Time: 1000

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-16R1
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #: 1958050443

Sampling Method: peri pump
Equipment Used: geo pump
Pump/Controller ID#: FA01815

Field Personnel: EC
Date: 6/15/21
Weather: 78°F, Sun

Well information:

Installed Depth of Well*: ___ ft. bmp.
Measured Depth of Well*: 18.75 ft. bmp.
Depth to Water*: 7.69 ft. bmp.
Length of Water Column (LWC): 11.06 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 1.8 gal.
Pump Intake Depth*: 17.75 ft. bmp.

Start Purge Time: 1045

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	7.69	11.8	6.77	1.48	-19.7	2.25	744	200	
5	7.89	12.8	6.86	1.50	-43.4	1.36	108	200	
10	7.91	12.6	6.87	1.55	-48.9	0.61	152	200	
15	7.95	12.2	6.88	1.56	-51.2	0.36	110	200	
20	8.02	11.8	6.88	1.57	-53.8	0.32	55.0	200	
25	8.06	11.8	6.87	1.56	-56.1	0.26	28.6	200	
30	8.10	11.6	6.87	1.56	-58.0	0.27	18.4	200	
35	8.10	11.5	6.87	1.56	-59.7	0.25	13.98	200	
40	8.10	11.6	6.87	1.55	-61.0	0.25	10.68	200	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1125
Total volume of groundwater purged: 2.5 gal.

DO Titrataion: — mg/L

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-16R1-061521 Date: 6/15/21 Time: 1130

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-16R
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #: 1950050443

Sampling Method: Peri Pump
Equipment Used: Geo Pump
Pump/Controller ID#: FA01815

Field Personnel: ECL
Date: 6/15/21
Weather: 75°F, Sun

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 13.99 ft. bmp.
Depth to Water*: 7.89 ft. bmp.
Length of Water Column (LWC): 6.10 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

	1 in. = 0.041 gal/ft
X	2 in. = 0.163 gal/ft
	4 in. = 0.653 gal/ft
	6 in. = 1.469 gal/ft
	8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 0.99 gal.
Pump Intake Depth*: 12.99 ft. bmp.

Start Purge Time: 1150

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	7.89	11.3	6.95	1.60	~~9.51~~ 88.4	7.51	5.91	250	
5	10.20	11.6	6.99	1.57	100.4	7.14	3.76	200	
10	11.10	12.3	7.01	1.57	106.7	7.42	2.68	150	
15	11.39	13.0	7.01	1.56	111.1	7.43	4.23	150	
20	11.55	12.7	6.99	1.58	114.3	7.05	2.59	150	
25	11.74	12.5	6.98	1.59	116.6	7.03	3.75	150	
30	11.88	12.8	6.96	1.60	117.8	6.47	2.91	150	
35	12.03	12.9	6.96	1.60	118.9	6.52	2.42	150	
40	12.15	13.0	6.96	1.59	119.3	6.33	3.76	150	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1230
Total volume of groundwater purged: 2.5 gal.

DO Titrataion: — mg/L

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-16R-061521 Date: 6/15/21 Time: 1235

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-30
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls
Project #: 1450150443

Sampling Method: Low Flow
Equipment Used: peristaltic pump
Pump/Controller ID#: FA03461

Field Personnel: MAZ
Date: 6/15/21
Weather: Sunny, 75°F

Well information:

Installed Depth of Well*: 11.92 ft. bmp.
Measured Depth of Well*: 11.92 ft. bmp.
Depth to Water*: 6.78 ft. bmp.
Length of Water Column (LWC): 5.14 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: ToC
MP Notes:
Well Volume: 0.84 gal.
Pump Intake Depth*: 10.92 ft. bmp.

Start Purge Time: 1145

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius ✓	pH ✓ SU	Specific Conductivity ✓ mS/cm	ORP ✓ mV	Dissolved Oxygen mg/L	Turbidity ✓ NTU	Flow Rate ✓ ml/min	Other
				Select Units from Dropdown Menus					
0	6.78	12.7	12.09	4.77	43.1	0.89	4.07	200	
5	6.81	12.9	12.19	4.82	33.4	0.94	2.08	200	
10	6.82	13.5	12.32	4.78	16.9	1.55	1.78	200	
15	6.82	13.7	12.33	4.95	3.5	2.19	1.04	200	
20	6.82	13.8	12.42	5.06	-4.5	2.16	0.57	200	
25	6.84	13.9	12.46	5.11	-11.3	5.56	0.43	200	
30	6.84	14.0	12.54	5.06	-15.8	8.22	0.62	200	
35	6.85	14.1	12.54	5.06	-17.6	10.99	0.78	200	
40	6.85	14.1	12.54	5.02	-19.0	10.83	0.53	200	
45	6.85	14.2	12.55	5.04	-20.4	10.86	0.87	200	
~~50~~								~~200~~	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1230
Total volume of groundwater purged: ~3 gal.

DO Titrataion: — mg/L

Final Observations: Color Clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-30-061521 Date: 6/15/21 Time: 1245

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes: PFC MS/MSD Collected here

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-31
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #: 1950050443

Sampling Method: peri-pump
Equipment Used: geopump
Pump/Controller ID#: FA01815

Field Personnel: ECL
Date: 6/15/21
Weather: 75°F, sunny

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 19.58 ft. bmp.
Depth to Water*: 10.53 ft. bmp.
Length of Water Column (LWC): 9.05 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

	1 in. = 0.041 gal/ft
X	2 in. = 0.163 gal/ft
	4 in. = 0.653 gal/ft
	6 in. = 1.469 gal/ft
	8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 1.48 gal.
Pump Intake Depth*: 18.58 ft. bmp.

Start Purge Time: 1315

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	10.53	12.6	11.95	1.50	-68.2	5.84	10.37	200	
5	10.73	11.1	12.04	1.71	-138.6	3.48	7.63	200	
10	10.71	11.4	12.23	2.93	-182.1	1.06	11.39	200	
15	10.71	11.1	12.35	3.87	-218.9	0.54	11.66	200	
20	10.71	11.2	12.41	4.34	-231.4	0.72	10.84	200	
25	10.71	11.2	12.46	4.77	-242.7	1.02	9.97	200	
30	10.71	11.2	12.48	5.13	-250.1	1.17	8.32	200	
35	10.71	11.2	12.50	5.34	-256.9	1.28	6.23	200	
40	10.71	11.2	12.52	5.45	-265.5	1.26	4.69	200	
45	10.71	11.3	12.53	5.63	-276.6	1.21	3.54	200	
50	10.71	11.3	12.54	5.69	-288.2	1.22	3.78	200	
55	10.71	11.3	12.53	5.79	-301.4	1.06	5.21	200	
60	10.71	11.2	12.54	5.87	-309.0	0.36	4.65	200	
65	10.71	11.1	12.53	5.94	-319.5	0.12	4.17	200	
70	10.71	11.5	12.53	5.96	-329.4	0.13	3.27	200	
75	10.71	11.7	12.52	5.96	-338.0	0.13	5.08	200	
78	10.71	11.7	12.52	5.98	-343.4	0.13	4.81	200	
81	10.71	11.5	12.53	6.01	-347.9	0.14	4.46	200	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1440
DO Titrataion: — mg/L
Total volume of groundwater purged: 4.5 gal.

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-31-061521 Date: 6/15/21 Time: 1445

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes:

Time	Depth to water	Temp	pH	Sp. Cond.	ORP	DO	Turbidity	Flow rate	Notes
84	10.71	11.6	12.53	6.02	-352.2	0.14	3.92	200	

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-32I
Northing:
Easting:

Site Name: Vanadium
Site Location: Niagara Falls
Project #: 1950058443
Sampling Method: Low Flow
Equipment Used: Peri pump
Pump/Controller ID#: FAD 3461
Field Personnel: MAZ
Date: 6/15/21 - 6/16/21
Weather: Sunny, 80° F

Well information:

Installed Depth of Well*: 20.09 ft. bmp.
Measured Depth of Well*: 20.09 ft. bmp.
Depth to Water*: 12.11 ft. bmp.
Length of Water Column (LWC): 7.98 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
4 in. = 0.653 gal/ft
6 in. = 1.469 gal/ft
8 in. = 2.611 gal/ft

Measurement Point*: ToC
MP Notes:
Well Volume: 1.3 gal.
Pump Intake Depth*: 19.09 ft. bmp.

Start Purge Time: 14:05

Initial Observations: Color opaque brown Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp ✓	Temperature Celsius ✓	pH SU ✓	Specific Conductivity mS/cm ✓	ORP mV ✓	Dissolved Oxygen mg/L ✓	Turbidity NTU	Flow Rate ml/min	Other
			Select Units from Dropdown Menus						
0	12.11	12.2	7.12	1.50	181.8	677.99	48	200	
5	15.35	12.6	8.56	1.49	99.4	646.67	64	100	
10	16.54	13.0	8.44	1.49	100.1	635.64	64	100	
15	17.59	13.3	8.42	1.48	97.9	611.58	76	100	
20	18.26	14.1	8.40	1.47	95.3	568.94	92	100	
25	18.70	14.2	8.41	1.47	93.2	569.31	120	100	
30	18.90	14.4	8.43	1.45	92.0	514.14	665	100	
~~0840~~			Well	dry at	14:42				
0850/10	12.25	13.0	8.35	1.54	190.1	2.00	1786	100	
0855	13.82	13.7	8.46	1.52	173.7	0.77	1916	100	
0900	13.96	13.7	8.46	1.52	168.4	0.68	1325	100	
0905	14.84	13.9	8.46	1.52	163.8	0.59	1207	100	
0910	14.23	13.9	8.46	1.52	150.7	0.47	1240	100	
0915	15.18	13.7	8.46	1.52	148.9	0.33	1115	100	
0920	15.52	13.9	8.46	1.52	146.8	0.27	1270	100	
0925	15.58	13.9	8.46	1.52	144.2	0.29	++++	100	
0930	15.73	13.9	8.46	1.52	143.6	0.28	++++	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 0930
Total volume of groundwater purged: ~5 gal.
DO Titrataion: — mg/L

Final Observations: Color opaque brown Odor None Sheen/Free Product None

Analytical Sample ID: MW-32I-061621 Date: 6/16/21 Time: 0940

Container Size	Container Type	Qty Collected	Field Filtered?	Preservative	Laboratory

Notes: Field Filtered

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-26R
Latitude:
Longitude:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #: 1450050143

Sampling Method: peristaltic pump
Equipment Used: geo pump
Pump/Controller ID#: FA0615

Field Personnel: ECL
Date: 6/16/21
Weather: 63°F, Sun

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 13.04 ft. bmp.
Depth to Water*: 11.25 ft. bmp.
Length of Water Column (LWC): 1.79 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 0.29 gal.
Pump Intake Depth*: 12.04 ft. bmp.

Start Purge Time: 8:50

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
	Select Units from Dropdown Menus								
0	~~13.04~~ 11.25	13.1	7.44	1.72	158.2	8.20	4.64	200	
5	11.70	12.7	7.02	1.71	146.1	5.38	3.55	150	
10	11.71	14.4	7.05	1.73	138.5	4.90	3.61	150	
15	11.87	12.8	7.07	1.74	139.3	656.67	4.15	150	DO Sensor appears to be malfunctioning
20	12.02	12.4	7.06	1.74	127.4	651.09	3.89	150	
25	12.17	12.6	7.06	1.75	121.8	645.53	1.82	100	
30	12.82	12.9	7.07	1.75	109.7	635.88	2.18	100	
35	12.46	13.0	7.08	1.73	100.3	630.11	3.05	100	
40	12.55	13.1	7.07	1.73	99.3	626.01	3.96	100	
45	12.65	13.1	7.07	1.74	99.8	630.9	2.73	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 9:35

DO Titrataion: — mg/L

Total volume of groundwater purged: 2 gal.

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-26R-061621 **Date:** 6/16/21 **Time:** 9:45

Notes: YSI Pro Plus # FA00777

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-32
Latitude:
Longitude:

Site Name:
Site Location: Vanadium
Project #: 1650050443

Sampling Method: Low Flow
Equipment Used: peri pump
Pump/Controller ID#: FAD3461

Field Personnel: MAZ
Date: 6/16/21
Weather: Sunny, 75°F

Well Information:

Installed Depth of Well*: 13.70 ft. bmp.
Measured Depth of Well*: [redacted] ft. bmp.
Depth to Water*: 8.54 ft. bmp.
Length of Water Column (LWC): 5.16 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 0.84 gal.
Pump Intake Depth*: 12.70 ft. bmp.

Start Purge Time: 1000

Initial Observations: Color opague brown Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
	Select Units from Dropdown Menus								
0	8.54	13.1	8.61	1.96	196.0	6.80	overrange	220	
5	9.38	12.8	8.52	1.87	122.6	5.42	610	100	
10	9.62	12.5	8.48	1.83	116.9	4.70	59.9	100	
15	9.78	12.6	8.52	1.84	115.6	4.24	23.0	100	
20	9.82	12.4	8.47	1.83	112.9	3.95	14.6	100	
25	9.85	12.3	8.46	1.82	112.1	3.89	12.8	100	
30	9.87	12.2	8.46	1.82	112.2	3.45	10.3	100	
35	9.89	12.1	8.46	1.82	110.6	3.42	11.3	100	
40	9.92	12.2	8.46	1.82	108.4	3.40	9.7	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1040
DO Titrataion: — mg/L
Total volume of groundwater purged: ~3 gal.

Final Observations: Color clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-32-061621 Date: 6/16/21 Time: 1050

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-18R
Latitude:
Longitude:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #: 1950030443
Sampling Method: peri pump
Equipment Used: geo pump
Pump/Controller ID#: FA01815
Field Personnel: ECL
Date: 6/16/21 - 6/17/21
Weather: 68°F, Sunny

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 13.68 ft. bmp.
Depth to Water*: 12.63 ft. bmp.
Length of Water Column (LWC): 1.05 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 0.17 gal.
Pump Intake Depth*: 12.68 ft. bmp.

Start Purge Time: 11:20

Initial Observations: Color clear Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	12.63	11.9	7.31	1.66	110.7	12.79	2.79	100	
5	12.94	12.6	7.11	1.66	109.8	10.39	2.63	100	
10	13.02	13.1	7.31	1.65	108.8	10.42	3.31	100	
15	13.18	12.7	7.34	1.65	107.3	10.33	3.15	100	
20	13.35	12.8	7.31	1.65	106.7	10.41	2.92	100	
			Dry	at 11:45					
8:30	13.27	13.0	7.51	1.39	112.3	10.24	3.79		
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 8:30
Total volume of groundwater purged: 0.75 gal.
DO Titrataion: — mg/L

Final Observations: Color clear Odor none Sheen/Free Product none

Analytical Sample ID: MW-18R-061721 Date: 6/17/21 Time: 8:35

Notes: YSI Pro Plus # FA00777 used - possibly DO sensor malfunction

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-24RI
Latitude:
Longitude:

Site Name: Vanadium
Site Location: Niagara Falls
Project #: 1498003443
Sampling Method: Low Flow
Equipment Used: peri pump
Pump/Controller ID#: FA01815
Field Personnel: MAZ
Date: 6/18/21
Weather: Sunny, 75°F

Well information:

Installed Depth of Well*: ____ ft. bmp.
Measured Depth of Well*: [illegible] ft. bmp.
Depth to Water*: 11.73 ft. bmp.
Length of Water Column (LWC): ____ ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: ToC
MP Notes: ____
Well Volume: ____ gal.
Pump Intake Depth*: ____ ft. bmp.

Start Purge Time: 0905

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	11.73	11.6	10.11	0.498	59.6	1.37	25.9	100	
5	14.08	11.9	10.18	0.486	54.1	1.11	20.6	100	
10	14.09	12.7	10.18	0.494	53.6	0.95	21.8	100	
15	14.15	12.7	10.19	0.499	51.3	0.88	24.7	100	
20	14.28	12.8	10.18	0.502	48.7	0.84	22.5	100	
25	14.45	12.8	10.19	0.502	45.1	0.81	23.2	100	
30	14.58	12.7	10.15	0.502	42.1	0.81	20.5	100	
35	14.63	12.6	10.14	0.502	40.7	0.79	23.2	100	
40	14.86	12.6	10.14	0.502	36.4	0.74	18.3	100	
45	14.89	12.5	10.12	0.502	32.3	0.69	20.5	100	
50	14.94	12.3	10.12	0.502	29.7	0.68	21.7	100	
55	14.99	12.3	10.11	0.502	28.6	0.63	23.8	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 1000
Total volume of groundwater purged: ~3 gal.

DO Titrataion: ____ mg/L

Final Observations: Color Clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-24RI Date: 6/17/21 Time: 1010

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-32I
Latitude:
Longitude:

Site Name: Vanadium
Site Location: Niagara Falls, NY
Project #: 1450058443

Sampling Method: peripump
Equipment Used: geopump
Pump/Controller ID#: EA0346

Field Personnel: EC
Date: 6/17/21
Weather: 70°F, sun

Well information:

Installed Depth of Well*: ft. bmp.
Measured Depth of Well*: 20.52 ft. bmp.
Depth to Water*: 12.29 ft. bmp.
Length of Water Column (LWC): 8.23 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: TOC
MP Notes:
Well Volume: 1.34 gal.
Pump Intake Depth*: 19.52 ft. bmp.

Start Purge Time: 10:30

Initial Observations: Color translucent brown Odor none Sheen/Free Product none

Elapsed Time Minutes	Depth to Water ft bmp	Temperature Celsius	pH SU	Specific Conductivity mS/cm	ORP mV	Dissolved Oxygen mg/L	Turbidity NTU	Flow Rate ml/min	Other
				Select Units from Dropdown Menus					
0	12.29	13.7	8.37	1.61	127.7	0.90	866	200	
5	14.70	13.8	8.51	1.59	124.0	0.90	101	200	
10	15.12	15.9	8.48	1.59	121.2	1.03	72.4	100	
15	16.56	16.5	8.44	1.60	117.0	0.79	144.1	100	
20	15.92	16.9	8.43	1.54	111.0	0.65	229.7	100	
25	16.28	16.9	8.46	1.59	104.4	0.60	4001	100	
30	16.55	17.4	8.49	1.57	99.5	0.51	average	100	
35	16.87	17.2	8.51	1.57	95.6	0.46	average	100	
40	17.01	16.6	8.51	1.59	92.7	0.42	average	100	
45	17.11	16.8	8.50	1.58	90.1	0.42	average	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 11:15
Total volume of groundwater purged: 2 gal.

DO Titrataion: — mg/L

Final Observations: Color translucent brown Odor none Sheen/Free Product none

Analytical Sample ID: MW-32I-061721 Date: 6/17/21 Time: 11:20

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-24R
Latitude:
Longitude:

Site Name: Vanadium
Site Location: Niagara Falls
Project #: 1450054043
Sampling Method: Low Flow
Equipment Used: Peri pump
Pump/Controller ID#: FA03461
Field Personnel: MAZ
Date: 6/16/21 - 6/17/21
Weather: sunny, 80°F

Well information:

Installed Depth of Well*: 12.69 ft. bmp.
Measured Depth of Well*: ft. bmp.
Depth to Water*: 8.63 ft. bmp.
Length of Water Column (LWC): 4.06 ft.
Well Diameter: 2 in.

Well Volume Multipliers:

___ 1 in. = 0.041 gal/ft
X 2 in. = 0.163 gal/ft
___ 4 in. = 0.653 gal/ft
___ 6 in. = 1.469 gal/ft
___ 8 in. = 2.611 gal/ft

Measurement Point*: ToC
MP Notes:
Well Volume: 0.66 gal.
Pump Intake Depth*: 11.69 ft. bmp.

Start Purge Time: 11:50

Initial Observations: Color Clear Odor None Sheen/Free Product None

Elapsed Time Minutes	Depth to Water ft bmp ✓	Temperature Celsius ✓	pH SU ✓	Specific Conductivity mS/cm	ORP mV ✓	Dissolved Oxygen mg/L ✓	Turbidity NTU ✓	Flow Rate ml/min ✓	Other
			Select Units from Dropdown Menus						
0	8.63	12.2	9.88	0.308	-8.8	0.43	10.22	100	
5	9.73	12.7	9.90	0.302	-20.2	0.81	7.26	100	
10	10.24	13.1	9.87	0.305	-40.5	0.82	5.88	100	
15	10.74	13.2	9.81	0.305	-47.8	1.24	4.73	100	
20	11.19	13.4	9.81	0.304	-46.5	1.70	5.33	100	
25	11.15	13.6	9.81	0.302	-52.6	1.70	4.39	100	
30	11.15	13.5	10.06	0.332	-79.2	1.41	4.88	100	
35	11.15	13.4	10.05	0.333	-78.9	1.41	3.77	100	
40	11.15	13.7	10.05	0.333	-78.2	1.40	3.68	100	
			well dry at 14:00						
6/17 0	9.37	12.2	9.87	0.388	-46.8	1.15	10.95	100	
5	9.84	12.2	9.91	0.365	-53.2	1.22	9.37	100	
10	10.33	12.3	10.00	0.340	-55.7	1.27	9.22	100	
15	11.01	12.7	10.09	0.338	-63.3	1.32	8.63	100	
20	11.09	12.5	10.08	0.335	-65.9	1.35	8.28	100	
25	11.18	12.7	10.08	0.335	-67.2	1.38	7.4	100	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	

End Purge Time: 6/17
Total volume of groundwater purged: 5 gal.
DO Titrataion: — mg/L

Final Observations: Color Clear Odor None Sheen/Free Product None

Analytical Sample ID: MW-24R Date: 6/17/21 Time: 1630

Notes: well went dry filling MS/MSD

RAMBOLL

Vanadium Site
Niagara Falls, NY
SURFACE WATER SAMPLING LOG

Investigators: MAZ, ECL
Date: 6/16/21
Weather: 70°F, Sun

Location ID	Location		Temperature	pH	Conductivity	Tubidity	Field Sample ID	Time	QA/QC	Notes / Other Observations
	Northing	Easting	Celsius	(S.I. Units)	mS/cm	NTU		(hh:mm)		
SW-1	43.122510	-79.022206	28.5	7.59	0.570	49.0	SW-1-061621	14:20	MS/MSD	taken from SW culvert
SW-2	43.126660	-79.021379	20.8	7.83	0.207	15.79	SW-2-061621	14:55	N	taken from NE wetland

Notes:

ATTACHMENT B

Analytical Data Packages

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-182652-1
Client Project/Site: Vanadium

For:
O'Brien & Gere Inc of North America
PO BOX 4873
Syracuse, New York 13221

Attn: Ms. Deborah Wright

Authorized for release by:
4/6/2021 9:24:13 AM
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

John Schove, Project Manager II
(716)504-9838
John.Schove@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: O'Brien & Gere Inc of North America
Job ID: 480-182652-1
Project/Site: Vanadium

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-182652-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-182652-1

Comments
No additional comments.

Receipt
The samples were received on 3/30/2021 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1º C.

Receipt Exceptions
The MS/MSD was marked for sample MW-24RI on the COC, volume was recieved for MS/MSD is on sample point MW-31. QC has been assigned to MW-31: MW-31-033021 (480-182652-2), MW-24RI-033021 (480-182652-3).

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-574807 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: TB-1-033021 (480-182652-9).

Method 8260C: The following samples were collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed within the 7-day holding time specified for unpreserved samples: MW-31-033021 (480-182652-2), MW-31-033021 (480-182652-2[MS]) and MW-31-033021 (480-182652-2[MSD]). Sample pH is 7.

Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-24R-033021 (480-182652-4), MW-30-033021 (480-182652-7) and X-1-033021 (480-182652-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-32-033021 — Lab Sample ID: 480-182652-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.092		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0086		0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: MW-31-033021 — Lab Sample ID: 480-182652-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	8.2	J	10	1.3	ug/L	1		8260C	Total/NA
Acetone	80		10	3.0	ug/L	1		8260C	Total/NA
Carbon disulfide	2.3		1.0	0.19	ug/L	1		8260C	Total/NA
Toluene	0.54	J F1	1.0	0.51	ug/L	1		8260C	Total/NA
Barium	0.062		0.0020	0.00070	mg/L	1		6010C	Total/NA

Client Sample ID: MW-24RI-033021 — Lab Sample ID: 480-182652-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.6	J	10	3.0	ug/L	1		8260C	Total/NA
Carbon disulfide	0.85	J	1.0	0.19	ug/L	1		8260C	Total/NA
Cyclohexane	0.28	J	1.0	0.18	ug/L	1		8260C	Total/NA
Methylcyclohexane	0.32	J	1.0	0.16	ug/L	1		8260C	Total/NA
Arsenic	0.0072	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.058		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0014	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.0071	J	0.010	0.0030	mg/L	1		6010C	Total/NA

Client Sample ID: MW-24R-033021 — Lab Sample ID: 480-182652-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	8.4	J	20	2.6	ug/L	2		8260C	Total/NA
Acetone	63		20	6.0	ug/L	2		8260C	Total/NA
Carbon disulfide	0.88	J	2.0	0.38	ug/L	2		8260C	Total/NA
Arsenic	0.011	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.0042		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0010	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: MW-16R-033021 — Lab Sample ID: 480-182652-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.039		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00086	J	0.0020	0.00050	mg/L	1		6010C	Total/NA

Client Sample ID: MW-16RI-033021 — Lab Sample ID: 480-182652-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.070		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00072	J	0.0020	0.00050	mg/L	1		6010C	Total/NA
Chromium	0.0024	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.0049	J	0.010	0.0030	mg/L	1		6010C	Total/NA

Client Sample ID: MW-30-033021 — Lab Sample ID: 480-182652-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	9.3	J	20	2.6	ug/L	2		8260C	Total/NA
Acetone	180		20	6.0	ug/L	2		8260C	Total/NA
Barium	0.23		0.0020	0.00070	mg/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-30-033021 (Continued)

Lab Sample ID: 480-182652-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.33		0.0040	0.0010	mg/L	1		6010C	Total/NA
Selenium	0.019	J	0.025	0.0087	mg/L	1		6010C	Total/NA
Chromium, hexavalent	0.22		0.010	0.0050	mg/L	1		7196A	Total/NA

Client Sample ID: X-1-033021

Lab Sample ID: 480-182652-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	7.9	J	20	2.6	ug/L	2		8260C	Total/NA
Acetone	170		20	6.0	ug/L	2		8260C	Total/NA
Barium	0.23		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.32		0.0040	0.0010	mg/L	1		6010C	Total/NA
Selenium	0.020	J	0.025	0.0087	mg/L	1		6010C	Total/NA
Chromium, hexavalent	0.28		0.010	0.0050	mg/L	1		7196A	Total/NA

Client Sample ID: TB-1-033021

Lab Sample ID: 480-182652-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-32-033021
Date Collected: 03/30/21 15:50
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/03/21 15:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/03/21 15:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/03/21 15:44	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/03/21 15:44	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/03/21 15:44	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/03/21 15:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/03/21 15:44	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/03/21 15:44	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/03/21 15:44	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/03/21 15:44	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/03/21 15:44	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/03/21 15:44	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/03/21 15:44	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/03/21 15:44	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/03/21 15:44	1
2-Hexanone	ND		5.0	1.2	ug/L			04/03/21 15:44	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/03/21 15:44	1
Acetone	ND		10	3.0	ug/L			04/03/21 15:44	1
Benzene	ND		1.0	0.41	ug/L			04/03/21 15:44	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/03/21 15:44	1
Bromoform	ND		1.0	0.26	ug/L			04/03/21 15:44	1
Bromomethane	ND		1.0	0.69	ug/L			04/03/21 15:44	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/03/21 15:44	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/03/21 15:44	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/03/21 15:44	1
Chloroethane	ND		1.0	0.32	ug/L			04/03/21 15:44	1
Chloroform	ND		1.0	0.34	ug/L			04/03/21 15:44	1
Chloromethane	ND		1.0	0.35	ug/L			04/03/21 15:44	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/03/21 15:44	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/03/21 15:44	1
Cyclohexane	ND		1.0	0.18	ug/L			04/03/21 15:44	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/03/21 15:44	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/03/21 15:44	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/03/21 15:44	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/03/21 15:44	1
Methyl acetate	ND		2.5	1.3	ug/L			04/03/21 15:44	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/03/21 15:44	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/03/21 15:44	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/03/21 15:44	1
Styrene	ND		1.0	0.73	ug/L			04/03/21 15:44	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/03/21 15:44	1
Toluene	ND		1.0	0.51	ug/L			04/03/21 15:44	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/03/21 15:44	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/03/21 15:44	1
Trichloroethene	ND		1.0	0.46	ug/L			04/03/21 15:44	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/03/21 15:44	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/03/21 15:44	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/03/21 15:44	1

Client Sample ID: MW-32-033021

Lab Sample ID: 480-182652-1

Date Collected: 03/30/21 15:50

Matrix: Water

Date Received: 03/30/21 16:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*04/03/21 15:44*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*04/03/21 15:44*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*04/03/21 15:44*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*04/03/21 15:44*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:08	1
Barium	**0.092**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:08	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:08	1
Chromium	**0.0086**		0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:08	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:08	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:08	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:08	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 17:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/30/21 17:00	1

Client Sample ID: MW-31-033021

Lab Sample ID: 480-182652-2

Date Collected: 03/30/21 13:50

Matrix: Water

Date Received: 03/30/21 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	F1	1.0	0.82	ug/L			04/03/21 16:07	1
1,1,2,2-Tetrachloroethane	ND	F1	1.0	0.21	ug/L			04/03/21 16:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/03/21 16:07	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/03/21 16:07	1
1,1-Dichloroethane	ND	F1	1.0	0.38	ug/L			04/03/21 16:07	1
1,1-Dichloroethene	ND	F1	1.0	0.29	ug/L			04/03/21 16:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/03/21 16:07	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/03/21 16:07	1
1,2-Dibromoethane	ND	F1	1.0	0.73	ug/L			04/03/21 16:07	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/03/21 16:07	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/03/21 16:07	1
1,2-Dichloropropane	ND	F1	1.0	0.72	ug/L			04/03/21 16:07	1
1,3-Dichlorobenzene	ND	F1	1.0	0.78	ug/L			04/03/21 16:07	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/03/21 16:07	1
2-Butanone (MEK)	**8.2**	**J**	10	1.3	ug/L			04/03/21 16:07	1
2-Hexanone	ND		5.0	1.2	ug/L			04/03/21 16:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/03/21 16:07	1
Acetone	**80**		10	3.0	ug/L			04/03/21 16:07	1
Benzene	ND	F1	1.0	0.41	ug/L			04/03/21 16:07	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/03/21 16:07	1
Bromoform	ND		1.0	0.26	ug/L			04/03/21 16:07	1
Bromomethane	ND		1.0	0.69	ug/L			04/03/21 16:07	1

Client Sample ID: MW-31-033021
Date Collected: 03/30/21 13:50
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	**2.3**		1.0	0.19	ug/L			04/03/21 16:07	1
Carbon tetrachloride	ND	F1	1.0	0.27	ug/L			04/03/21 16:07	1
Chlorobenzene	ND	F1	1.0	0.75	ug/L			04/03/21 16:07	1
Chloroethane	ND		1.0	0.32	ug/L			04/03/21 16:07	1
Chloroform	ND		1.0	0.34	ug/L			04/03/21 16:07	1
Chloromethane	ND		1.0	0.35	ug/L			04/03/21 16:07	1
cis-1,2-Dichloroethene	ND	F1	1.0	0.81	ug/L			04/03/21 16:07	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/03/21 16:07	1
Cyclohexane	ND		1.0	0.18	ug/L			04/03/21 16:07	1
Dibromochloromethane	ND	F1	1.0	0.32	ug/L			04/03/21 16:07	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/03/21 16:07	1
Ethylbenzene	ND	F1	1.0	0.74	ug/L			04/03/21 16:07	1
Isopropylbenzene	ND	F1	1.0	0.79	ug/L			04/03/21 16:07	1
Methyl acetate	ND		2.5	1.3	ug/L			04/03/21 16:07	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/03/21 16:07	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/03/21 16:07	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/03/21 16:07	1
Styrene	ND	F1	1.0	0.73	ug/L			04/03/21 16:07	1
Tetrachloroethene	ND	F1	1.0	0.36	ug/L			04/03/21 16:07	1
Toluene	**0.54**	**J F1**	1.0	0.51	ug/L			04/03/21 16:07	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/03/21 16:07	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/03/21 16:07	1
Trichloroethene	ND	F1	1.0	0.46	ug/L			04/03/21 16:07	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/03/21 16:07	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/03/21 16:07	1
Xylenes, Total	ND	F1	2.0	0.66	ug/L			04/03/21 16:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*04/03/21 16:07*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*04/03/21 16:07*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*04/03/21 16:07*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*04/03/21 16:07*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:12	1
Barium	**0.062**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:12	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:12	1
Chromium	ND		0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:12	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:12	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:12	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:12	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 17:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	F1	0.010	0.0050	mg/L			03/30/21 17:00	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-24RI-033021
Date Collected: 03/30/21 11:45
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/03/21 16:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/03/21 16:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/03/21 16:31	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/03/21 16:31	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/03/21 16:31	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/03/21 16:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/03/21 16:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/03/21 16:31	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/03/21 16:31	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/03/21 16:31	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/03/21 16:31	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/03/21 16:31	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/03/21 16:31	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/03/21 16:31	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/03/21 16:31	1
2-Hexanone	ND		5.0	1.2	ug/L			04/03/21 16:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/03/21 16:31	1
Acetone	**3.6**	**J**	10	3.0	ug/L			04/03/21 16:31	1
Benzene	ND		1.0	0.41	ug/L			04/03/21 16:31	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/03/21 16:31	1
Bromoform	ND		1.0	0.26	ug/L			04/03/21 16:31	1
Bromomethane	ND		1.0	0.69	ug/L			04/03/21 16:31	1
Carbon disulfide	**0.85**	**J**	1.0	0.19	ug/L			04/03/21 16:31	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/03/21 16:31	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/03/21 16:31	1
Chloroethane	ND		1.0	0.32	ug/L			04/03/21 16:31	1
Chloroform	ND		1.0	0.34	ug/L			04/03/21 16:31	1
Chloromethane	ND		1.0	0.35	ug/L			04/03/21 16:31	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/03/21 16:31	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/03/21 16:31	1
Cyclohexane	**0.28**	**J**	1.0	0.18	ug/L			04/03/21 16:31	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/03/21 16:31	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/03/21 16:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/03/21 16:31	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/03/21 16:31	1
Methyl acetate	ND		2.5	1.3	ug/L			04/03/21 16:31	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/03/21 16:31	1
Methylcyclohexane	**0.32**	**J**	1.0	0.16	ug/L			04/03/21 16:31	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/03/21 16:31	1
Styrene	ND		1.0	0.73	ug/L			04/03/21 16:31	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/03/21 16:31	1
Toluene	ND		1.0	0.51	ug/L			04/03/21 16:31	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/03/21 16:31	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/03/21 16:31	1
Trichloroethene	ND		1.0	0.46	ug/L			04/03/21 16:31	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/03/21 16:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/03/21 16:31	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/03/21 16:31	1

Client Sample ID: MW-24RI-033021

Lab Sample ID: 480-182652-3

Date Collected: 03/30/21 11:45

Matrix: Water

Date Received: 03/30/21 16:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*04/03/21 16:31*	*1*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*		*04/03/21 16:31*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*04/03/21 16:31*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*04/03/21 16:31*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0072**	**J**	0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:30	1
Barium	**0.058**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:30	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:30	1
Chromium	**0.0014**	**J**	0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:30	1
Lead	**0.0071**	**J**	0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:30	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:30	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 17:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/30/21 17:00	1

Client Sample ID: MW-24R-033021

Lab Sample ID: 480-182652-4

Date Collected: 03/30/21 11:00

Matrix: Water

Date Received: 03/30/21 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			04/03/21 16:55	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			04/03/21 16:55	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			04/03/21 16:55	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			04/03/21 16:55	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			04/03/21 16:55	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			04/03/21 16:55	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			04/03/21 16:55	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			04/03/21 16:55	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			04/03/21 16:55	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			04/03/21 16:55	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			04/03/21 16:55	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			04/03/21 16:55	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			04/03/21 16:55	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			04/03/21 16:55	2
2-Butanone (MEK)	**8.4**	**J**	20	2.6	ug/L			04/03/21 16:55	2
2-Hexanone	ND		10	2.5	ug/L			04/03/21 16:55	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			04/03/21 16:55	2
Acetone	**63**		20	6.0	ug/L			04/03/21 16:55	2
Benzene	ND		2.0	0.82	ug/L			04/03/21 16:55	2
Bromodichloromethane	ND		2.0	0.78	ug/L			04/03/21 16:55	2
Bromoform	ND		2.0	0.52	ug/L			04/03/21 16:55	2
Bromomethane	ND		2.0	1.4	ug/L			04/03/21 16:55	2

Client Sample ID: MW-24R-033021
Date Collected: 03/30/21 11:00
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	**0.88**	**J**	2.0	0.38	ug/L			04/03/21 16:55	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			04/03/21 16:55	2
Chlorobenzene	ND		2.0	1.5	ug/L			04/03/21 16:55	2
Chloroethane	ND		2.0	0.64	ug/L			04/03/21 16:55	2
Chloroform	ND		2.0	0.68	ug/L			04/03/21 16:55	2
Chloromethane	ND		2.0	0.70	ug/L			04/03/21 16:55	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			04/03/21 16:55	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			04/03/21 16:55	2
Cyclohexane	ND		2.0	0.36	ug/L			04/03/21 16:55	2
Dibromochloromethane	ND		2.0	0.64	ug/L			04/03/21 16:55	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			04/03/21 16:55	2
Ethylbenzene	ND		2.0	1.5	ug/L			04/03/21 16:55	2
Isopropylbenzene	ND		2.0	1.6	ug/L			04/03/21 16:55	2
Methyl acetate	ND		5.0	2.6	ug/L			04/03/21 16:55	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			04/03/21 16:55	2
Methylcyclohexane	ND		2.0	0.32	ug/L			04/03/21 16:55	2
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/21 16:55	2
Styrene	ND		2.0	1.5	ug/L			04/03/21 16:55	2
Tetrachloroethene	ND		2.0	0.72	ug/L			04/03/21 16:55	2
Toluene	ND		2.0	1.0	ug/L			04/03/21 16:55	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			04/03/21 16:55	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			04/03/21 16:55	2
Trichloroethene	ND		2.0	0.92	ug/L			04/03/21 16:55	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			04/03/21 16:55	2
Vinyl chloride	ND		2.0	1.8	ug/L			04/03/21 16:55	2
Xylenes, Total	ND		4.0	1.3	ug/L			04/03/21 16:55	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*04/03/21 16:55*	*2*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*04/03/21 16:55*	*2*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*04/03/21 16:55*	*2*
Toluene-d8 (Surr)	*106*		*80 - 120*		*04/03/21 16:55*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.011**	**J**	0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:45	1
Barium	**0.0042**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:45	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:45	1
Chromium	**0.0010**	**J**	0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:45	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:45	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:45	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 18:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/30/21 17:00	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-16R-033021
Date Collected: 03/30/21 09:20
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/03/21 17:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/03/21 17:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/03/21 17:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/03/21 17:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/03/21 17:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/03/21 17:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/03/21 17:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/03/21 17:18	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/03/21 17:18	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/03/21 17:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/03/21 17:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/03/21 17:18	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/03/21 17:18	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/03/21 17:18	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/03/21 17:18	1
2-Hexanone	ND		5.0	1.2	ug/L			04/03/21 17:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/03/21 17:18	1
Acetone	ND		10	3.0	ug/L			04/03/21 17:18	1
Benzene	ND		1.0	0.41	ug/L			04/03/21 17:18	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/03/21 17:18	1
Bromoform	ND		1.0	0.26	ug/L			04/03/21 17:18	1
Bromomethane	ND		1.0	0.69	ug/L			04/03/21 17:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/03/21 17:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/03/21 17:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/03/21 17:18	1
Chloroethane	ND		1.0	0.32	ug/L			04/03/21 17:18	1
Chloroform	ND		1.0	0.34	ug/L			04/03/21 17:18	1
Chloromethane	ND		1.0	0.35	ug/L			04/03/21 17:18	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/03/21 17:18	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/03/21 17:18	1
Cyclohexane	ND		1.0	0.18	ug/L			04/03/21 17:18	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/03/21 17:18	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/03/21 17:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/03/21 17:18	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/03/21 17:18	1
Methyl acetate	ND		2.5	1.3	ug/L			04/03/21 17:18	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/03/21 17:18	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/03/21 17:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/03/21 17:18	1
Styrene	ND		1.0	0.73	ug/L			04/03/21 17:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/03/21 17:18	1
Toluene	ND		1.0	0.51	ug/L			04/03/21 17:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/03/21 17:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/03/21 17:18	1
Trichloroethene	ND		1.0	0.46	ug/L			04/03/21 17:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/03/21 17:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/03/21 17:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/03/21 17:18	1

Client Sample ID: MW-16R-033021

Lab Sample ID: 480-182652-5

Date Collected: 03/30/21 09:20

Matrix: Water

Date Received: 03/30/21 16:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*04/03/21 17:18*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*04/03/21 17:18*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*04/03/21 17:18*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*04/03/21 17:18*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:49	1
Barium	**0.039**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:49	1
Cadmium	**0.00086**	**J**	0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:49	1
Chromium	ND		0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:49	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:49	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:49	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 18:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/30/21 17:00	1

Client Sample ID: MW-16RI-033021

Lab Sample ID: 480-182652-6

Date Collected: 03/30/21 09:35

Matrix: Water

Date Received: 03/30/21 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/03/21 17:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/03/21 17:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/03/21 17:42	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/03/21 17:42	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/03/21 17:42	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/03/21 17:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/03/21 17:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/03/21 17:42	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/03/21 17:42	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/03/21 17:42	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/03/21 17:42	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/03/21 17:42	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/03/21 17:42	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/03/21 17:42	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/03/21 17:42	1
2-Hexanone	ND		5.0	1.2	ug/L			04/03/21 17:42	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/03/21 17:42	1
Acetone	ND		10	3.0	ug/L			04/03/21 17:42	1
Benzene	ND		1.0	0.41	ug/L			04/03/21 17:42	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/03/21 17:42	1
Bromoform	ND		1.0	0.26	ug/L			04/03/21 17:42	1
Bromomethane	ND		1.0	0.69	ug/L			04/03/21 17:42	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-16RI-033021
Date Collected: 03/30/21 09:35
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.19	ug/L			04/03/21 17:42	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/03/21 17:42	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/03/21 17:42	1
Chloroethane	ND		1.0	0.32	ug/L			04/03/21 17:42	1
Chloroform	ND		1.0	0.34	ug/L			04/03/21 17:42	1
Chloromethane	ND		1.0	0.35	ug/L			04/03/21 17:42	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/03/21 17:42	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/03/21 17:42	1
Cyclohexane	ND		1.0	0.18	ug/L			04/03/21 17:42	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/03/21 17:42	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/03/21 17:42	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/03/21 17:42	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/03/21 17:42	1
Methyl acetate	ND		2.5	1.3	ug/L			04/03/21 17:42	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/03/21 17:42	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/03/21 17:42	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/03/21 17:42	1
Styrene	ND		1.0	0.73	ug/L			04/03/21 17:42	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/03/21 17:42	1
Toluene	ND		1.0	0.51	ug/L			04/03/21 17:42	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/03/21 17:42	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/03/21 17:42	1
Trichloroethene	ND		1.0	0.46	ug/L			04/03/21 17:42	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/03/21 17:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/03/21 17:42	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/03/21 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*		*04/03/21 17:42*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*04/03/21 17:42*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*04/03/21 17:42*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*04/03/21 17:42*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:53	1
Barium	**0.070**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:53	1
Cadmium	**0.00072**	**J**	0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:53	1
Chromium	**0.0024**	**J**	0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:53	1
Lead	**0.0049**	**J**	0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:53	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:53	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 18:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/30/21 17:00	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-30-033021
Date Collected: 03/30/21 13:20
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			04/03/21 18:06	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			04/03/21 18:06	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			04/03/21 18:06	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			04/03/21 18:06	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			04/03/21 18:06	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			04/03/21 18:06	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			04/03/21 18:06	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			04/03/21 18:06	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			04/03/21 18:06	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			04/03/21 18:06	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			04/03/21 18:06	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			04/03/21 18:06	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			04/03/21 18:06	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			04/03/21 18:06	2
2-Butanone (MEK)	**9.3**	**J**	20	2.6	ug/L			04/03/21 18:06	2
2-Hexanone	ND		10	2.5	ug/L			04/03/21 18:06	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			04/03/21 18:06	2
Acetone	**180**		20	6.0	ug/L			04/03/21 18:06	2
Benzene	ND		2.0	0.82	ug/L			04/03/21 18:06	2
Bromodichloromethane	ND		2.0	0.78	ug/L			04/03/21 18:06	2
Bromoform	ND		2.0	0.52	ug/L			04/03/21 18:06	2
Bromomethane	ND		2.0	1.4	ug/L			04/03/21 18:06	2
Carbon disulfide	ND		2.0	0.38	ug/L			04/03/21 18:06	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			04/03/21 18:06	2
Chlorobenzene	ND		2.0	1.5	ug/L			04/03/21 18:06	2
Chloroethane	ND		2.0	0.64	ug/L			04/03/21 18:06	2
Chloroform	ND		2.0	0.68	ug/L			04/03/21 18:06	2
Chloromethane	ND		2.0	0.70	ug/L			04/03/21 18:06	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			04/03/21 18:06	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			04/03/21 18:06	2
Cyclohexane	ND		2.0	0.36	ug/L			04/03/21 18:06	2
Dibromochloromethane	ND		2.0	0.64	ug/L			04/03/21 18:06	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			04/03/21 18:06	2
Ethylbenzene	ND		2.0	1.5	ug/L			04/03/21 18:06	2
Isopropylbenzene	ND		2.0	1.6	ug/L			04/03/21 18:06	2
Methyl acetate	ND		5.0	2.6	ug/L			04/03/21 18:06	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			04/03/21 18:06	2
Methylcyclohexane	ND		2.0	0.32	ug/L			04/03/21 18:06	2
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/21 18:06	2
Styrene	ND		2.0	1.5	ug/L			04/03/21 18:06	2
Tetrachloroethene	ND		2.0	0.72	ug/L			04/03/21 18:06	2
Toluene	ND		2.0	1.0	ug/L			04/03/21 18:06	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			04/03/21 18:06	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			04/03/21 18:06	2
Trichloroethene	ND		2.0	0.92	ug/L			04/03/21 18:06	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			04/03/21 18:06	2
Vinyl chloride	ND		2.0	1.8	ug/L			04/03/21 18:06	2
Xylenes, Total	ND		4.0	1.3	ug/L			04/03/21 18:06	2

Client Sample ID: MW-30-033021

Lab Sample ID: 480-182652-7

Date Collected: 03/30/21 13:20

Matrix: Water

Date Received: 03/30/21 16:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*77 - 120*		*04/03/21 18:06*	*2*
4-Bromofluorobenzene (Surr)	*110*		*73 - 120*		*04/03/21 18:06*	*2*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*04/03/21 18:06*	*2*
Toluene-d8 (Surr)	*107*		*80 - 120*		*04/03/21 18:06*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 17:56	1
Barium	**0.23**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 17:56	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 17:56	1
Chromium	**0.33**		0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 17:56	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 17:56	1
Selenium	**0.019**	**J**	0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 17:56	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 17:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 18:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.22**		0.010	0.0050	mg/L			03/30/21 17:00	1

Client Sample ID: X-1-033021

Lab Sample ID: 480-182652-8

Date Collected: 03/30/21 00:00

Matrix: Water

Date Received: 03/30/21 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			04/03/21 18:29	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			04/03/21 18:29	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			04/03/21 18:29	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			04/03/21 18:29	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			04/03/21 18:29	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			04/03/21 18:29	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			04/03/21 18:29	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			04/03/21 18:29	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			04/03/21 18:29	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			04/03/21 18:29	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			04/03/21 18:29	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			04/03/21 18:29	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			04/03/21 18:29	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			04/03/21 18:29	2
2-Butanone (MEK)	**7.9**	**J**	20	2.6	ug/L			04/03/21 18:29	2
2-Hexanone	ND		10	2.5	ug/L			04/03/21 18:29	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			04/03/21 18:29	2
Acetone	**170**		20	6.0	ug/L			04/03/21 18:29	2
Benzene	ND		2.0	0.82	ug/L			04/03/21 18:29	2
Bromodichloromethane	ND		2.0	0.78	ug/L			04/03/21 18:29	2
Bromoform	ND		2.0	0.52	ug/L			04/03/21 18:29	2
Bromomethane	ND		2.0	1.4	ug/L			04/03/21 18:29	2

Client Sample ID: X-1-033021
Date Collected: 03/30/21 00:00
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		2.0	0.38	ug/L			04/03/21 18:29	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			04/03/21 18:29	2
Chlorobenzene	ND		2.0	1.5	ug/L			04/03/21 18:29	2
Chloroethane	ND		2.0	0.64	ug/L			04/03/21 18:29	2
Chloroform	ND		2.0	0.68	ug/L			04/03/21 18:29	2
Chloromethane	ND		2.0	0.70	ug/L			04/03/21 18:29	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			04/03/21 18:29	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			04/03/21 18:29	2
Cyclohexane	ND		2.0	0.36	ug/L			04/03/21 18:29	2
Dibromochloromethane	ND		2.0	0.64	ug/L			04/03/21 18:29	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			04/03/21 18:29	2
Ethylbenzene	ND		2.0	1.5	ug/L			04/03/21 18:29	2
Isopropylbenzene	ND		2.0	1.6	ug/L			04/03/21 18:29	2
Methyl acetate	ND		5.0	2.6	ug/L			04/03/21 18:29	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			04/03/21 18:29	2
Methylcyclohexane	ND		2.0	0.32	ug/L			04/03/21 18:29	2
Methylene Chloride	ND		2.0	0.88	ug/L			04/03/21 18:29	2
Styrene	ND		2.0	1.5	ug/L			04/03/21 18:29	2
Tetrachloroethene	ND		2.0	0.72	ug/L			04/03/21 18:29	2
Toluene	ND		2.0	1.0	ug/L			04/03/21 18:29	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			04/03/21 18:29	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			04/03/21 18:29	2
Trichloroethene	ND		2.0	0.92	ug/L			04/03/21 18:29	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			04/03/21 18:29	2
Vinyl chloride	ND		2.0	1.8	ug/L			04/03/21 18:29	2
Xylenes, Total	ND		4.0	1.3	ug/L			04/03/21 18:29	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*		*04/03/21 18:29*	*2*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*04/03/21 18:29*	*2*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*04/03/21 18:29*	*2*
Toluene-d8 (Surr)	*107*		*80 - 120*		*04/03/21 18:29*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 18:00	1
Barium	**0.23**		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 18:00	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 18:00	1
Chromium	**0.32**		0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 18:00	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 18:00	1
Selenium	**0.020**	**J**	0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 18:00	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 18:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 18:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.28**		0.010	0.0050	mg/L			03/30/21 17:00	1

Client: O'Brien & Gere Inc of North America
Job ID: 480-182652-1
Project/Site: Vanadium

Client Sample ID: TB-1-033021
Lab Sample ID: 480-182652-9
Date Collected: 03/30/21 00:00
Matrix: Water
Date Received: 03/30/21 16:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/02/21 12:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/02/21 12:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/02/21 12:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/02/21 12:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/02/21 12:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/02/21 12:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/02/21 12:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/02/21 12:09	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/02/21 12:09	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/02/21 12:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/02/21 12:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/02/21 12:09	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/02/21 12:09	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/02/21 12:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/02/21 12:09	1
2-Hexanone	ND		5.0	1.2	ug/L			04/02/21 12:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/02/21 12:09	1
Acetone	ND		10	3.0	ug/L			04/02/21 12:09	1
Benzene	ND		1.0	0.41	ug/L			04/02/21 12:09	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/02/21 12:09	1
Bromoform	ND		1.0	0.26	ug/L			04/02/21 12:09	1
Bromomethane	ND		1.0	0.69	ug/L			04/02/21 12:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/02/21 12:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/02/21 12:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/02/21 12:09	1
Chloroethane	ND		1.0	0.32	ug/L			04/02/21 12:09	1
Chloroform	ND		1.0	0.34	ug/L			04/02/21 12:09	1
Chloromethane	ND		1.0	0.35	ug/L			04/02/21 12:09	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/02/21 12:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/02/21 12:09	1
Cyclohexane	ND		1.0	0.18	ug/L			04/02/21 12:09	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/02/21 12:09	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/02/21 12:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/02/21 12:09	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/02/21 12:09	1
Methyl acetate	ND		2.5	1.3	ug/L			04/02/21 12:09	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/02/21 12:09	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/02/21 12:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/02/21 12:09	1
Styrene	ND		1.0	0.73	ug/L			04/02/21 12:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/02/21 12:09	1
Toluene	ND		1.0	0.51	ug/L			04/02/21 12:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/02/21 12:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/02/21 12:09	1
Trichloroethene	ND		1.0	0.46	ug/L			04/02/21 12:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/02/21 12:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/02/21 12:09	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/02/21 12:09	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: TB-1-033021
Date Collected: 03/30/21 00:00
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-9
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		04/02/21 12:09	1
4-Bromofluorobenzene (Surr)	108		73 - 120		04/02/21 12:09	1
Dibromofluoromethane (Surr)	100		75 - 123		04/02/21 12:09	1
Toluene-d8 (Surr)	108		80 - 120		04/02/21 12:09	1

Surrogate Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-182652-1	MW-32-033021	102	108	103	105
480-182652-2	MW-31-033021	105	109	105	108
480-182652-2 MS	MW-31-033021	99	104	101	104
480-182652-2 MSD	MW-31-033021	99	106	103	107
480-182652-3	MW-24RI-033021	105	111	108	108
480-182652-4	MW-24R-033021	103	107	103	106
480-182652-5	MW-16R-033021	103	106	104	105
480-182652-6	MW-16RI-033021	101	106	100	105
480-182652-7	MW-30-033021	108	110	111	107
480-182652-8	X-1-033021	104	104	107	107
480-182652-9	TB-1-033021	102	108	100	108
LCS 480-574807/5	Lab Control Sample	101	106	100	104
LCS 480-574936/5	Lab Control Sample	105	113	105	110
MB 480-574807/7	Method Blank	109	105	106	107
MB 480-574936/7	Method Blank	106	102	107	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-574807/7
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/02/21 11:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/02/21 11:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/02/21 11:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/02/21 11:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/02/21 11:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/02/21 11:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/02/21 11:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/02/21 11:09	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/02/21 11:09	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/02/21 11:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/02/21 11:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/02/21 11:09	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/02/21 11:09	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/02/21 11:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/02/21 11:09	1
2-Hexanone	ND		5.0	1.2	ug/L			04/02/21 11:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/02/21 11:09	1
Acetone	ND		10	3.0	ug/L			04/02/21 11:09	1
Benzene	ND		1.0	0.41	ug/L			04/02/21 11:09	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/02/21 11:09	1
Bromoform	ND		1.0	0.26	ug/L			04/02/21 11:09	1
Bromomethane	ND		1.0	0.69	ug/L			04/02/21 11:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/02/21 11:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/02/21 11:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/02/21 11:09	1
Chloroethane	ND		1.0	0.32	ug/L			04/02/21 11:09	1
Chloroform	ND		1.0	0.34	ug/L			04/02/21 11:09	1
Chloromethane	ND		1.0	0.35	ug/L			04/02/21 11:09	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/02/21 11:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/02/21 11:09	1
Cyclohexane	ND		1.0	0.18	ug/L			04/02/21 11:09	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/02/21 11:09	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/02/21 11:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/02/21 11:09	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/02/21 11:09	1
Methyl acetate	ND		2.5	1.3	ug/L			04/02/21 11:09	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/02/21 11:09	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/02/21 11:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/02/21 11:09	1
Styrene	ND		1.0	0.73	ug/L			04/02/21 11:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/02/21 11:09	1
Toluene	ND		1.0	0.51	ug/L			04/02/21 11:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/02/21 11:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/02/21 11:09	1
Trichloroethene	ND		1.0	0.46	ug/L			04/02/21 11:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/02/21 11:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/02/21 11:09	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/02/21 11:09	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-574807/7
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120		04/02/21 11:09	1
4-Bromofluorobenzene (Surr)	105		73 - 120		04/02/21 11:09	1
Dibromofluoromethane (Surr)	106		75 - 123		04/02/21 11:09	1
Toluene-d8 (Surr)	107		80 - 120		04/02/21 11:09	1

Lab Sample ID: LCS 480-574807/5
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.6		ug/L		98	73 - 126
1,1,2,2-Tetrachloroethane	25.0	27.5		ug/L		110	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	21.5		ug/L		86	61 - 148
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	76 - 122
1,1-Dichloroethane	25.0	24.4		ug/L		98	77 - 120
1,1-Dichloroethene	25.0	22.4		ug/L		90	66 - 127
1,2,4-Trichlorobenzene	25.0	27.3		ug/L		109	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.2		ug/L		101	56 - 134
1,2-Dibromoethane	25.0	27.0		ug/L		108	77 - 120
1,2-Dichlorobenzene	25.0	27.6		ug/L		110	80 - 124
1,2-Dichloroethane	25.0	25.8		ug/L		103	75 - 120
1,2-Dichloropropane	25.0	26.3		ug/L		105	76 - 120
1,3-Dichlorobenzene	25.0	27.8		ug/L		111	77 - 120
1,4-Dichlorobenzene	25.0	27.4		ug/L		110	80 - 120
2-Butanone (MEK)	125	145		ug/L		116	57 - 140
2-Hexanone	125	156		ug/L		125	65 - 127
4-Methyl-2-pentanone (MIBK)	125	132		ug/L		106	71 - 125
Acetone	125	142		ug/L		114	56 - 142
Benzene	25.0	24.2		ug/L		97	71 - 124
Bromodichloromethane	25.0	25.1		ug/L		100	80 - 122
Bromoform	25.0	26.2		ug/L		105	61 - 132
Bromomethane	25.0	21.3		ug/L		85	55 - 144
Carbon disulfide	25.0	21.9		ug/L		87	59 - 134
Carbon tetrachloride	25.0	25.0		ug/L		100	72 - 134
Chlorobenzene	25.0	26.4		ug/L		105	80 - 120
Chloroethane	25.0	20.9		ug/L		84	69 - 136
Chloroform	25.0	24.7		ug/L		99	73 - 127
Chloromethane	25.0	25.2		ug/L		101	68 - 124
cis-1,2-Dichloroethene	25.0	24.3		ug/L		97	74 - 124
cis-1,3-Dichloropropene	25.0	25.2		ug/L		101	74 - 124
Cyclohexane	25.0	22.3		ug/L		89	59 - 135
Dibromochloromethane	25.0	27.1		ug/L		108	75 - 125
Dichlorodifluoromethane	25.0	21.7		ug/L		87	59 - 135
Ethylbenzene	25.0	25.7		ug/L		103	77 - 123
Isopropylbenzene	25.0	27.0		ug/L		108	77 - 122
Methyl acetate	50.0	50.7		ug/L		101	74 - 133
Methyl tert-butyl ether	25.0	24.6		ug/L		99	77 - 120
Methylcyclohexane	25.0	22.3		ug/L		89	68 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-574807/5
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	25.0	23.0		ug/L		92	75 - 124
Styrene	25.0	26.4		ug/L		105	80 - 120
Tetrachloroethene	25.0	26.4		ug/L		105	74 - 122
Toluene	25.0	26.3		ug/L		105	80 - 122
trans-1,2-Dichloroethene	25.0	24.8		ug/L		99	73 - 127
trans-1,3-Dichloropropene	25.0	26.9		ug/L		108	80 - 120
Trichloroethene	25.0	24.8		ug/L		99	74 - 123
Trichlorofluoromethane	25.0	21.7		ug/L		87	62 - 150
Vinyl chloride	25.0	24.1		ug/L		96	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 480-574936/7
Matrix: Water
Analysis Batch: 574936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/03/21 11:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/03/21 11:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/03/21 11:38	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/03/21 11:38	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/03/21 11:38	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/03/21 11:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/03/21 11:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/03/21 11:38	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/03/21 11:38	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/03/21 11:38	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/03/21 11:38	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/03/21 11:38	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/03/21 11:38	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/03/21 11:38	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/03/21 11:38	1
2-Hexanone	ND		5.0	1.2	ug/L			04/03/21 11:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/03/21 11:38	1
Acetone	ND		10	3.0	ug/L			04/03/21 11:38	1
Benzene	ND		1.0	0.41	ug/L			04/03/21 11:38	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/03/21 11:38	1
Bromoform	ND		1.0	0.26	ug/L			04/03/21 11:38	1
Bromomethane	ND		1.0	0.69	ug/L			04/03/21 11:38	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/03/21 11:38	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/03/21 11:38	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/03/21 11:38	1
Chloroethane	ND		1.0	0.32	ug/L			04/03/21 11:38	1
Chloroform	ND		1.0	0.34	ug/L			04/03/21 11:38	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-574936/7
Matrix: Water
Analysis Batch: 574936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.35	ug/L			04/03/21 11:38	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/03/21 11:38	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/03/21 11:38	1
Cyclohexane	ND		1.0	0.18	ug/L			04/03/21 11:38	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/03/21 11:38	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/03/21 11:38	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/03/21 11:38	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/03/21 11:38	1
Methyl acetate	ND		2.5	1.3	ug/L			04/03/21 11:38	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/03/21 11:38	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/03/21 11:38	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/03/21 11:38	1
Styrene	ND		1.0	0.73	ug/L			04/03/21 11:38	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/03/21 11:38	1
Toluene	ND		1.0	0.51	ug/L			04/03/21 11:38	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/03/21 11:38	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/03/21 11:38	1
Trichloroethene	ND		1.0	0.46	ug/L			04/03/21 11:38	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/03/21 11:38	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/03/21 11:38	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/03/21 11:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*04/03/21 11:38*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*04/03/21 11:38*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*04/03/21 11:38*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*04/03/21 11:38*	*1*

Lab Sample ID: LCS 480-574936/5
Matrix: Water
Analysis Batch: 574936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.2		ug/L		101	73 - 126
1,1,2,2-Tetrachloroethane	25.0	29.1		ug/L		116	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.3		ug/L		101	61 - 148
1,1,2-Trichloroethane	25.0	26.9		ug/L		108	76 - 122
1,1-Dichloroethane	25.0	25.6		ug/L		102	77 - 120
1,1-Dichloroethene	25.0	24.7		ug/L		99	66 - 127
1,2,4-Trichlorobenzene	25.0	28.5		ug/L		114	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	28.3		ug/L		113	56 - 134
1,2-Dibromoethane	25.0	28.1		ug/L		112	77 - 120
1,2-Dichlorobenzene	25.0	28.8		ug/L		115	80 - 124
1,2-Dichloroethane	25.0	24.3		ug/L		97	75 - 120
1,2-Dichloropropane	25.0	25.6		ug/L		102	76 - 120
1,3-Dichlorobenzene	25.0	28.3		ug/L		113	77 - 120
1,4-Dichlorobenzene	25.0	28.3		ug/L		113	80 - 120
2-Butanone (MEK)	125	138		ug/L		110	57 - 140

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-574936/5
Matrix: Water
Analysis Batch: 574936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Hexanone	125	142		ug/L		113	65 - 127
4-Methyl-2-pentanone (MIBK)	125	135		ug/L		108	71 - 125
Acetone	125	141		ug/L		113	56 - 142
Benzene	25.0	25.3		ug/L		101	71 - 124
Bromodichloromethane	25.0	26.4		ug/L		106	80 - 122
Bromoform	25.0	30.6		ug/L		123	61 - 132
Bromomethane	25.0	22.8		ug/L		91	55 - 144
Carbon disulfide	25.0	25.0		ug/L		100	59 - 134
Carbon tetrachloride	25.0	26.9		ug/L		108	72 - 134
Chlorobenzene	25.0	28.0		ug/L		112	80 - 120
Chloroethane	25.0	21.2		ug/L		85	69 - 136
Chloroform	25.0	24.5		ug/L		98	73 - 127
Chloromethane	25.0	22.2		ug/L		89	68 - 124
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	74 - 124
cis-1,3-Dichloropropene	25.0	27.0		ug/L		108	74 - 124
Cyclohexane	25.0	25.3		ug/L		101	59 - 135
Dibromochloromethane	25.0	30.1		ug/L		120	75 - 125
Dichlorodifluoromethane	25.0	21.8		ug/L		87	59 - 135
Ethylbenzene	25.0	27.7		ug/L		111	77 - 123
Isopropylbenzene	25.0	29.2		ug/L		117	77 - 122
Methyl acetate	50.0	51.9		ug/L		104	74 - 133
Methyl tert-butyl ether	25.0	25.8		ug/L		103	77 - 120
Methylcyclohexane	25.0	26.1		ug/L		104	68 - 134
Methylene Chloride	25.0	24.6		ug/L		98	75 - 124
Styrene	25.0	27.3		ug/L		109	80 - 120
Tetrachloroethene	25.0	26.6		ug/L		107	74 - 122
Toluene	25.0	27.4		ug/L		109	80 - 122
trans-1,2-Dichloroethene	25.0	24.3		ug/L		97	73 - 127
trans-1,3-Dichloropropene	25.0	28.3		ug/L		113	80 - 120
Trichloroethene	25.0	25.8		ug/L		103	74 - 123
Trichlorofluoromethane	25.0	22.0		ug/L		88	62 - 150
Vinyl chloride	25.0	21.5		ug/L		86	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*
4-Bromofluorobenzene (Surr)	*113*		*73 - 120*
Dibromofluoromethane (Surr)	*105*		*75 - 123*
Toluene-d8 (Surr)	*110*		*80 - 120*

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 574936

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND	F1	25.0	30.6		ug/L		122	73 - 126
1,1,2,2-Tetrachloroethane	ND	F1	25.0	31.3	F1	ug/L		125	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	30.4		ug/L		122	61 - 148
1,1,2-Trichloroethane	ND		25.0	29.6		ug/L		118	76 - 122

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 574936

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND	F1	25.0	30.3	F1	ug/L		121	77 - 120
1,1-Dichloroethene	ND	F1	25.0	30.5		ug/L		122	66 - 127
1,2,4-Trichlorobenzene	ND		25.0	28.8		ug/L		115	79 - 122
1,2-Dibromo-3-Chloropropane	ND		25.0	29.7		ug/L		119	56 - 134
1,2-Dibromoethane	ND	F1	25.0	31.0	F1	ug/L		124	77 - 120
1,2-Dichlorobenzene	ND		25.0	29.4		ug/L		118	80 - 124
1,2-Dichloroethane	ND		25.0	27.7		ug/L		111	75 - 120
1,2-Dichloropropane	ND	F1	25.0	30.3	F1	ug/L		121	76 - 120
1,3-Dichlorobenzene	ND	F1	25.0	29.9		ug/L		119	77 - 120
1,4-Dichlorobenzene	ND		25.0	29.2		ug/L		117	78 - 124
2-Butanone (MEK)	8.2	J	125	147		ug/L		111	57 - 140
2-Hexanone	ND		125	150		ug/L		120	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		125	145		ug/L		116	71 - 125
Acetone	80		125	202		ug/L		98	56 - 142
Benzene	ND	F1	25.0	30.9		ug/L		124	71 - 124
Bromodichloromethane	ND		25.0	30.5		ug/L		122	80 - 122
Bromoform	ND		25.0	32.1		ug/L		129	61 - 132
Bromomethane	ND		25.0	28.4		ug/L		114	55 - 144
Carbon disulfide	2.3		25.0	31.6		ug/L		117	59 - 134
Carbon tetrachloride	ND	F1	25.0	32.3		ug/L		129	72 - 134
Chlorobenzene	ND	F1	25.0	31.4	F1	ug/L		126	80 - 120
Chloroethane	ND		25.0	28.4		ug/L		114	69 - 136
Chloroform	ND		25.0	28.8		ug/L		115	73 - 127
Chloromethane	ND		25.0	28.2		ug/L		113	68 - 124
cis-1,2-Dichloroethene	ND	F1	25.0	30.8		ug/L		123	74 - 124
cis-1,3-Dichloropropene	ND		25.0	29.7		ug/L		119	74 - 124
Cyclohexane	ND		25.0	29.9		ug/L		119	59 - 135
Dibromochloromethane	ND	F1	25.0	32.5	F1	ug/L		130	75 - 125
Dichlorodifluoromethane	ND		25.0	25.4		ug/L		101	59 - 135
Ethylbenzene	ND	F1	25.0	31.6	F1	ug/L		126	77 - 123
Isopropylbenzene	ND	F1	25.0	32.5	F1	ug/L		130	77 - 122
Methyl acetate	ND		50.0	48.1		ug/L		96	74 - 133
Methyl tert-butyl ether	ND		25.0	27.7		ug/L		111	77 - 120
Methylcyclohexane	ND		25.0	29.8		ug/L		119	68 - 134
Methylene Chloride	ND		25.0	27.9		ug/L		111	75 - 124
Styrene	ND	F1	25.0	29.8		ug/L		119	80 - 120
Tetrachloroethene	ND	F1	25.0	31.3	F1	ug/L		125	74 - 122
Toluene	0.54	J F1	25.0	31.4	F1	ug/L		123	80 - 122
trans-1,2-Dichloroethene	ND		25.0	29.7		ug/L		119	73 - 127
trans-1,3-Dichloropropene	ND		25.0	28.8		ug/L		115	80 - 120
Trichloroethene	ND	F1	25.0	30.9	F1	ug/L		124	74 - 123
Trichlorofluoromethane	ND		25.0	27.4		ug/L		110	62 - 150
Vinyl chloride	ND		25.0	28.5		ug/L		114	65 - 133

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*
Dibromofluoromethane (Surr)	*101*		*75 - 123*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 574936

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 480-182652-2 MSD
Matrix: Water
Analysis Batch: 574936

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND	F1	25.0	31.9	F1	ug/L		128	73 - 126	4	15
1,1,2,2-Tetrachloroethane	ND	F1	25.0	32.1	F1	ug/L		128	76 - 120	3	15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		25.0	31.3		ug/L		125	61 - 148	3	20
1,1,2-Trichloroethane	ND		25.0	30.4		ug/L		122	76 - 122	3	15
1,1-Dichloroethane	ND	F1	25.0	31.6	F1	ug/L		126	77 - 120	4	20
1,1-Dichloroethene	ND	F1	25.0	32.8	F1	ug/L		131	66 - 127	7	16
1,2,4-Trichlorobenzene	ND		25.0	28.6		ug/L		114	79 - 122	1	20
1,2-Dibromo-3-Chloropropane	ND		25.0	27.7		ug/L		111	56 - 134	7	15
1,2-Dibromoethane	ND	F1	25.0	31.3	F1	ug/L		125	77 - 120	1	15
1,2-Dichlorobenzene	ND		25.0	29.8		ug/L		119	80 - 124	1	20
1,2-Dichloroethane	ND		25.0	27.5		ug/L		110	75 - 120	1	20
1,2-Dichloropropane	ND	F1	25.0	31.7	F1	ug/L		127	76 - 120	4	20
1,3-Dichlorobenzene	ND	F1	25.0	31.1	F1	ug/L		124	77 - 120	4	20
1,4-Dichlorobenzene	ND		25.0	31.0		ug/L		124	78 - 124	6	20
2-Butanone (MEK)	8.2	J	125	138		ug/L		104	57 - 140	6	20
2-Hexanone	ND		125	150		ug/L		120	65 - 127	1	15
4-Methyl-2-pentanone (MIBK)	ND		125	141		ug/L		113	71 - 125	3	35
Acetone	80		125	178		ug/L		79	56 - 142	13	15
Benzene	ND	F1	25.0	31.7	F1	ug/L		127	71 - 124	3	13
Bromodichloromethane	ND		25.0	30.3		ug/L		121	80 - 122	1	15
Bromoform	ND		25.0	32.6		ug/L		130	61 - 132	1	15
Bromomethane	ND		25.0	28.1		ug/L		113	55 - 144	1	15
Carbon disulfide	2.3		25.0	33.3		ug/L		124	59 - 134	5	15
Carbon tetrachloride	ND	F1	25.0	34.3	F1	ug/L		137	72 - 134	6	15
Chlorobenzene	ND	F1	25.0	32.6	F1	ug/L		130	80 - 120	4	25
Chloroethane	ND		25.0	28.5		ug/L		114	69 - 136	0	15
Chloroform	ND		25.0	29.3		ug/L		117	73 - 127	2	20
Chloromethane	ND		25.0	28.0		ug/L		112	68 - 124	1	15
cis-1,2-Dichloroethene	ND	F1	25.0	31.4	F1	ug/L		126	74 - 124	2	15
cis-1,3-Dichloropropene	ND		25.0	30.8		ug/L		123	74 - 124	4	15
Cyclohexane	ND		25.0	31.1		ug/L		124	59 - 135	4	20
Dibromochloromethane	ND	F1	25.0	34.0	F1	ug/L		136	75 - 125	4	15
Dichlorodifluoromethane	ND		25.0	25.9		ug/L		103	59 - 135	2	20
Ethylbenzene	ND	F1	25.0	32.5	F1	ug/L		130	77 - 123	3	15
Isopropylbenzene	ND	F1	25.0	34.4	F1	ug/L		137	77 - 122	6	20
Methyl acetate	ND		50.0	49.1		ug/L		98	74 - 133	2	20
Methyl tert-butyl ether	ND		25.0	28.5		ug/L		114	77 - 120	3	37
Methylcyclohexane	ND		25.0	31.0		ug/L		124	68 - 134	4	20
Methylene Chloride	ND		25.0	29.0		ug/L		116	75 - 124	4	15
Styrene	ND	F1	25.0	30.8	F1	ug/L		123	80 - 120	3	20
Tetrachloroethene	ND	F1	25.0	32.8	F1	ug/L		131	74 - 122	5	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-182652-2 MSD
Matrix: Water
Analysis Batch: 574936

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.54	J F1	25.0	33.4	F1	ug/L		131	80 - 122	6	15
trans-1,2-Dichloroethene	ND		25.0	31.4		ug/L		125	73 - 127	5	20
trans-1,3-Dichloropropene	ND		25.0	29.8		ug/L		119	80 - 120	3	15
Trichloroethene	ND	F1	25.0	32.4	F1	ug/L		130	74 - 123	5	16
Trichlorofluoromethane	ND		25.0	28.3		ug/L		113	62 - 150	3	20
Vinyl chloride	ND		25.0	28.5		ug/L		114	65 - 133	0	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*
Dibromofluoromethane (Surr)	*103*		*75 - 123*
Toluene-d8 (Surr)	*107*		*80 - 120*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-574673/1-A
Matrix: Water
Analysis Batch: 574850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 574673

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		04/01/21 09:44	04/01/21 16:38	1
Barium	ND		0.0020	0.00070	mg/L		04/01/21 09:44	04/01/21 16:38	1
Cadmium	ND		0.0020	0.00050	mg/L		04/01/21 09:44	04/01/21 16:38	1
Chromium	ND		0.0040	0.0010	mg/L		04/01/21 09:44	04/01/21 16:38	1
Lead	ND		0.010	0.0030	mg/L		04/01/21 09:44	04/01/21 16:38	1
Selenium	ND		0.025	0.0087	mg/L		04/01/21 09:44	04/01/21 16:38	1
Silver	ND		0.0060	0.0017	mg/L		04/01/21 09:44	04/01/21 16:38	1

Lab Sample ID: LCS 480-574673/2-A
Matrix: Water
Analysis Batch: 574850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 574673

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.206		mg/L		103	80 - 120
Barium	0.200	0.216		mg/L		108	80 - 120
Cadmium	0.200	0.203		mg/L		101	80 - 120
Chromium	0.200	0.203		mg/L		101	80 - 120
Lead	0.200	0.199		mg/L		100	80 - 120
Selenium	0.200	0.203		mg/L		102	80 - 120
Silver	0.0500	0.0482		mg/L		96	80 - 120

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 574850

Client Sample ID: MW-31-033021
Prep Type: Total/NA
Prep Batch: 574673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.200	0.224		mg/L		112	75 - 125
Barium	0.062		0.200	0.269		mg/L		104	75 - 125
Cadmium	ND		0.200	0.213		mg/L		107	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 574850

Client Sample ID: MW-31-033021
Prep Type: Total/NA
Prep Batch: 574673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	ND		0.200	0.203		mg/L		101	75 - 125
Lead	ND		0.200	0.207		mg/L		103	75 - 125
Selenium	ND		0.200	0.208		mg/L		104	75 - 125
Silver	ND		0.0500	0.0513		mg/L		103	75 - 125

Lab Sample ID: 480-182652-2 MSD
Matrix: Water
Analysis Batch: 574850

Client Sample ID: MW-31-033021
Prep Type: Total/NA
Prep Batch: 574673

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.200	0.224		mg/L		112	75 - 125	0	20
Barium	0.062		0.200	0.268		mg/L		103	75 - 125	0	20
Cadmium	ND		0.200	0.213		mg/L		107	75 - 125	0	20
Chromium	ND		0.200	0.203		mg/L		102	75 - 125	0	20
Lead	ND		0.200	0.208		mg/L		104	75 - 125	0	20
Selenium	ND		0.200	0.204		mg/L		102	75 - 125	2	20
Silver	ND		0.0500	0.0517		mg/L		103	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-575077/1-A
Matrix: Water
Analysis Batch: 575119

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 17:38	1

Lab Sample ID: LCS 480-575077/2-A
Matrix: Water
Analysis Batch: 575119

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 575077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00712		mg/L		107	80 - 120

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 575119

Client Sample ID: MW-31-033021
Prep Type: Total/NA
Prep Batch: 575077

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00713		mg/L		107	80 - 120

Lab Sample ID: 480-182652-2 MSD
Matrix: Water
Analysis Batch: 575119

Client Sample ID: MW-31-033021
Prep Type: Total/NA
Prep Batch: 575077

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00728		mg/L		109	80 - 120	2	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-574506/3
Matrix: Water
Analysis Batch: 574506

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/30/21 17:00	1

Lab Sample ID: LCS 480-574506/4
Matrix: Water
Analysis Batch: 574506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			0.0500	0.0461		mg/L		92	85 - 115		

Lab Sample ID: 480-182652-2 MS
Matrix: Water
Analysis Batch: 574506

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND	F1	0.0500	0.0350	F1	mg/L		70	85 - 115		

Lab Sample ID: 480-182652-2 MSD
Matrix: Water
Analysis Batch: 574506

Client Sample ID: MW-31-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND	F1	0.0500	0.0350	F1	mg/L		70	85 - 115	0	20

Lab Sample ID: 480-182652-8 MS
Matrix: Water
Analysis Batch: 574506

Client Sample ID: X-1-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	0.28		0.0500	0.304	4	mg/L		52	85 - 115		

Lab Sample ID: 480-182652-7 DU
Matrix: Water
Analysis Batch: 574506

Client Sample ID: MW-30-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chromium, hexavalent	0.22			0.222		mg/L				1	20

Lab Sample ID: 480-182652-8 DU
Matrix: Water
Analysis Batch: 574506

Client Sample ID: X-1-033021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chromium, hexavalent	0.28			0.275		mg/L				1	20

GC/MS VOA

Analysis Batch: 574807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-9	TB-1-033021	Total/NA	Water	8260C	
MB 480-574807/7	Method Blank	Total/NA	Water	8260C	
LCS 480-574807/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 574936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-1	MW-32-033021	Total/NA	Water	8260C	
480-182652-2	MW-31-033021	Total/NA	Water	8260C	
480-182652-3	MW-24RI-033021	Total/NA	Water	8260C	
480-182652-4	MW-24R-033021	Total/NA	Water	8260C	
480-182652-5	MW-16R-033021	Total/NA	Water	8260C	
480-182652-6	MW-16RI-033021	Total/NA	Water	8260C	
480-182652-7	MW-30-033021	Total/NA	Water	8260C	
480-182652-8	X-1-033021	Total/NA	Water	8260C	
MB 480-574936/7	Method Blank	Total/NA	Water	8260C	
LCS 480-574936/5	Lab Control Sample	Total/NA	Water	8260C	
480-182652-2 MS	MW-31-033021	Total/NA	Water	8260C	
480-182652-2 MSD	MW-31-033021	Total/NA	Water	8260C	

Metals

Prep Batch: 574673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-1	MW-32-033021	Total/NA	Water	3005A	
480-182652-2	MW-31-033021	Total/NA	Water	3005A	
480-182652-3	MW-24RI-033021	Total/NA	Water	3005A	
480-182652-4	MW-24R-033021	Total/NA	Water	3005A	
480-182652-5	MW-16R-033021	Total/NA	Water	3005A	
480-182652-6	MW-16RI-033021	Total/NA	Water	3005A	
480-182652-7	MW-30-033021	Total/NA	Water	3005A	
480-182652-8	X-1-033021	Total/NA	Water	3005A	
MB 480-574673/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-574673/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-182652-2 MS	MW-31-033021	Total/NA	Water	3005A	
480-182652-2 MSD	MW-31-033021	Total/NA	Water	3005A	

Analysis Batch: 574850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-1	MW-32-033021	Total/NA	Water	6010C	574673
480-182652-2	MW-31-033021	Total/NA	Water	6010C	574673
480-182652-3	MW-24RI-033021	Total/NA	Water	6010C	574673
480-182652-4	MW-24R-033021	Total/NA	Water	6010C	574673
480-182652-5	MW-16R-033021	Total/NA	Water	6010C	574673
480-182652-6	MW-16RI-033021	Total/NA	Water	6010C	574673
480-182652-7	MW-30-033021	Total/NA	Water	6010C	574673
480-182652-8	X-1-033021	Total/NA	Water	6010C	574673
MB 480-574673/1-A	Method Blank	Total/NA	Water	6010C	574673
LCS 480-574673/2-A	Lab Control Sample	Total/NA	Water	6010C	574673
480-182652-2 MS	MW-31-033021	Total/NA	Water	6010C	574673
480-182652-2 MSD	MW-31-033021	Total/NA	Water	6010C	574673

Metals

Prep Batch: 575077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-1	MW-32-033021	Total/NA	Water	7470A	
480-182652-2	MW-31-033021	Total/NA	Water	7470A	
480-182652-3	MW-24RI-033021	Total/NA	Water	7470A	
480-182652-4	MW-24R-033021	Total/NA	Water	7470A	
480-182652-5	MW-16R-033021	Total/NA	Water	7470A	
480-182652-6	MW-16RI-033021	Total/NA	Water	7470A	
480-182652-7	MW-30-033021	Total/NA	Water	7470A	
480-182652-8	X-1-033021	Total/NA	Water	7470A	
MB 480-575077/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-575077/2-A	Lab Control Sample	Total/NA	Water	7470A	
480-182652-2 MS	MW-31-033021	Total/NA	Water	7470A	
480-182652-2 MSD	MW-31-033021	Total/NA	Water	7470A	

Analysis Batch: 575119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-1	MW-32-033021	Total/NA	Water	7470A	575077
480-182652-2	MW-31-033021	Total/NA	Water	7470A	575077
480-182652-3	MW-24RI-033021	Total/NA	Water	7470A	575077
480-182652-4	MW-24R-033021	Total/NA	Water	7470A	575077
480-182652-5	MW-16R-033021	Total/NA	Water	7470A	575077
480-182652-6	MW-16RI-033021	Total/NA	Water	7470A	575077
480-182652-7	MW-30-033021	Total/NA	Water	7470A	575077
480-182652-8	X-1-033021	Total/NA	Water	7470A	575077
MB 480-575077/1-A	Method Blank	Total/NA	Water	7470A	575077
LCS 480-575077/2-A	Lab Control Sample	Total/NA	Water	7470A	575077
480-182652-2 MS	MW-31-033021	Total/NA	Water	7470A	575077
480-182652-2 MSD	MW-31-033021	Total/NA	Water	7470A	575077

General Chemistry

Analysis Batch: 574506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182652-1	MW-32-033021	Total/NA	Water	7196A	
480-182652-2	MW-31-033021	Total/NA	Water	7196A	
480-182652-3	MW-24RI-033021	Total/NA	Water	7196A	
480-182652-4	MW-24R-033021	Total/NA	Water	7196A	
480-182652-5	MW-16R-033021	Total/NA	Water	7196A	
480-182652-6	MW-16RI-033021	Total/NA	Water	7196A	
480-182652-7	MW-30-033021	Total/NA	Water	7196A	
480-182652-8	X-1-033021	Total/NA	Water	7196A	
MB 480-574506/3	Method Blank	Total/NA	Water	7196A	
LCS 480-574506/4	Lab Control Sample	Total/NA	Water	7196A	
480-182652-2 MS	MW-31-033021	Total/NA	Water	7196A	
480-182652-2 MSD	MW-31-033021	Total/NA	Water	7196A	
480-182652-8 MS	X-1-033021	Total/NA	Water	7196A	
480-182652-7 DU	MW-30-033021	Total/NA	Water	7196A	
480-182652-8 DU	X-1-033021	Total/NA	Water	7196A	

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-32-033021

Lab Sample ID: 480-182652-1

Date Collected: 03/30/21 15:50
Matrix: Water
Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574936	04/03/21 15:44	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:08	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 17:50	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Client Sample ID: MW-31-033021

Lab Sample ID: 480-182652-2

Date Collected: 03/30/21 13:50
Matrix: Water
Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574936	04/03/21 16:07	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:12	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 17:54	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Client Sample ID: MW-24RI-033021

Lab Sample ID: 480-182652-3

Date Collected: 03/30/21 11:45
Matrix: Water
Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574936	04/03/21 16:31	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:30	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 17:59	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Client Sample ID: MW-24R-033021

Lab Sample ID: 480-182652-4

Date Collected: 03/30/21 11:00
Matrix: Water
Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	574936	04/03/21 16:55	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:45	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 18:00	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: MW-16R-033021

Lab Sample ID: 480-182652-5

Date Collected: 03/30/21 09:20

Matrix: Water

Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574936	04/03/21 17:18	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:49	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 18:02	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Client Sample ID: MW-16RI-033021

Lab Sample ID: 480-182652-6

Date Collected: 03/30/21 09:35

Matrix: Water

Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574936	04/03/21 17:42	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:53	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 18:03	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Client Sample ID: MW-30-033021

Lab Sample ID: 480-182652-7

Date Collected: 03/30/21 13:20

Matrix: Water

Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	574936	04/03/21 18:06	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 17:56	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 18:04	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Client Sample ID: X-1-033021

Lab Sample ID: 480-182652-8

Date Collected: 03/30/21 00:00

Matrix: Water

Date Received: 03/30/21 16:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	574936	04/03/21 18:29	RJF	TAL BUF
Total/NA	Prep	3005A			574673	04/01/21 09:44	KMP	TAL BUF
Total/NA	Analysis	6010C		1	574850	04/01/21 18:00	LMH	TAL BUF
Total/NA	Prep	7470A			575077	04/05/21 13:56	BMB	TAL BUF
Total/NA	Analysis	7470A		1	575119	04/05/21 18:06	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574506	03/30/21 17:00	SRA	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Client Sample ID: TB-1-033021
Date Collected: 03/30/21 00:00
Date Received: 03/30/21 16:40

Lab Sample ID: 480-182652-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574807	04/02/21 12:09	OMI	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-182652-1
Project/Site: Vanadium

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-22

Method Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-182652-1
Project/Site: Vanadium

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-182652-1	MW-32-033021	Water	03/30/21 15:50	03/30/21 16:40	
480-182652-2	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40	
480-182652-3	MW-24RI-033021	Water	03/30/21 11:45	03/30/21 16:40	
480-182652-4	MW-24R-033021	Water	03/30/21 11:00	03/30/21 16:40	
480-182652-5	MW-16R-033021	Water	03/30/21 09:20	03/30/21 16:40	
480-182652-6	MW-16RI-033021	Water	03/30/21 09:35	03/30/21 16:40	
480-182652-7	MW-30-033021	Water	03/30/21 13:20	03/30/21 16:40	
480-182652-8	X-1-033021	Water	03/30/21 00:00	03/30/21 16:40	
480-182652-9	TB-1-033021	Water	03/30/21 00:00	03/30/21 16:40	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

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Client Information	Sampler: MAZ, ECL	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-158754-34903.2
Client Contact: Ms. Deborah Wright	Phone:	E-Mail: John.Schove@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: O'Brien & Gere Inc of North America	PWSID:			Job #:
Address: PO BOX 4873	Due Date Requested:			
City: Syracuse	TAT Requested (days):			
State, Zip: NY, 13221	Compliance Project: Δ Yes Δ No			
Phone: 315-437-6100(Tel)	PO #: Purchase Order Requested			
Email: deborah.wright@ramboll.com	WO #:			
Project Name: Niagara Falls, NY - National Grid	Project #: 48023595			
Site: Vanadium	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	8260C - TCL VOCs	7196A - Chromium, Hexavalent	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	A	N		
MW-32-033021	3/30/2021	1350	G	Water			X	X	X		
MW-31-033021	3/30/2021	1350	G	Water		X	X	X	X		
MW-24RI-033021	3/30/2021	1145	G	Water	X		X	X	X		
MW-24R-033021	3/30/2021	1100	G	Water			X	X	X		
MW-16R-033021	3/30/2021	0920	G	Water			X	X	X		
MW-16RI-033021	3/30/2021	0935	G	Water			X	X	X		
MW-30-033021	3/30/2021	1320	G	Water			X	X	X		
X-1-033021	3/30/2021	—	G	Water			X	X	X		
TB-1-033021	3/30/2021	—	G	Water				X			

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: ~~Evelyn Ives~~ MZ	Date: ~~3/30/21~~ MZ	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Matthew Zaska	3/30/21 16:4	Ramboll		3/30/21	16:40
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.1 #1

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-182652-1

Login Number: 182652

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Sabuda, Brendan D

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	MS/MSD assigned to incorrect sample on COC
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

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ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-182677-1
Client Project/Site: Vanadium

For:
O'Brien & Gere Inc of North America
PO BOX 4873
Syracuse, New York 13221

Attn: Ms. Deborah Wright

Authorized for release by:
4/6/2021 2:05:44 PM
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

John Schove, Project Manager II
(716)504-9838
John.Schove@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: O'Brien & Gere Inc of North America
Job ID: 480-182677-1
Project/Site: Vanadium

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Job ID: 480-182677-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-182677-1

Comments
No additional comments.

Receipt
The samples were received on 3/31/2021 10:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 11.4º C.

GC/MS VOA
Method 8260C: Surrogate recovery for the following sample was outside the upper control limit: MW-32I-033121 (480-182677-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-32I-033121 (480-182677-1) and MW-26R-033121 (480-182677-2). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-574664 recovered above the upper control limit for Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-32I-033121 (480-182677-1) and MW-26R-033121 (480-182677-2).

Method 8260C: The laboratory control sample (LCS) for analytical batch 480-574664 recovered outside control limits for the following analytes: Acetone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-574807 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: TB-2-033121 (480-182677-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Client Sample ID: MW-32I-033121 — Lab Sample ID: 480-182677-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylcyclohexane	0.95	J	2.0	0.32	ug/L	2		8260C	Total/NA
Arsenic, Dissolved	0.0090	J	0.015	0.0056	mg/L	1		6010C	Dissolved
Barium, Dissolved	0.071		0.0020	0.00070	mg/L	1		6010C	Dissolved
Chromium, Dissolved	0.0076		0.0040	0.0010	mg/L	1		6010C	Dissolved
Lead, Dissolved	0.0064	J	0.010	0.0030	mg/L	1		6010C	Dissolved

Client Sample ID: MW-26R-033121 — Lab Sample ID: 480-182677-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.5		2.0	0.68	ug/L	2		8260C	Total/NA
cis-1,2-Dichloroethene	4.7		2.0	1.6	ug/L	2		8260C	Total/NA
Tetrachloroethene	6.0		2.0	0.72	ug/L	2		8260C	Total/NA
Trichloroethene	5.7		2.0	0.92	ug/L	2		8260C	Total/NA
Barium, Dissolved	0.077		0.0020	0.00070	mg/L	1		6010C	Dissolved
Chromium, Dissolved	0.011		0.0040	0.0010	mg/L	1		6010C	Dissolved

Client Sample ID: TB-2-033121 — Lab Sample ID: 480-182677-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Client Sample ID: MW-32I-033121
Date Collected: 03/31/21 09:20
Date Received: 03/31/21 10:55

Lab Sample ID: 480-182677-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			04/01/21 17:40	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			04/01/21 17:40	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			04/01/21 17:40	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			04/01/21 17:40	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			04/01/21 17:40	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			04/01/21 17:40	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			04/01/21 17:40	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			04/01/21 17:40	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			04/01/21 17:40	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			04/01/21 17:40	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			04/01/21 17:40	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			04/01/21 17:40	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			04/01/21 17:40	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			04/01/21 17:40	2
2-Butanone (MEK)	ND		20	2.6	ug/L			04/01/21 17:40	2
2-Hexanone	ND		10	2.5	ug/L			04/01/21 17:40	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			04/01/21 17:40	2
Acetone	ND	*+	20	6.0	ug/L			04/01/21 17:40	2
Benzene	ND		2.0	0.82	ug/L			04/01/21 17:40	2
Bromodichloromethane	ND		2.0	0.78	ug/L			04/01/21 17:40	2
Bromoform	ND		2.0	0.52	ug/L			04/01/21 17:40	2
Bromomethane	ND		2.0	1.4	ug/L			04/01/21 17:40	2
Carbon disulfide	ND		2.0	0.38	ug/L			04/01/21 17:40	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			04/01/21 17:40	2
Chlorobenzene	ND		2.0	1.5	ug/L			04/01/21 17:40	2
Chloroethane	ND		2.0	0.64	ug/L			04/01/21 17:40	2
Chloroform	ND		2.0	0.68	ug/L			04/01/21 17:40	2
Chloromethane	ND		2.0	0.70	ug/L			04/01/21 17:40	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			04/01/21 17:40	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			04/01/21 17:40	2
Cyclohexane	ND		2.0	0.36	ug/L			04/01/21 17:40	2
Dibromochloromethane	ND		2.0	0.64	ug/L			04/01/21 17:40	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			04/01/21 17:40	2
Ethylbenzene	ND		2.0	1.5	ug/L			04/01/21 17:40	2
Isopropylbenzene	ND		2.0	1.6	ug/L			04/01/21 17:40	2
Methyl acetate	ND		5.0	2.6	ug/L			04/01/21 17:40	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			04/01/21 17:40	2
Methylcyclohexane	**0.95**	**J**	2.0	0.32	ug/L			04/01/21 17:40	2
Methylene Chloride	ND		2.0	0.88	ug/L			04/01/21 17:40	2
Styrene	ND		2.0	1.5	ug/L			04/01/21 17:40	2
Tetrachloroethene	ND		2.0	0.72	ug/L			04/01/21 17:40	2
Toluene	ND		2.0	1.0	ug/L			04/01/21 17:40	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			04/01/21 17:40	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			04/01/21 17:40	2
Trichloroethene	ND		2.0	0.92	ug/L			04/01/21 17:40	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			04/01/21 17:40	2
Vinyl chloride	ND		2.0	1.8	ug/L			04/01/21 17:40	2
Xylenes, Total	ND		4.0	1.3	ug/L			04/01/21 17:40	2

Client Sample ID: MW-32I-033121

Lab Sample ID: 480-182677-1

Date Collected: 03/31/21 09:20

Matrix: Water

Date Received: 03/31/21 10:55

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*	*S1+*	*77 - 120*		*04/01/21 17:40*	*2*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*04/01/21 17:40*	*2*
Dibromofluoromethane (Surr)	*123*		*75 - 123*		*04/01/21 17:40*	*2*
Toluene-d8 (Surr)	*111*		*80 - 120*		*04/01/21 17:40*	*2*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	**0.0090**	**J**	0.015	0.0056	mg/L		04/02/21 09:25	04/02/21 15:59	1
Barium, Dissolved	**0.071**		0.0020	0.00070	mg/L		04/02/21 09:25	04/02/21 15:59	1
Cadmium, Dissolved	ND		0.0020	0.00050	mg/L		04/02/21 09:25	04/02/21 15:59	1
Chromium, Dissolved	**0.0076**		0.0040	0.0010	mg/L		04/02/21 09:25	04/02/21 15:59	1
Lead, Dissolved	**0.0064**	**J**	0.010	0.0030	mg/L		04/02/21 09:25	04/02/21 15:59	1
Selenium, Dissolved	ND		0.025	0.0087	mg/L		04/02/21 09:25	04/02/21 15:59	1
Silver, Dissolved	ND		0.0060	0.0017	mg/L		04/02/21 09:25	04/02/21 15:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/31/21 17:00	1

Client Sample ID: MW-26R-033121

Lab Sample ID: 480-182677-2

Date Collected: 03/31/21 10:00

Matrix: Water

Date Received: 03/31/21 10:55

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			04/01/21 18:03	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			04/01/21 18:03	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			04/01/21 18:03	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			04/01/21 18:03	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			04/01/21 18:03	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			04/01/21 18:03	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			04/01/21 18:03	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			04/01/21 18:03	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			04/01/21 18:03	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			04/01/21 18:03	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			04/01/21 18:03	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			04/01/21 18:03	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			04/01/21 18:03	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			04/01/21 18:03	2
2-Butanone (MEK)	ND		20	2.6	ug/L			04/01/21 18:03	2
2-Hexanone	ND		10	2.5	ug/L			04/01/21 18:03	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			04/01/21 18:03	2
Acetone	ND	*+	20	6.0	ug/L			04/01/21 18:03	2
Benzene	ND		2.0	0.82	ug/L			04/01/21 18:03	2
Bromodichloromethane	ND		2.0	0.78	ug/L			04/01/21 18:03	2
Bromoform	ND		2.0	0.52	ug/L			04/01/21 18:03	2
Bromomethane	ND		2.0	1.4	ug/L			04/01/21 18:03	2

Client Sample ID: MW-26R-033121
Date Collected: 03/31/21 10:00
Date Received: 03/31/21 10:55

Lab Sample ID: 480-182677-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		2.0	0.38	ug/L			04/01/21 18:03	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			04/01/21 18:03	2
Chlorobenzene	ND		2.0	1.5	ug/L			04/01/21 18:03	2
Chloroethane	ND		2.0	0.64	ug/L			04/01/21 18:03	2
Chloroform	**2.5**		2.0	0.68	ug/L			04/01/21 18:03	2
Chloromethane	ND		2.0	0.70	ug/L			04/01/21 18:03	2
cis-1,2-Dichloroethene	**4.7**		2.0	1.6	ug/L			04/01/21 18:03	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			04/01/21 18:03	2
Cyclohexane	ND		2.0	0.36	ug/L			04/01/21 18:03	2
Dibromochloromethane	ND		2.0	0.64	ug/L			04/01/21 18:03	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			04/01/21 18:03	2
Ethylbenzene	ND		2.0	1.5	ug/L			04/01/21 18:03	2
Isopropylbenzene	ND		2.0	1.6	ug/L			04/01/21 18:03	2
Methyl acetate	ND		5.0	2.6	ug/L			04/01/21 18:03	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			04/01/21 18:03	2
Methylcyclohexane	ND		2.0	0.32	ug/L			04/01/21 18:03	2
Methylene Chloride	ND		2.0	0.88	ug/L			04/01/21 18:03	2
Styrene	ND		2.0	1.5	ug/L			04/01/21 18:03	2
Tetrachloroethene	**6.0**		2.0	0.72	ug/L			04/01/21 18:03	2
Toluene	ND		2.0	1.0	ug/L			04/01/21 18:03	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			04/01/21 18:03	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			04/01/21 18:03	2
Trichloroethene	**5.7**		2.0	0.92	ug/L			04/01/21 18:03	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			04/01/21 18:03	2
Vinyl chloride	ND		2.0	1.8	ug/L			04/01/21 18:03	2
Xylenes, Total	ND		4.0	1.3	ug/L			04/01/21 18:03	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*77 - 120*		*04/01/21 18:03*	*2*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*		*04/01/21 18:03*	*2*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*04/01/21 18:03*	*2*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/01/21 18:03*	*2*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.015	0.0056	mg/L		04/02/21 09:25	04/02/21 16:15	1
Barium, Dissolved	**0.077**		0.0020	0.00070	mg/L		04/02/21 09:25	04/02/21 16:15	1
Cadmium, Dissolved	ND		0.0020	0.00050	mg/L		04/02/21 09:25	04/02/21 16:15	1
Chromium, Dissolved	**0.011**		0.0040	0.0010	mg/L		04/02/21 09:25	04/02/21 16:15	1
Lead, Dissolved	ND		0.010	0.0030	mg/L		04/02/21 09:25	04/02/21 16:15	1
Selenium, Dissolved	ND		0.025	0.0087	mg/L		04/02/21 09:25	04/02/21 16:15	1
Silver, Dissolved	ND		0.0060	0.0017	mg/L		04/02/21 09:25	04/02/21 16:15	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 19:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/31/21 17:00	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Client Sample ID: TB-2-033121
Date Collected: 03/31/21 00:00
Date Received: 03/31/21 10:55

Lab Sample ID: 480-182677-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/02/21 15:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/02/21 15:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/02/21 15:45	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/02/21 15:45	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/02/21 15:45	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/02/21 15:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/02/21 15:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/02/21 15:45	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/02/21 15:45	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/02/21 15:45	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/02/21 15:45	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/02/21 15:45	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/02/21 15:45	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/02/21 15:45	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/02/21 15:45	1
2-Hexanone	ND		5.0	1.2	ug/L			04/02/21 15:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/02/21 15:45	1
Acetone	ND		10	3.0	ug/L			04/02/21 15:45	1
Benzene	ND		1.0	0.41	ug/L			04/02/21 15:45	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/02/21 15:45	1
Bromoform	ND		1.0	0.26	ug/L			04/02/21 15:45	1
Bromomethane	ND		1.0	0.69	ug/L			04/02/21 15:45	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/02/21 15:45	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/02/21 15:45	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/02/21 15:45	1
Chloroethane	ND		1.0	0.32	ug/L			04/02/21 15:45	1
Chloroform	ND		1.0	0.34	ug/L			04/02/21 15:45	1
Chloromethane	ND		1.0	0.35	ug/L			04/02/21 15:45	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/02/21 15:45	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/02/21 15:45	1
Cyclohexane	ND		1.0	0.18	ug/L			04/02/21 15:45	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/02/21 15:45	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/02/21 15:45	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/02/21 15:45	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/02/21 15:45	1
Methyl acetate	ND		2.5	1.3	ug/L			04/02/21 15:45	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/02/21 15:45	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/02/21 15:45	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/02/21 15:45	1
Styrene	ND		1.0	0.73	ug/L			04/02/21 15:45	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/02/21 15:45	1
Toluene	ND		1.0	0.51	ug/L			04/02/21 15:45	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/02/21 15:45	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/02/21 15:45	1
Trichloroethene	ND		1.0	0.46	ug/L			04/02/21 15:45	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/02/21 15:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/02/21 15:45	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/02/21 15:45	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Client Sample ID: TB-2-033121
Date Collected: 03/31/21 00:00
Date Received: 03/31/21 10:55

Lab Sample ID: 480-182677-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120		04/02/21 15:45	1
4-Bromofluorobenzene (Surr)	106		73 - 120		04/02/21 15:45	1
Dibromofluoromethane (Surr)	105		75 - 123		04/02/21 15:45	1
Toluene-d8 (Surr)	104		80 - 120		04/02/21 15:45	1

Surrogate Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-182677-1	MW-32I-033121	123 S1+	105	123	111
480-182677-2	MW-26R-033121	110	100	111	104
480-182677-3	TB-2-033121	108	106	105	104
LCS 480-574664/5	Lab Control Sample	104	103	104	107
LCS 480-574807/5	Lab Control Sample	101	106	100	104
MB 480-574664/7	Method Blank	110	101	107	104
MB 480-574807/7	Method Blank	109	105	106	107

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-574664/7
Matrix: Water
Analysis Batch: 574664

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/01/21 11:03	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/01/21 11:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/01/21 11:03	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/01/21 11:03	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/01/21 11:03	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/01/21 11:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/01/21 11:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/01/21 11:03	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/01/21 11:03	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/01/21 11:03	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/01/21 11:03	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/01/21 11:03	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/01/21 11:03	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/01/21 11:03	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/01/21 11:03	1
2-Hexanone	ND		5.0	1.2	ug/L			04/01/21 11:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/01/21 11:03	1
Acetone	ND		10	3.0	ug/L			04/01/21 11:03	1
Benzene	ND		1.0	0.41	ug/L			04/01/21 11:03	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/01/21 11:03	1
Bromoform	ND		1.0	0.26	ug/L			04/01/21 11:03	1
Bromomethane	ND		1.0	0.69	ug/L			04/01/21 11:03	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/01/21 11:03	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/01/21 11:03	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/01/21 11:03	1
Chloroethane	ND		1.0	0.32	ug/L			04/01/21 11:03	1
Chloroform	ND		1.0	0.34	ug/L			04/01/21 11:03	1
Chloromethane	ND		1.0	0.35	ug/L			04/01/21 11:03	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/01/21 11:03	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/01/21 11:03	1
Cyclohexane	ND		1.0	0.18	ug/L			04/01/21 11:03	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/01/21 11:03	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/01/21 11:03	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/01/21 11:03	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/01/21 11:03	1
Methyl acetate	ND		2.5	1.3	ug/L			04/01/21 11:03	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/01/21 11:03	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/01/21 11:03	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/01/21 11:03	1
Styrene	ND		1.0	0.73	ug/L			04/01/21 11:03	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/01/21 11:03	1
Toluene	ND		1.0	0.51	ug/L			04/01/21 11:03	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/01/21 11:03	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/01/21 11:03	1
Trichloroethene	ND		1.0	0.46	ug/L			04/01/21 11:03	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/01/21 11:03	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/01/21 11:03	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/01/21 11:03	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-574664/7
Matrix: Water
Analysis Batch: 574664

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120		04/01/21 11:03	1
4-Bromofluorobenzene (Surr)	101		73 - 120		04/01/21 11:03	1
Dibromofluoromethane (Surr)	107		75 - 123		04/01/21 11:03	1
Toluene-d8 (Surr)	104		80 - 120		04/01/21 11:03	1

Lab Sample ID: LCS 480-574664/5
Matrix: Water
Analysis Batch: 574664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	22.5		ug/L		90	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.1		ug/L		96	61 - 148
1,1,2-Trichloroethane	25.0	23.8		ug/L		95	76 - 122
1,1-Dichloroethane	25.0	24.5		ug/L		98	77 - 120
1,1-Dichloroethene	25.0	23.9		ug/L		96	66 - 127
1,2,4-Trichlorobenzene	25.0	24.8		ug/L		99	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	23.6		ug/L		94	56 - 134
1,2-Dibromoethane	25.0	23.5		ug/L		94	77 - 120
1,2-Dichlorobenzene	25.0	24.3		ug/L		97	80 - 124
1,2-Dichloroethane	25.0	23.8		ug/L		95	75 - 120
1,2-Dichloropropane	25.0	24.5		ug/L		98	76 - 120
1,3-Dichlorobenzene	25.0	24.1		ug/L		96	77 - 120
1,4-Dichlorobenzene	25.0	24.2		ug/L		97	80 - 120
2-Butanone (MEK)	125	127		ug/L		102	57 - 140
2-Hexanone	125	123		ug/L		98	65 - 127
4-Methyl-2-pentanone (MIBK)	125	123		ug/L		99	71 - 125
Acetone	125	179	*+	ug/L		143	56 - 142
Benzene	25.0	23.9		ug/L		96	71 - 124
Bromodichloromethane	25.0	25.5		ug/L		102	80 - 122
Bromoform	25.0	23.9		ug/L		96	61 - 132
Bromomethane	25.0	20.9		ug/L		84	55 - 144
Carbon disulfide	25.0	25.2		ug/L		101	59 - 134
Carbon tetrachloride	25.0	21.3		ug/L		85	72 - 134
Chlorobenzene	25.0	23.9		ug/L		96	80 - 120
Chloroethane	25.0	22.4		ug/L		90	69 - 136
Chloroform	25.0	22.2		ug/L		89	73 - 127
Chloromethane	25.0	20.0		ug/L		80	68 - 124
cis-1,2-Dichloroethene	25.0	23.4		ug/L		94	74 - 124
cis-1,3-Dichloropropene	25.0	22.5		ug/L		90	74 - 124
Cyclohexane	25.0	24.3		ug/L		97	59 - 135
Dibromochloromethane	25.0	26.0		ug/L		104	75 - 125
Dichlorodifluoromethane	25.0	16.7		ug/L		67	59 - 135
Ethylbenzene	25.0	24.1		ug/L		96	77 - 123
Isopropylbenzene	25.0	25.0		ug/L		100	77 - 122
Methyl acetate	50.0	48.8		ug/L		98	74 - 133
Methyl tert-butyl ether	25.0	25.5		ug/L		102	77 - 120
Methylcyclohexane	25.0	22.6		ug/L		90	68 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-574664/5
Matrix: Water
Analysis Batch: 574664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	25.0	22.9		ug/L		92	75 - 124
Styrene	25.0	24.6		ug/L		98	80 - 120
Tetrachloroethene	25.0	24.4		ug/L		97	74 - 122
Toluene	25.0	24.5		ug/L		98	80 - 122
trans-1,2-Dichloroethene	25.0	23.1		ug/L		92	73 - 127
trans-1,3-Dichloropropene	25.0	23.4		ug/L		93	80 - 120
Trichloroethene	25.0	23.2		ug/L		93	74 - 123
Trichlorofluoromethane	25.0	21.0		ug/L		84	62 - 150
Vinyl chloride	25.0	21.2		ug/L		85	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*77 - 120*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*
Dibromofluoromethane (Surr)	*104*		*75 - 123*
Toluene-d8 (Surr)	*107*		*80 - 120*

Lab Sample ID: MB 480-574807/7
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			04/02/21 11:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			04/02/21 11:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			04/02/21 11:09	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			04/02/21 11:09	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			04/02/21 11:09	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			04/02/21 11:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			04/02/21 11:09	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			04/02/21 11:09	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			04/02/21 11:09	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			04/02/21 11:09	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			04/02/21 11:09	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			04/02/21 11:09	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			04/02/21 11:09	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			04/02/21 11:09	1
2-Butanone (MEK)	ND		10	1.3	ug/L			04/02/21 11:09	1
2-Hexanone	ND		5.0	1.2	ug/L			04/02/21 11:09	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			04/02/21 11:09	1
Acetone	ND		10	3.0	ug/L			04/02/21 11:09	1
Benzene	ND		1.0	0.41	ug/L			04/02/21 11:09	1
Bromodichloromethane	ND		1.0	0.39	ug/L			04/02/21 11:09	1
Bromoform	ND		1.0	0.26	ug/L			04/02/21 11:09	1
Bromomethane	ND		1.0	0.69	ug/L			04/02/21 11:09	1
Carbon disulfide	ND		1.0	0.19	ug/L			04/02/21 11:09	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			04/02/21 11:09	1
Chlorobenzene	ND		1.0	0.75	ug/L			04/02/21 11:09	1
Chloroethane	ND		1.0	0.32	ug/L			04/02/21 11:09	1
Chloroform	ND		1.0	0.34	ug/L			04/02/21 11:09	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-574807/7
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.35	ug/L			04/02/21 11:09	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			04/02/21 11:09	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			04/02/21 11:09	1
Cyclohexane	ND		1.0	0.18	ug/L			04/02/21 11:09	1
Dibromochloromethane	ND		1.0	0.32	ug/L			04/02/21 11:09	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			04/02/21 11:09	1
Ethylbenzene	ND		1.0	0.74	ug/L			04/02/21 11:09	1
Isopropylbenzene	ND		1.0	0.79	ug/L			04/02/21 11:09	1
Methyl acetate	ND		2.5	1.3	ug/L			04/02/21 11:09	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			04/02/21 11:09	1
Methylcyclohexane	ND		1.0	0.16	ug/L			04/02/21 11:09	1
Methylene Chloride	ND		1.0	0.44	ug/L			04/02/21 11:09	1
Styrene	ND		1.0	0.73	ug/L			04/02/21 11:09	1
Tetrachloroethene	ND		1.0	0.36	ug/L			04/02/21 11:09	1
Toluene	ND		1.0	0.51	ug/L			04/02/21 11:09	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			04/02/21 11:09	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			04/02/21 11:09	1
Trichloroethene	ND		1.0	0.46	ug/L			04/02/21 11:09	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			04/02/21 11:09	1
Vinyl chloride	ND		1.0	0.90	ug/L			04/02/21 11:09	1
Xylenes, Total	ND		2.0	0.66	ug/L			04/02/21 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*04/02/21 11:09*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*04/02/21 11:09*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*04/02/21 11:09*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*04/02/21 11:09*	*1*

Lab Sample ID: LCS 480-574807/5
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.6		ug/L		98	73 - 126
1,1,2,2-Tetrachloroethane	25.0	27.5		ug/L		110	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	21.5		ug/L		86	61 - 148
1,1,2-Trichloroethane	25.0	27.0		ug/L		108	76 - 122
1,1-Dichloroethane	25.0	24.4		ug/L		98	77 - 120
1,1-Dichloroethene	25.0	22.4		ug/L		90	66 - 127
1,2,4-Trichlorobenzene	25.0	27.3		ug/L		109	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.2		ug/L		101	56 - 134
1,2-Dibromoethane	25.0	27.0		ug/L		108	77 - 120
1,2-Dichlorobenzene	25.0	27.6		ug/L		110	80 - 124
1,2-Dichloroethane	25.0	25.8		ug/L		103	75 - 120
1,2-Dichloropropane	25.0	26.3		ug/L		105	76 - 120
1,3-Dichlorobenzene	25.0	27.8		ug/L		111	77 - 120
1,4-Dichlorobenzene	25.0	27.4		ug/L		110	80 - 120
2-Butanone (MEK)	125	145		ug/L		116	57 - 140

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-574807/5
Matrix: Water
Analysis Batch: 574807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Hexanone	125	156		ug/L		125	65 - 127
4-Methyl-2-pentanone (MIBK)	125	132		ug/L		106	71 - 125
Acetone	125	142		ug/L		114	56 - 142
Benzene	25.0	24.2		ug/L		97	71 - 124
Bromodichloromethane	25.0	25.1		ug/L		100	80 - 122
Bromoform	25.0	26.2		ug/L		105	61 - 132
Bromomethane	25.0	21.3		ug/L		85	55 - 144
Carbon disulfide	25.0	21.9		ug/L		87	59 - 134
Carbon tetrachloride	25.0	25.0		ug/L		100	72 - 134
Chlorobenzene	25.0	26.4		ug/L		105	80 - 120
Chloroethane	25.0	20.9		ug/L		84	69 - 136
Chloroform	25.0	24.7		ug/L		99	73 - 127
Chloromethane	25.0	25.2		ug/L		101	68 - 124
cis-1,2-Dichloroethene	25.0	24.3		ug/L		97	74 - 124
cis-1,3-Dichloropropene	25.0	25.2		ug/L		101	74 - 124
Cyclohexane	25.0	22.3		ug/L		89	59 - 135
Dibromochloromethane	25.0	27.1		ug/L		108	75 - 125
Dichlorodifluoromethane	25.0	21.7		ug/L		87	59 - 135
Ethylbenzene	25.0	25.7		ug/L		103	77 - 123
Isopropylbenzene	25.0	27.0		ug/L		108	77 - 122
Methyl acetate	50.0	50.7		ug/L		101	74 - 133
Methyl tert-butyl ether	25.0	24.6		ug/L		99	77 - 120
Methylcyclohexane	25.0	22.3		ug/L		89	68 - 134
Methylene Chloride	25.0	23.0		ug/L		92	75 - 124
Styrene	25.0	26.4		ug/L		105	80 - 120
Tetrachloroethene	25.0	26.4		ug/L		105	74 - 122
Toluene	25.0	26.3		ug/L		105	80 - 122
trans-1,2-Dichloroethene	25.0	24.8		ug/L		99	73 - 127
trans-1,3-Dichloropropene	25.0	26.9		ug/L		108	80 - 120
Trichloroethene	25.0	24.8		ug/L		99	74 - 123
Trichlorofluoromethane	25.0	21.7		ug/L		87	62 - 150
Vinyl chloride	25.0	24.1		ug/L		96	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*77 - 120*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*104*		*80 - 120*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-574828/1-A
Matrix: Water
Analysis Batch: 575038

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 574828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.015	0.0056	mg/L		04/02/21 09:25	04/02/21 14:42	1
Barium, Dissolved	ND		0.0020	0.00070	mg/L		04/02/21 09:25	04/02/21 14:42	1
Cadmium, Dissolved	ND		0.0020	0.00050	mg/L		04/02/21 09:25	04/02/21 14:42	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-574828/1-A
Matrix: Water
Analysis Batch: 575038

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 574828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, Dissolved	ND		0.0040	0.0010	mg/L		04/02/21 09:25	04/02/21 14:42	1
Lead, Dissolved	ND		0.010	0.0030	mg/L		04/02/21 09:25	04/02/21 14:42	1
Selenium, Dissolved	ND		0.025	0.0087	mg/L		04/02/21 09:25	04/02/21 14:42	1
Silver, Dissolved	ND		0.0060	0.0017	mg/L		04/02/21 09:25	04/02/21 14:42	1

Lab Sample ID: LCS 480-574828/2-A
Matrix: Water
Analysis Batch: 575038

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 574828

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic, Dissolved	0.200	0.210		mg/L		105	80 - 120
Barium, Dissolved	0.200	0.218		mg/L		109	80 - 120
Cadmium, Dissolved	0.200	0.205		mg/L		103	80 - 120
Chromium, Dissolved	0.200	0.206		mg/L		103	80 - 120
Lead, Dissolved	0.200	0.199		mg/L		99	80 - 120
Selenium, Dissolved	0.200	0.204		mg/L		102	80 - 120
Silver, Dissolved	0.0500	0.0515		mg/L		103	80 - 120

Lab Sample ID: LCSD 480-574828/3-A
Matrix: Water
Analysis Batch: 575038

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 574828

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic, Dissolved	0.200	0.209		mg/L		105	80 - 120	1	20
Barium, Dissolved	0.200	0.216		mg/L		108	80 - 120	1	20
Cadmium, Dissolved	0.200	0.203		mg/L		101	80 - 120	1	20
Chromium, Dissolved	0.200	0.205		mg/L		103	80 - 120	0	20
Lead, Dissolved	0.200	0.197		mg/L		99	80 - 120	1	20
Selenium, Dissolved	0.200	0.201		mg/L		101	80 - 120	2	20
Silver, Dissolved	0.0500	0.0502		mg/L		100	80 - 120	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-575083/1-A
Matrix: Water
Analysis Batch: 575119

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575083

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	0.00012	mg/L		04/05/21 13:56	04/05/21 19:00	1

Lab Sample ID: LCS 480-575083/2-A
Matrix: Water
Analysis Batch: 575119

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 575083

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury, Dissolved	0.00667	0.00720		mg/L		108	80 - 120

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-574634/3
Matrix: Water
Analysis Batch: 574634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/31/21 17:00	1

Lab Sample ID: LCS 480-574634/4
Matrix: Water
Analysis Batch: 574634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			0.0500	0.0424		mg/L		85	85 - 115		

Lab Sample ID: 480-182677-2 MS
Matrix: Water
Analysis Batch: 574634

Client Sample ID: MW-26R-033121
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		0.0500	0.0461		mg/L		92	85 - 115		

Lab Sample ID: 480-182677-1 DU
Matrix: Water
Analysis Batch: 574634

Client Sample ID: MW-32I-033121
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chromium, hexavalent	ND			ND		mg/L				NC	20

GC/MS VOA

Analysis Batch: 574664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1	MW-32I-033121	Total/NA	Water	8260C	
480-182677-2	MW-26R-033121	Total/NA	Water	8260C	
MB 480-574664/7	Method Blank	Total/NA	Water	8260C	
LCS 480-574664/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 574807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-3	TB-2-033121	Total/NA	Water	8260C	
MB 480-574807/7	Method Blank	Total/NA	Water	8260C	
LCS 480-574807/5	Lab Control Sample	Total/NA	Water	8260C	

Metals

Prep Batch: 574828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1	MW-32I-033121	Dissolved	Water	3005A	
480-182677-2	MW-26R-033121	Dissolved	Water	3005A	
MB 480-574828/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 480-574828/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 480-574828/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Analysis Batch: 575038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1	MW-32I-033121	Dissolved	Water	6010C	574828
480-182677-2	MW-26R-033121	Dissolved	Water	6010C	574828
MB 480-574828/1-A	Method Blank	Total Recoverable	Water	6010C	574828
LCS 480-574828/2-A	Lab Control Sample	Total Recoverable	Water	6010C	574828
LCSD 480-574828/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	574828

Prep Batch: 575083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1	MW-32I-033121	Dissolved	Water	7470A	
480-182677-2	MW-26R-033121	Dissolved	Water	7470A	
MB 480-575083/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-575083/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 575119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1	MW-32I-033121	Dissolved	Water	7470A	575083
480-182677-2	MW-26R-033121	Dissolved	Water	7470A	575083
MB 480-575083/1-A	Method Blank	Total/NA	Water	7470A	575083
LCS 480-575083/2-A	Lab Control Sample	Total/NA	Water	7470A	575083

General Chemistry

Analysis Batch: 574634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1	MW-32I-033121	Total/NA	Water	7196A	
480-182677-2	MW-26R-033121	Total/NA	Water	7196A	
MB 480-574634/3	Method Blank	Total/NA	Water	7196A	
LCS 480-574634/4	Lab Control Sample	Total/NA	Water	7196A	
480-182677-2 MS	MW-26R-033121	Total/NA	Water	7196A	

General Chemistry (Continued)

Analysis Batch: 574634 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-182677-1 DU	MW-32I-033121	Total/NA	Water	7196A	

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Client Sample ID: MW-32I-033121

Lab Sample ID: 480-182677-1

Date Collected: 03/31/21 09:20

Matrix: Water

Date Received: 03/31/21 10:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	574664	04/01/21 17:40	CRL	TAL BUF
Dissolved	Prep	3005A			574828	04/02/21 09:25	KMP	TAL BUF
Dissolved	Analysis	6010C		1	575038	04/02/21 15:59	LMH	TAL BUF
Dissolved	Prep	7470A			575083	04/05/21 13:56	BMB	TAL BUF
Dissolved	Analysis	7470A		1	575119	04/05/21 19:30	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574634	03/31/21 17:00	KEB	TAL BUF

Client Sample ID: MW-26R-033121

Lab Sample ID: 480-182677-2

Date Collected: 03/31/21 10:00

Matrix: Water

Date Received: 03/31/21 10:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	574664	04/01/21 18:03	CRL	TAL BUF
Dissolved	Prep	3005A			574828	04/02/21 09:25	KMP	TAL BUF
Dissolved	Analysis	6010C		1	575038	04/02/21 16:15	LMH	TAL BUF
Dissolved	Prep	7470A			575083	04/05/21 13:56	BMB	TAL BUF
Dissolved	Analysis	7470A		1	575119	04/05/21 19:32	BMB	TAL BUF
Total/NA	Analysis	7196A		1	574634	03/31/21 17:00	KEB	TAL BUF

Client Sample ID: TB-2-033121

Lab Sample ID: 480-182677-3

Date Collected: 03/31/21 00:00

Matrix: Water

Date Received: 03/31/21 10:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	574807	04/02/21 15:45	OMI	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-182677-1
Project/Site: Vanadium

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-22

Method Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-182677-1	MW-32I-033121	Water	03/31/21 09:20	03/31/21 10:55	
480-182677-2	MW-26R-033121	Water	03/31/21 10:00	03/31/21 10:55	
480-182677-3	TB-2-033121	Water	03/31/21 00:00	03/31/21 10:55	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

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Client Information	Sampler: ECL, MAZ	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-158754-34903.1
Client Contact: Ms. Deborah Wright	Phone:	E-Mail: John.Schove@Eurofinset.com	State of Origin: NY	Page: Page 1 of 2
Company: O'Brien & Gere Inc of North America	PWSID:			Job #:
Address: PO BOX 4873	Due Date Requested:			
City: Syracuse	TAT Requested (days):			
State, Zip: NY, 13221	Compliance Project: Δ Yes Δ No			
Phone: 315-437-6100(Tel)	PO #: Purchase Order Requested			
Email: deborah.wright@ramboll.com	WO #:			
Project Name: Niagara Falls, NY - National Grid	Project #: 48023595			
Site: Vanadium	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	8260C - TCL VOCs	7196A - Chromium, Hexavalent	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	A	N		
MW-32I-033021	3/31/21	0920	G	Water	X		X	X	X	5	only metals Field Filtered
MW-26R-033021	3/31/21	1000	G	Water	X		X	X	X	5	only metals Field Filtered
TB-2-033121	3/31/21	—	G	Water				X		2	
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

480-182677 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Matthew Zaleski	3/31/21 1055	Ramboll			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				3/31/21 1055	JDRB

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 11.4 #1 NO ICE

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-182677-1

Login Number: 182677

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Sabuda, Brendan D

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	11.4 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

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ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-186211-1
Client Project/Site: Vanadium Site - National Grid

For:
O'Brien & Gere Inc of North America
PO BOX 4873
Syracuse, New York 13221

Attn: Ms. Deborah Wright

Authorized for release by:
6/30/2021 6:11:45 PM
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

John Schove, Project Manager II
(716)504-9838
John.Schove@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-186211-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-186211-1

Comments
No additional comments.

Receipt
The samples were received on 6/17/2021 12:24 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.7º C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-586361 recovered above the upper control limit for Carbon tetrachloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: TB-061721 (480-186211-5).

Method 8260C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 480-586547 recovered outside control limits for the following analytes: Methyl tert-butyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The associated sample is: MW-18R-061721 (480-186211-1)

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-586547 recovered above the upper control limit for Chloromethane and Methyl tert-butyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: MW-18R-061721 (480-186211-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010C: The following sample was diluted due to the presence of Total Silicon which interferes with Lead: MW-32I-061721 (480-186211-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Client Sample ID: MW-18R-061721 — Lab Sample ID: 480-186211-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	2.6	J	10	1.3	ug/L	1		8260C	Total/NA
Acetone	7.1	J	10	3.0	ug/L	1		8260C	Total/NA
Barium	0.034		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00072	J	0.0020	0.00050	mg/L	1		6010C	Total/NA
Chromium	0.0037	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: MW-24RI-061721 — Lab Sample ID: 480-186211-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.014	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.047		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00053	J	0.0020	0.00050	mg/L	1		6010C	Total/NA
Chromium	0.0048		0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.023		0.010	0.0030	mg/L	1		6010C	Total/NA
Chromium, hexavalent	0.0060	J	0.010	0.0050	mg/L	1		7196A	Total/NA

Client Sample ID: MW-32I-061721 — Lab Sample ID: 480-186211-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.023		0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.58		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.0030		0.0020	0.00050	mg/L	1		6010C	Total/NA
Chromium	0.19		0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.30		0.020	0.0060	mg/L	2		6010C	Total/NA

Client Sample ID: MW-24R-061721 — Lab Sample ID: 480-186211-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.9	J	4.7	1.0	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	7.2		4.7	0.83	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.92	J	1.9	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.47	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		1.9	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.36	J	1.9	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.6		1.9	0.39	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1	J	1.9	0.44	ng/L	1		537 (modified)	Total/NA
Arsenic	0.010	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Barium	0.0049		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0014	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: TB-061721 — Lab Sample ID: 480-186211-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Client Sample ID: MW-18R-061721
Date Collected: 06/17/21 08:35
Date Received: 06/17/21 12:24

Lab Sample ID: 480-186211-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/23/21 12:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/23/21 12:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/23/21 12:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/23/21 12:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/23/21 12:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/23/21 12:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/23/21 12:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/23/21 12:18	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/23/21 12:18	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/23/21 12:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/23/21 12:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/23/21 12:18	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/23/21 12:18	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/23/21 12:18	1
2-Butanone (MEK)	**2.6**	**J**	10	1.3	ug/L			06/23/21 12:18	1
2-Hexanone	ND		5.0	1.2	ug/L			06/23/21 12:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/23/21 12:18	1
Acetone	**7.1**	**J**	10	3.0	ug/L			06/23/21 12:18	1
Benzene	ND		1.0	0.41	ug/L			06/23/21 12:18	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/23/21 12:18	1
Bromoform	ND		1.0	0.26	ug/L			06/23/21 12:18	1
Bromomethane	ND		1.0	0.69	ug/L			06/23/21 12:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/23/21 12:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/23/21 12:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/23/21 12:18	1
Chloroethane	ND		1.0	0.32	ug/L			06/23/21 12:18	1
Chloroform	ND		1.0	0.34	ug/L			06/23/21 12:18	1
Chloromethane	ND		1.0	0.35	ug/L			06/23/21 12:18	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/23/21 12:18	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/23/21 12:18	1
Cyclohexane	ND		1.0	0.18	ug/L			06/23/21 12:18	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/23/21 12:18	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/23/21 12:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/23/21 12:18	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/23/21 12:18	1
Methyl acetate	ND		2.5	1.3	ug/L			06/23/21 12:18	1
Methyl tert-butyl ether	ND	*+	1.0	0.16	ug/L			06/23/21 12:18	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/23/21 12:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/23/21 12:18	1
Styrene	ND		1.0	0.73	ug/L			06/23/21 12:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/23/21 12:18	1
Toluene	ND		1.0	0.51	ug/L			06/23/21 12:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/23/21 12:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/23/21 12:18	1
Trichloroethene	ND		1.0	0.46	ug/L			06/23/21 12:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/23/21 12:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/23/21 12:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/23/21 12:18	1

Client Sample ID: MW-18R-061721

Lab Sample ID: 480-186211-1

Date Collected: 06/17/21 08:35

Matrix: Water

Date Received: 06/17/21 12:24

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*06/23/21 12:18*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*06/23/21 12:18*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*06/23/21 12:18*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/23/21 12:18*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 12:18	06/22/21 14:16	1
Barium	**0.034**		0.0020	0.00070	mg/L		06/18/21 12:18	06/22/21 14:16	1
Cadmium	**0.00072**	**J**	0.0020	0.00050	mg/L		06/18/21 12:18	06/22/21 14:16	1
Chromium	**0.0037**	**J**	0.0040	0.0010	mg/L		06/18/21 12:18	06/22/21 14:16	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 12:18	06/22/21 14:16	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 12:18	06/22/21 14:16	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 12:18	06/22/21 14:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/22/21 12:49	06/22/21 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/17/21 18:51	1

Client Sample ID: MW-24RI-061721

Lab Sample ID: 480-186211-2

Date Collected: 06/17/21 10:10

Matrix: Water

Date Received: 06/17/21 12:24

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.014**	**J**	0.015	0.0056	mg/L		06/18/21 12:18	06/22/21 14:20	1
Barium	**0.047**		0.0020	0.00070	mg/L		06/18/21 12:18	06/22/21 14:20	1
Cadmium	**0.00053**	**J**	0.0020	0.00050	mg/L		06/18/21 12:18	06/22/21 14:20	1
Chromium	**0.0048**		0.0040	0.0010	mg/L		06/18/21 12:18	06/22/21 14:20	1
Lead	**0.023**		0.010	0.0030	mg/L		06/18/21 12:18	06/22/21 14:20	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 12:18	06/22/21 14:20	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 12:18	06/22/21 14:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/22/21 12:49	06/22/21 17:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.0060**	**J**	0.010	0.0050	mg/L			06/17/21 18:51	1

Client Sample ID: MW-32I-061721

Lab Sample ID: 480-186211-3

Date Collected: 06/17/21 11:20

Matrix: Water

Date Received: 06/17/21 12:24

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.023**		0.015	0.0056	mg/L		06/18/21 12:18	06/22/21 14:49	1

Client Sample ID: MW-32I-061721

Lab Sample ID: 480-186211-3

Date Collected: 06/17/21 11:20
Matrix: Water
Date Received: 06/17/21 12:24

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**0.58**		0.0020	0.00070	mg/L		06/18/21 12:18	06/22/21 14:49	1
Cadmium	**0.0030**		0.0020	0.00050	mg/L		06/18/21 12:18	06/22/21 14:49	1
Chromium	**0.19**		0.0040	0.0010	mg/L		06/18/21 12:18	06/22/21 14:49	1
Lead	**0.30**		0.020	0.0060	mg/L		06/18/21 12:18	06/23/21 12:40	2
Selenium	ND		0.025	0.0087	mg/L		06/18/21 12:18	06/22/21 14:49	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 12:18	06/22/21 14:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/22/21 12:49	06/22/21 17:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/17/21 18:51	1

Client Sample ID: MW-24R-061721

Lab Sample ID: 480-186211-4

Date Collected: 06/17/21 11:30
Matrix: Water
Date Received: 06/17/21 12:24

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/18/21 14:31	06/21/21 15:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*23*		*15 - 110*	*06/18/21 14:31*	*06/21/21 15:28*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.9	0.36	ng/L		06/25/21 12:40	06/28/21 18:08	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	**1.9**	**J**	4.7	1.0	ng/L		06/25/21 12:40	06/28/21 18:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.7	0.69	ng/L		06/25/21 12:40	06/28/21 18:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.7	0.84	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**	**J**	1.9	0.23	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorobutanoic acid (PFBA)	**7.2**		4.7	0.83	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.28	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.28	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.36	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.22	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluoroheptanoic acid (PFHpA)	**0.92**	**J**	1.9	0.22	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorohexanesulfonic acid (PFHxS)	**0.47**	**J**	1.9	0.28	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorohexanoic acid (PFHxA)	**2.1**		1.9	0.42	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.9	0.54	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorooctanesulfonic acid (PFOS)	**0.36**	**J**	1.9	0.27	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorooctanoic acid (PFOA)	**2.6**		1.9	0.39	ng/L		06/25/21 12:40	06/28/21 18:08	1

Client Sample ID: MW-24R-061721

Lab Sample ID: 480-186211-4

Date Collected: 06/17/21 11:30

Matrix: Water

Date Received: 06/17/21 12:24

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**1.1**	**J**	1.9	0.44	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.59	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	0.40	ng/L		06/25/21 12:40	06/28/21 18:08	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.32	ng/L		06/25/21 12:40	06/28/21 18:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*97*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C2 PFDoA	*85*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C2 PFHxA	*94*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C2 PFTeDA	*76*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C2 PFUnA	*92*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C3 PFBS	*87*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C4 PFBA	*80*		*25 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C4 PFHpA	*96*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C4 PFOA	*97*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C4 PFOS	*93*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C5 PFNA	*99*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C5 PFPeA	*95*		*25 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
13C8 FOSA	*87*		*25 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
18O2 PFHxS	*84*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
M2-6:2 FTS	*98*		*25 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*
M2-8:2 FTS	*101*		*25 - 150*	*06/25/21 12:40*	*06/28/21 18:08*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.010**	**J**	0.015	0.0056	mg/L		06/18/21 12:18	06/22/21 14:53	1
Barium	**0.0049**		0.0020	0.00070	mg/L		06/18/21 12:18	06/22/21 14:53	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 12:18	06/22/21 14:53	1
Chromium	**0.0014**	**J**	0.0040	0.0010	mg/L		06/18/21 12:18	06/22/21 14:53	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 12:18	06/22/21 14:53	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 12:18	06/22/21 14:53	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 12:18	06/22/21 14:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/22/21 12:49	06/22/21 17:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/17/21 18:51	1

Client Sample ID: TB-061721

Lab Sample ID: 480-186211-5

Date Collected: 06/17/21 00:00

Matrix: Water

Date Received: 06/17/21 12:24

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/22/21 12:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/22/21 12:31	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Client Sample ID: TB-061721
Date Collected: 06/17/21 00:00
Date Received: 06/17/21 12:24

Lab Sample ID: 480-186211-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/22/21 12:31	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/22/21 12:31	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/22/21 12:31	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/22/21 12:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/22/21 12:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/22/21 12:31	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/22/21 12:31	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/22/21 12:31	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/22/21 12:31	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/22/21 12:31	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/22/21 12:31	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/22/21 12:31	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/22/21 12:31	1
2-Hexanone	ND		5.0	1.2	ug/L			06/22/21 12:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/22/21 12:31	1
Acetone	ND		10	3.0	ug/L			06/22/21 12:31	1
Benzene	ND		1.0	0.41	ug/L			06/22/21 12:31	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/22/21 12:31	1
Bromoform	ND		1.0	0.26	ug/L			06/22/21 12:31	1
Bromomethane	ND		1.0	0.69	ug/L			06/22/21 12:31	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/22/21 12:31	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/22/21 12:31	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/22/21 12:31	1
Chloroethane	ND		1.0	0.32	ug/L			06/22/21 12:31	1
Chloroform	ND		1.0	0.34	ug/L			06/22/21 12:31	1
Chloromethane	ND		1.0	0.35	ug/L			06/22/21 12:31	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/22/21 12:31	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/22/21 12:31	1
Cyclohexane	ND		1.0	0.18	ug/L			06/22/21 12:31	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/22/21 12:31	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/22/21 12:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/22/21 12:31	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/22/21 12:31	1
Methyl acetate	ND		2.5	1.3	ug/L			06/22/21 12:31	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/22/21 12:31	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/22/21 12:31	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/22/21 12:31	1
Styrene	ND		1.0	0.73	ug/L			06/22/21 12:31	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/22/21 12:31	1
Toluene	ND		1.0	0.51	ug/L			06/22/21 12:31	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/22/21 12:31	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/22/21 12:31	1
Trichloroethene	ND		1.0	0.46	ug/L			06/22/21 12:31	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/22/21 12:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/22/21 12:31	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/22/21 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*06/22/21 12:31*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*06/22/21 12:31*	*1*

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Client Sample ID: TB-061721
Date Collected: 06/17/21 00:00
Date Received: 06/17/21 12:24

Lab Sample ID: 480-186211-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*06/22/21 12:31*	*1*
Toluene-d8 (Surr)	*91*		*80 - 120*		*06/22/21 12:31*	*1*

Surrogate Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-186211-1	MW-18R-061721	98	96	100	100
480-186211-5	TB-061721	100	102	105	91
LCS 480-586361/5	Lab Control Sample	94	100	100	91
LCS 480-586547/5	Lab Control Sample	97	98	99	99
MB 480-586361/7	Method Blank	103	101	102	90
MB 480-586547/7	Method Blank	97	96	99	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Isotope Dilution Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186211-1
Project/Site: Vanadium Site - National Grid

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DXE (15-110)
480-186211-4	MW-24R-061721	23
480-186211-4 MS	MW-24R-061721	48
480-186211-4 MSD	MW-24R-061721	30
LCS 480-586071/2-A	Lab Control Sample	32
MB 480-586071/1-A	Method Blank	32

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDA (50-150)	PFDoA (50-150)	PFHxA (50-150)	PFTDA (50-150)	PFUnA (50-150)	C3PFBS (50-150)	PFBA (25-150)	C4PFHA (50-150)
480-186211-4	MW-24R-061721	97	85	94	76	92	87	80	96
480-186211-4 MS	MW-24R-061721	98	88	97	80	89	84	80	98
480-186211-4 MSD	MW-24R-061721	107	97	101	89	96	93	83	98
LCS 200-168431/2-A	Lab Control Sample	102	79	106	76	91	93	102	99
MB 200-168431/1-A	Method Blank	101	86	101	79	93	95	105	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOA (50-150)	PFOS (50-150)	PFNA (50-150)	PFPeA (25-150)	PFOSA (25-150)	PFHxS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)
480-186211-4	MW-24R-061721	97	93	99	95	87	84	87	90
480-186211-4 MS	MW-24R-061721	99	94	99	94	91	92	79	95
480-186211-4 MSD	MW-24R-061721	100	100	103	94	93	94	96	96
LCS 200-168431/2-A	Lab Control Sample	95	91	98	104	74	90	83	85
MB 200-168431/1-A	Method Blank	95	94	99	104	82	89	85	91

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
480-186211-4	MW-24R-061721	98	101
480-186211-4 MS	MW-24R-061721	94	107
480-186211-4 MSD	MW-24R-061721	101	116
LCS 200-168431/2-A	Lab Control Sample	92	105
MB 200-168431/1-A	Method Blank	90	104

Surrogate Legend

PFDA = 13C2 PFDA
PFDoA = 13C2 PFDoA
PFHxA = 13C2 PFHxA
PFTDA = 13C2 PFTeDA
PFUnA = 13C2 PFUnA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFOS = 13C4 PFOS
PFNA = 13C5 PFNA
PFPeA = 13C5 PFPeA

Isotope Dilution Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186211-1
Project/Site: Vanadium Site - National Grid

PFOSA = 13C8 FOSA
PFHxS = 18O2 PFHxS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-586361/7
Matrix: Water
Analysis Batch: 586361

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/22/21 11:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/22/21 11:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/22/21 11:31	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/22/21 11:31	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/22/21 11:31	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/22/21 11:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/22/21 11:31	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/22/21 11:31	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/22/21 11:31	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/22/21 11:31	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/22/21 11:31	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/22/21 11:31	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/22/21 11:31	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/22/21 11:31	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/22/21 11:31	1
2-Hexanone	ND		5.0	1.2	ug/L			06/22/21 11:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/22/21 11:31	1
Acetone	ND		10	3.0	ug/L			06/22/21 11:31	1
Benzene	ND		1.0	0.41	ug/L			06/22/21 11:31	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/22/21 11:31	1
Bromoform	ND		1.0	0.26	ug/L			06/22/21 11:31	1
Bromomethane	ND		1.0	0.69	ug/L			06/22/21 11:31	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/22/21 11:31	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/22/21 11:31	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/22/21 11:31	1
Chloroethane	ND		1.0	0.32	ug/L			06/22/21 11:31	1
Chloroform	ND		1.0	0.34	ug/L			06/22/21 11:31	1
Chloromethane	ND		1.0	0.35	ug/L			06/22/21 11:31	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/22/21 11:31	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/22/21 11:31	1
Cyclohexane	ND		1.0	0.18	ug/L			06/22/21 11:31	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/22/21 11:31	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/22/21 11:31	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/22/21 11:31	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/22/21 11:31	1
Methyl acetate	ND		2.5	1.3	ug/L			06/22/21 11:31	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/22/21 11:31	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/22/21 11:31	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/22/21 11:31	1
Styrene	ND		1.0	0.73	ug/L			06/22/21 11:31	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/22/21 11:31	1
Toluene	ND		1.0	0.51	ug/L			06/22/21 11:31	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/22/21 11:31	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/22/21 11:31	1
Trichloroethene	ND		1.0	0.46	ug/L			06/22/21 11:31	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/22/21 11:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/22/21 11:31	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/22/21 11:31	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-586361/7
Matrix: Water
Analysis Batch: 586361

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		06/22/21 11:31	1
4-Bromofluorobenzene (Surr)	101		73 - 120		06/22/21 11:31	1
Dibromofluoromethane (Surr)	102		75 - 123		06/22/21 11:31	1
Toluene-d8 (Surr)	90		80 - 120		06/22/21 11:31	1

Lab Sample ID: LCS 480-586361/5
Matrix: Water
Analysis Batch: 586361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	28.4		ug/L		114	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.3		ug/L		97	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.7		ug/L		111	61 - 148
1,1,2-Trichloroethane	25.0	23.8		ug/L		95	76 - 122
1,1-Dichloroethane	25.0	26.4		ug/L		105	77 - 120
1,1-Dichloroethene	25.0	26.8		ug/L		107	66 - 127
1,2,4-Trichlorobenzene	25.0	25.2		ug/L		101	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	22.8		ug/L		91	56 - 134
1,2-Dibromoethane	25.0	23.8		ug/L		95	77 - 120
1,2-Dichlorobenzene	25.0	23.9		ug/L		95	80 - 124
1,2-Dichloroethane	25.0	25.2		ug/L		101	75 - 120
1,2-Dichloropropane	25.0	25.7		ug/L		103	76 - 120
1,3-Dichlorobenzene	25.0	24.0		ug/L		96	77 - 120
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	80 - 120
2-Butanone (MEK)	125	133		ug/L		106	57 - 140
2-Hexanone	125	113		ug/L		91	65 - 127
4-Methyl-2-pentanone (MIBK)	125	119		ug/L		95	71 - 125
Acetone	125	159		ug/L		127	56 - 142
Benzene	25.0	26.8		ug/L		107	71 - 124
Bromodichloromethane	25.0	25.7		ug/L		103	80 - 122
Bromoform	25.0	25.9		ug/L		104	61 - 132
Bromomethane	25.0	26.7		ug/L		107	55 - 144
Carbon disulfide	25.0	27.5		ug/L		110	59 - 134
Carbon tetrachloride	25.0	29.3		ug/L		117	72 - 134
Chlorobenzene	25.0	24.0		ug/L		96	80 - 120
Chloroethane	25.0	24.8		ug/L		99	69 - 136
Chloroform	25.0	25.4		ug/L		102	73 - 127
Chloromethane	25.0	23.8		ug/L		95	68 - 124
cis-1,2-Dichloroethene	25.0	27.3		ug/L		109	74 - 124
cis-1,3-Dichloropropene	25.0	27.7		ug/L		111	74 - 124
Cyclohexane	25.0	26.8		ug/L		107	59 - 135
Dibromochloromethane	25.0	24.5		ug/L		98	75 - 125
Dichlorodifluoromethane	25.0	24.2		ug/L		97	59 - 135
Ethylbenzene	25.0	24.5		ug/L		98	77 - 123
Isopropylbenzene	25.0	25.8		ug/L		103	77 - 122
Methyl acetate	50.0	51.2		ug/L		102	74 - 133
Methyl tert-butyl ether	25.0	27.1		ug/L		108	77 - 120
Methylcyclohexane	25.0	28.0		ug/L		112	68 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-586361/5
Matrix: Water
Analysis Batch: 586361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	25.0	26.7		ug/L		107	75 - 124
Styrene	25.0	24.1		ug/L		96	80 - 120
Tetrachloroethene	25.0	26.3		ug/L		105	74 - 122
Toluene	25.0	24.1		ug/L		96	80 - 122
trans-1,2-Dichloroethene	25.0	26.1		ug/L		105	73 - 127
trans-1,3-Dichloropropene	25.0	26.3		ug/L		105	80 - 120
Trichloroethene	25.0	27.4		ug/L		109	74 - 123
Trichlorofluoromethane	25.0	27.4		ug/L		110	62 - 150
Vinyl chloride	25.0	26.4		ug/L		105	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*
Dibromofluoromethane (Surr)	*100*		*75 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 480-586547/7
Matrix: Water
Analysis Batch: 586547

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/23/21 11:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/23/21 11:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/23/21 11:12	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/23/21 11:12	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/23/21 11:12	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/23/21 11:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/23/21 11:12	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/23/21 11:12	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/23/21 11:12	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/23/21 11:12	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/23/21 11:12	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/23/21 11:12	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/23/21 11:12	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/23/21 11:12	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/23/21 11:12	1
2-Hexanone	ND		5.0	1.2	ug/L			06/23/21 11:12	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/23/21 11:12	1
Acetone	ND		10	3.0	ug/L			06/23/21 11:12	1
Benzene	ND		1.0	0.41	ug/L			06/23/21 11:12	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/23/21 11:12	1
Bromoform	ND		1.0	0.26	ug/L			06/23/21 11:12	1
Bromomethane	ND		1.0	0.69	ug/L			06/23/21 11:12	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/23/21 11:12	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/23/21 11:12	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/23/21 11:12	1
Chloroethane	ND		1.0	0.32	ug/L			06/23/21 11:12	1
Chloroform	ND		1.0	0.34	ug/L			06/23/21 11:12	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-586547/7
Matrix: Water
Analysis Batch: 586547

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.35	ug/L			06/23/21 11:12	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/23/21 11:12	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/23/21 11:12	1
Cyclohexane	ND		1.0	0.18	ug/L			06/23/21 11:12	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/23/21 11:12	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/23/21 11:12	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/23/21 11:12	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/23/21 11:12	1
Methyl acetate	ND		2.5	1.3	ug/L			06/23/21 11:12	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/23/21 11:12	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/23/21 11:12	1
Methylene Chloride	0.499	J	1.0	0.44	ug/L			06/23/21 11:12	1
Styrene	ND		1.0	0.73	ug/L			06/23/21 11:12	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/23/21 11:12	1
Toluene	ND		1.0	0.51	ug/L			06/23/21 11:12	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/23/21 11:12	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/23/21 11:12	1
Trichloroethene	ND		1.0	0.46	ug/L			06/23/21 11:12	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/23/21 11:12	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/23/21 11:12	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/23/21 11:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*06/23/21 11:12*	*1*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*		*06/23/21 11:12*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*06/23/21 11:12*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*06/23/21 11:12*	*1*

Lab Sample ID: LCS 480-586547/5
Matrix: Water
Analysis Batch: 586547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	29.0		ug/L		116	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.2		ug/L		97	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.6		ug/L		94	61 - 148
1,1,2-Trichloroethane	25.0	24.6		ug/L		98	76 - 122
1,1-Dichloroethane	25.0	25.8		ug/L		103	77 - 120
1,1-Dichloroethene	25.0	25.5		ug/L		102	66 - 127
1,2,4-Trichlorobenzene	25.0	23.6		ug/L		95	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	21.8		ug/L		87	56 - 134
1,2-Dibromoethane	25.0	24.3		ug/L		97	77 - 120
1,2-Dichlorobenzene	25.0	24.6		ug/L		98	80 - 124
1,2-Dichloroethane	25.0	22.8		ug/L		91	75 - 120
1,2-Dichloropropane	25.0	25.6		ug/L		102	76 - 120
1,3-Dichlorobenzene	25.0	24.5		ug/L		98	77 - 120
1,4-Dichlorobenzene	25.0	24.5		ug/L		98	80 - 120
2-Butanone (MEK)	125	122		ug/L		97	57 - 140

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-586547/5
Matrix: Water
Analysis Batch: 586547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Hexanone	125	119		ug/L		95	65 - 127
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	71 - 125
Acetone	125	131		ug/L		104	56 - 142
Benzene	25.0	25.3		ug/L		101	71 - 124
Bromodichloromethane	25.0	24.4		ug/L		98	80 - 122
Bromoform	25.0	24.0		ug/L		96	61 - 132
Bromomethane	25.0	24.3		ug/L		97	55 - 144
Carbon disulfide	25.0	28.6		ug/L		114	59 - 134
Carbon tetrachloride	25.0	25.2		ug/L		101	72 - 134
Chlorobenzene	25.0	24.1		ug/L		96	80 - 120
Chloroethane	25.0	27.7		ug/L		111	69 - 136
Chloroform	25.0	24.5		ug/L		98	73 - 127
Chloromethane	25.0	30.8		ug/L		123	68 - 124
cis-1,2-Dichloroethene	25.0	24.7		ug/L		99	74 - 124
cis-1,3-Dichloropropene	25.0	25.0		ug/L		100	74 - 124
Cyclohexane	25.0	30.3		ug/L		121	59 - 135
Dibromochloromethane	25.0	24.4		ug/L		98	75 - 125
Dichlorodifluoromethane	25.0	20.3		ug/L		81	59 - 135
Ethylbenzene	25.0	24.8		ug/L		99	77 - 123
Isopropylbenzene	25.0	24.3		ug/L		97	77 - 122
Methyl acetate	50.0	47.8		ug/L		96	74 - 133
Methyl tert-butyl ether	25.0	33.1	*+	ug/L		132	77 - 120
Methylcyclohexane	25.0	29.0		ug/L		116	68 - 134
Methylene Chloride	25.0	27.0		ug/L		108	75 - 124
Styrene	25.0	24.5		ug/L		98	80 - 120
Tetrachloroethene	25.0	24.7		ug/L		99	74 - 122
Toluene	25.0	24.5		ug/L		98	80 - 122
trans-1,2-Dichloroethene	25.0	28.0		ug/L		112	73 - 127
trans-1,3-Dichloropropene	25.0	24.5		ug/L		98	80 - 120
Trichloroethene	25.0	24.7		ug/L		99	74 - 123
Trichlorofluoromethane	25.0	24.4		ug/L		98	62 - 150
Vinyl chloride	25.0	24.7		ug/L		99	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*
Dibromofluoromethane (Surr)	*99*		*75 - 123*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-586071/1-A
Matrix: Water
Analysis Batch: 586260

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/18/21 14:31	06/21/21 13:24	1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution) (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	32		15 - 110	06/18/21 14:31	06/21/21 13:24	1

Lab Sample ID: LCS 480-586071/2-A
Matrix: Water
Analysis Batch: 586260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586071

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.00	1.08		ug/L		108	40 - 140		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
1,4-Dioxane-d8	32		15 - 110

Lab Sample ID: 480-186211-4 MS
Matrix: Water
Analysis Batch: 586260

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 586071

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	ND		1.25	1.33		ug/L		107	40 - 140		

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
1,4-Dioxane-d8	48		15 - 110

Lab Sample ID: 480-186211-4 MSD
Matrix: Water
Analysis Batch: 586260

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 586071

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND		1.00	1.12		ug/L		112	40 - 140	18	20

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
1,4-Dioxane-d8	30		15 - 110

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-168431/1-A
Matrix: Water
Analysis Batch: 168505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		2.0	0.39	ng/L		06/25/21 12:40	06/28/21 17:02	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		5.0	1.1	ng/L		06/25/21 12:40	06/28/21 17:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	0.74	ng/L		06/25/21 12:40	06/28/21 17:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	0.90	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.25	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorobutanoic acid (PFBA)	ND		5.0	0.89	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.39	ng/L		06/25/21 12:40	06/28/21 17:02	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 200-168431/1-A
Matrix: Water
Analysis Batch: 168505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.23	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.24	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.30	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.45	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.58	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.29	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.42	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.47	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.63	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.43	ng/L		06/25/21 12:40	06/28/21 17:02	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.34	ng/L		06/25/21 12:40	06/28/21 17:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*101*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C2 PFDoA	*86*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C2 PFHxA	*101*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C2 PFTeDA	*79*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C2 PFUnA	*93*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C3 PFBS	*95*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C4 PFBA	*105*		*25 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C4 PFHpA	*93*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C4 PFOA	*95*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C4 PFOS	*94*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C5 PFNA	*99*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C5 PFPeA	*104*		*25 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
13C8 FOSA	*82*		*25 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
18O2 PFHxS	*89*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
d5-NEtFOSAA	*91*		*50 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
M2-6:2 FTS	*90*		*25 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*
M2-8:2 FTS	*104*		*25 - 150*	*06/25/21 12:40*	*06/28/21 17:02*	*1*

Lab Sample ID: LCS 200-168431/2-A
Matrix: Water
Analysis Batch: 168505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	37.2		ng/L		97	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	44.1		ng/L		116	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.8		ng/L		95	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	39.8		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	39.7		ng/L		112	70 - 130
Perfluorobutanoic acid (PFBA)	40.0	44.5		ng/L		111	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 200-168431/2-A
Matrix: Water
Analysis Batch: 168505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorodecanesulfonic acid (PFDS)	38.6	36.9		ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	42.3		ng/L		106	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	43.4		ng/L		109	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.3		ng/L		108	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	44.4		ng/L		111	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	41.4		ng/L		114	70 - 130
Perfluorohexanoic acid (PFHxA)	40.0	42.6		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	40.0	44.9		ng/L		112	70 - 130
Perfluorooctanesulfonamide (PFOSA)	40.0	39.9		ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	40.8		ng/L		110	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	43.7		ng/L		109	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	44.1		ng/L		110	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	42.4		ng/L		106	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	42.6		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	43.0		ng/L		107	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*102*		*50 - 150*
13C2 PFDoA	*79*		*50 - 150*
13C2 PFHxA	*106*		*50 - 150*
13C2 PFTeDA	*76*		*50 - 150*
13C2 PFUnA	*91*		*50 - 150*
13C3 PFBS	*93*		*50 - 150*
13C4 PFBA	*102*		*25 - 150*
13C4 PFHpA	*99*		*50 - 150*
13C4 PFOA	*95*		*50 - 150*
13C4 PFOS	*91*		*50 - 150*
13C5 PFNA	*98*		*50 - 150*
13C5 PFPeA	*104*		*25 - 150*
13C8 FOSA	*74*		*25 - 150*
18O2 PFHxS	*90*		*50 - 150*
d3-NMeFOSAA	*83*		*50 - 150*
d5-NEtFOSAA	*85*		*50 - 150*
M2-6:2 FTS	*92*		*25 - 150*
M2-8:2 FTS	*105*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 480-186211-4 MS
Matrix: Water
Analysis Batch: 168505

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 168431

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		35.9	36.9		ng/L		103	40 - 160
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.9	J	35.5	41.0		ng/L		110	40 - 160
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		37.4	36.7		ng/L		98	40 - 160
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		37.4	42.5		ng/L		113	40 - 160
Perfluorobutanesulfonic acid (PFBS)	1.8	J	33.1	40.5		ng/L		117	40 - 160
Perfluorobutanoic acid (PFBA)	7.2		37.4	45.7		ng/L		103	40 - 160
Perfluorodecanesulfonic acid (PFDS)	ND		36.1	36.6		ng/L		101	40 - 160
Perfluorodecanoic acid (PFDA)	ND		37.4	43.3		ng/L		116	40 - 160
Perfluorododecanoic acid (PFDoA)	ND		37.4	40.8		ng/L		109	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	ND		35.6	37.6		ng/L		105	40 - 160
Perfluoroheptanoic acid (PFHpA)	0.92	J	37.4	42.0		ng/L		110	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.47	J	34.1	38.2		ng/L		111	40 - 160
Perfluorohexanoic acid (PFHxA)	2.1		37.4	42.3		ng/L		107	40 - 160
Perfluorononanoic acid (PFNA)	ND		37.4	42.0		ng/L		112	40 - 160
Perfluorooctanesulfonamide (PFOSA)	ND		37.4	41.1		ng/L		110	40 - 160
Perfluorooctanesulfonic acid (PFOS)	0.36	J	34.7	38.6		ng/L		110	40 - 160
Perfluorooctanoic acid (PFOA)	2.6		37.4	43.7		ng/L		110	40 - 160
Perfluoropentanoic acid (PFPeA)	1.1	J	37.4	42.7		ng/L		111	40 - 160
Perfluorotetradecanoic acid (PFTeA)	ND		37.4	43.7		ng/L		117	40 - 160
Perfluorotridecanoic acid (PFTriA)	ND		37.4	41.8		ng/L		112	40 - 160
Perfluoroundecanoic acid (PFUnA)	ND		37.4	41.2		ng/L		110	40 - 160

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFDA	*98*		*50 - 150*
13C2 PFDoA	*88*		*50 - 150*
13C2 PFHxA	*97*		*50 - 150*
13C2 PFTeDA	*80*		*50 - 150*
13C2 PFUnA	*89*		*50 - 150*
13C3 PFBS	*84*		*50 - 150*
13C4 PFBA	*80*		*25 - 150*
13C4 PFHpA	*98*		*50 - 150*
13C4 PFOA	*99*		*50 - 150*
13C4 PFOS	*94*		*50 - 150*
13C5 PFNA	*99*		*50 - 150*
13C5 PFPeA	*94*		*25 - 150*
13C8 FOSA	*91*		*25 - 150*
18O2 PFHxS	*92*		*50 - 150*
d3-NMeFOSAA	*79*		*50 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 480-186211-4 MS
Matrix: Water
Analysis Batch: 168505

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 168431

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	*95*		*50 - 150*
M2-6:2 FTS	*94*		*25 - 150*
M2-8:2 FTS	*107*		*25 - 150*

Lab Sample ID: 480-186211-4 MSD
Matrix: Water
Analysis Batch: 168505

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 168431

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		35.6	38.2		ng/L		107	40 - 160	3	30
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.9	J	35.2	40.0		ng/L		108	40 - 160	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		37.1	38.9		ng/L		105	40 - 160	6	20
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		37.1	39.1		ng/L		105	40 - 160	8	20
Perfluorobutanesulfonic acid (PFBS)	1.8	J	32.8	39.6		ng/L		115	40 - 160	2	20
Perfluorobutanoic acid (PFBA)	7.2		37.1	45.4		ng/L		103	40 - 160	1	30
Perfluorodecanesulfonic acid (PFDS)	ND		35.8	39.0		ng/L		109	40 - 160	6	30
Perfluorodecanoic acid (PFDA)	ND		37.1	40.3		ng/L		108	40 - 160	7	20
Perfluorododecanoic acid (PFDoA)	ND		37.1	39.8		ng/L		107	40 - 160	3	20
Perfluoroheptanesulfonic Acid (PFHpS)	ND		35.4	37.1		ng/L		105	40 - 160	1	30
Perfluoroheptanoic acid (PFHpA)	0.92	J	37.1	43.8		ng/L		115	40 - 160	4	20
Perfluorohexanesulfonic acid (PFHxS)	0.47	J	33.8	38.4		ng/L		112	40 - 160	1	20
Perfluorohexanoic acid (PFHxA)	2.1		37.1	42.6		ng/L		109	40 - 160	1	20
Perfluorononanoic acid (PFNA)	ND		37.1	40.3		ng/L		108	40 - 160	4	20
Perfluorooctanesulfonamide (PFOSA)	ND		37.1	41.7		ng/L		112	40 - 160	2	30
Perfluorooctanesulfonic acid (PFOS)	0.36	J	34.5	37.2		ng/L		107	40 - 160	4	20
Perfluorooctanoic acid (PFOA)	2.6		37.1	44.0		ng/L		112	40 - 160	1	20
Perfluoropentanoic acid (PFPeA)	1.1	J	37.1	45.9		ng/L		121	40 - 160	7	30
Perfluorotetradecanoic acid (PFTeA)	ND		37.1	42.1		ng/L		113	40 - 160	4	20
Perfluorotridecanoic acid (PFTriA)	ND		37.1	42.3		ng/L		114	40 - 160	1	20
Perfluoroundecanoic acid (PFUnA)	ND		37.1	41.0		ng/L		110	40 - 160	0	20

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2 PFDA	*107*		*50 - 150*
13C2 PFDoA	*97*		*50 - 150*
13C2 PFHxA	*101*		*50 - 150*
13C2 PFTeDA	*89*		*50 - 150*
13C2 PFUnA	*96*		*50 - 150*
13C3 PFBS	*93*		*50 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 480-186211-4 MSD
Matrix: Water
Analysis Batch: 168505

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 168431

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*83*		*25 - 150*
13C4 PFHpA	*98*		*50 - 150*
13C4 PFOA	*100*		*50 - 150*
13C4 PFOS	*100*		*50 - 150*
13C5 PFNA	*103*		*50 - 150*
13C5 PFPeA	*94*		*25 - 150*
13C8 FOSA	*93*		*25 - 150*
18O2 PFHxS	*94*		*50 - 150*
d3-NMeFOSAA	*96*		*50 - 150*
d5-NEtFOSAA	*96*		*50 - 150*
M2-6:2 FTS	*101*		*25 - 150*
M2-8:2 FTS	*116*		*25 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-586047/1-A
Matrix: Water
Analysis Batch: 586616

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 12:18	06/22/21 14:09	1
Barium	ND		0.0020	0.00070	mg/L		06/18/21 12:18	06/22/21 14:09	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 12:18	06/22/21 14:09	1
Chromium	ND		0.0040	0.0010	mg/L		06/18/21 12:18	06/22/21 14:09	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 12:18	06/22/21 14:09	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 12:18	06/22/21 14:09	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 12:18	06/22/21 14:09	1

Lab Sample ID: LCS 480-586047/2-A
Matrix: Water
Analysis Batch: 586616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.206		mg/L		103	80 - 120
Barium	0.200	0.223		mg/L		111	80 - 120
Cadmium	0.200	0.206		mg/L		103	80 - 120
Chromium	0.200	0.196		mg/L		98	80 - 120
Lead	0.200	0.207		mg/L		104	80 - 120
Selenium	0.200	0.199		mg/L		99	80 - 120
Silver	0.0500	0.0486		mg/L		97	80 - 120

Lab Sample ID: 480-186211-2 MS
Matrix: Water
Analysis Batch: 586616

Client Sample ID: MW-24RI-061721
Prep Type: Total/NA
Prep Batch: 586047

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.014	J	0.200	0.221		mg/L		104	75 - 125
Barium	0.047		0.200	0.263		mg/L		108	75 - 125
Cadmium	0.00053	J	0.200	0.207		mg/L		103	75 - 125
Chromium	0.0048		0.200	0.195		mg/L		95	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-186211-2 MS
Matrix: Water
Analysis Batch: 586616

Client Sample ID: MW-24RI-061721
Prep Type: Total/NA
Prep Batch: 586047

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.023		0.200	0.229		mg/L		103	75 - 125
Selenium	ND		0.200	0.201		mg/L		101	75 - 125
Silver	ND		0.0500	0.0479		mg/L		96	75 - 125

Lab Sample ID: 480-186211-2 MSD
Matrix: Water
Analysis Batch: 586616

Client Sample ID: MW-24RI-061721
Prep Type: Total/NA
Prep Batch: 586047

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.014	J	0.200	0.227		mg/L		106	75 - 125	2	20
Barium	0.047		0.200	0.266		mg/L		109	75 - 125	1	20
Cadmium	0.00053	J	0.200	0.211		mg/L		105	75 - 125	2	20
Chromium	0.0048		0.200	0.201		mg/L		98	75 - 125	3	20
Lead	0.023		0.200	0.235		mg/L		106	75 - 125	3	20
Selenium	ND		0.200	0.205		mg/L		103	75 - 125	2	20
Silver	ND		0.0500	0.0488		mg/L		98	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-586326/1-A
Matrix: Water
Analysis Batch: 586504

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586326

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/22/21 12:49	06/22/21 16:42	1

Lab Sample ID: LCS 480-586326/2-A
Matrix: Water
Analysis Batch: 586504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586326

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury			0.00667	0.00675		mg/L		101	80 - 120

Lab Sample ID: 480-186211-4 MS
Matrix: Water
Analysis Batch: 586504

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 586326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00655		mg/L		98	80 - 120

Lab Sample ID: 480-186211-4 MSD
Matrix: Water
Analysis Batch: 586504

Client Sample ID: MW-24R-061721
Prep Type: Total/NA
Prep Batch: 586326

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00653		mg/L		98	80 - 120	0	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-585948/3
Matrix: Water
Analysis Batch: 585948

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/17/21 18:51	1

Lab Sample ID: LCS 480-585948/4
Matrix: Water
Analysis Batch: 585948

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			0.0500	0.0487		mg/L		97	85 - 115		

Lab Sample ID: 480-186211-1 MS
Matrix: Water
Analysis Batch: 585948

Client Sample ID: MW-18R-061721
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	ND		0.0500	0.0512		mg/L		102	85 - 115		

Lab Sample ID: 480-186211-2 DU
Matrix: Water
Analysis Batch: 585948

Client Sample ID: MW-24RI-061721
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chromium, hexavalent	0.0060	J		0.00596	J	mg/L				0	20

GC/MS VOA

Analysis Batch: 586361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-5	TB-061721	Total/NA	Water	8260C	
MB 480-586361/7	Method Blank	Total/NA	Water	8260C	
LCS 480-586361/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 586547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-1	MW-18R-061721	Total/NA	Water	8260C	
MB 480-586547/7	Method Blank	Total/NA	Water	8260C	
LCS 480-586547/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 586071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-4	MW-24R-061721	Total/NA	Water	3510C	
MB 480-586071/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-586071/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-186211-4 MS	MW-24R-061721	Total/NA	Water	3510C	
480-186211-4 MSD	MW-24R-061721	Total/NA	Water	3510C	

Analysis Batch: 586260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-4	MW-24R-061721	Total/NA	Water	8270D SIM ID	586071
MB 480-586071/1-A	Method Blank	Total/NA	Water	8270D SIM ID	586071
LCS 480-586071/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	586071
480-186211-4 MS	MW-24R-061721	Total/NA	Water	8270D SIM ID	586071
480-186211-4 MSD	MW-24R-061721	Total/NA	Water	8270D SIM ID	586071

LCMS

Prep Batch: 168431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-4	MW-24R-061721	Total/NA	Water	3535	
MB 200-168431/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-168431/2-A	Lab Control Sample	Total/NA	Water	3535	
480-186211-4 MS	MW-24R-061721	Total/NA	Water	3535	
480-186211-4 MSD	MW-24R-061721	Total/NA	Water	3535	

Analysis Batch: 168505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-4	MW-24R-061721	Total/NA	Water	537 (modified)	168431
MB 200-168431/1-A	Method Blank	Total/NA	Water	537 (modified)	168431
LCS 200-168431/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	168431
480-186211-4 MS	MW-24R-061721	Total/NA	Water	537 (modified)	168431
480-186211-4 MSD	MW-24R-061721	Total/NA	Water	537 (modified)	168431

Metals

Prep Batch: 586047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-1	MW-18R-061721	Total/NA	Water	3005A	
480-186211-2	MW-24RI-061721	Total/NA	Water	3005A	

Metals (Continued)

Prep Batch: 586047 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-3	MW-32I-061721	Total/NA	Water	3005A	
480-186211-4	MW-24R-061721	Total/NA	Water	3005A	
MB 480-586047/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-586047/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-186211-2 MS	MW-24RI-061721	Total/NA	Water	3005A	
480-186211-2 MSD	MW-24RI-061721	Total/NA	Water	3005A	

Prep Batch: 586326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-1	MW-18R-061721	Total/NA	Water	7470A	
480-186211-2	MW-24RI-061721	Total/NA	Water	7470A	
480-186211-3	MW-32I-061721	Total/NA	Water	7470A	
480-186211-4	MW-24R-061721	Total/NA	Water	7470A	
MB 480-586326/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-586326/2-A	Lab Control Sample	Total/NA	Water	7470A	
480-186211-4 MS	MW-24R-061721	Total/NA	Water	7470A	
480-186211-4 MSD	MW-24R-061721	Total/NA	Water	7470A	

Analysis Batch: 586504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-1	MW-18R-061721	Total/NA	Water	7470A	586326
480-186211-2	MW-24RI-061721	Total/NA	Water	7470A	586326
480-186211-3	MW-32I-061721	Total/NA	Water	7470A	586326
480-186211-4	MW-24R-061721	Total/NA	Water	7470A	586326
MB 480-586326/1-A	Method Blank	Total/NA	Water	7470A	586326
LCS 480-586326/2-A	Lab Control Sample	Total/NA	Water	7470A	586326
480-186211-4 MS	MW-24R-061721	Total/NA	Water	7470A	586326
480-186211-4 MSD	MW-24R-061721	Total/NA	Water	7470A	586326

Analysis Batch: 586616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-1	MW-18R-061721	Total/NA	Water	6010C	586047
480-186211-2	MW-24RI-061721	Total/NA	Water	6010C	586047
480-186211-3	MW-32I-061721	Total/NA	Water	6010C	586047
480-186211-4	MW-24R-061721	Total/NA	Water	6010C	586047
MB 480-586047/1-A	Method Blank	Total/NA	Water	6010C	586047
LCS 480-586047/2-A	Lab Control Sample	Total/NA	Water	6010C	586047
480-186211-2 MS	MW-24RI-061721	Total/NA	Water	6010C	586047
480-186211-2 MSD	MW-24RI-061721	Total/NA	Water	6010C	586047

Analysis Batch: 586760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-3	MW-32I-061721	Total/NA	Water	6010C	586047

General Chemistry

Analysis Batch: 585948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-1	MW-18R-061721	Total/NA	Water	7196A	
480-186211-2	MW-24RI-061721	Total/NA	Water	7196A	
480-186211-3	MW-32I-061721	Total/NA	Water	7196A	

General Chemistry (Continued)

Analysis Batch: 585948 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186211-4	MW-24R-061721	Total/NA	Water	7196A	
MB 480-585948/3	Method Blank	Total/NA	Water	7196A	
LCS 480-585948/4	Lab Control Sample	Total/NA	Water	7196A	
480-186211-1 MS	MW-18R-061721	Total/NA	Water	7196A	
480-186211-2 DU	MW-24RI-061721	Total/NA	Water	7196A	

Client Sample ID: MW-18R-061721

Lab Sample ID: 480-186211-1

Date Collected: 06/17/21 08:35

Matrix: Water

Date Received: 06/17/21 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	586547	06/23/21 12:18	AXK	TAL BUF
Total/NA	Prep	3005A			586047	06/18/21 12:18	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586616	06/22/21 14:16	LMH	TAL BUF
Total/NA	Prep	7470A			586326	06/22/21 12:49	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586504	06/22/21 17:07	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585948	06/17/21 18:51	CSS	TAL BUF

Client Sample ID: MW-24RI-061721

Lab Sample ID: 480-186211-2

Date Collected: 06/17/21 10:10

Matrix: Water

Date Received: 06/17/21 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			586047	06/18/21 12:18	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586616	06/22/21 14:20	LMH	TAL BUF
Total/NA	Prep	7470A			586326	06/22/21 12:49	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586504	06/22/21 17:08	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585948	06/17/21 18:51	CSS	TAL BUF

Client Sample ID: MW-32I-061721

Lab Sample ID: 480-186211-3

Date Collected: 06/17/21 11:20

Matrix: Water

Date Received: 06/17/21 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			586047	06/18/21 12:18	ADM	TAL BUF
Total/NA	Analysis	6010C		2	586760	06/23/21 12:40	LMH	TAL BUF
Total/NA	Prep	3005A			586047	06/18/21 12:18	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586616	06/22/21 14:49	LMH	TAL BUF
Total/NA	Prep	7470A			586326	06/22/21 12:49	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586504	06/22/21 17:09	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585948	06/17/21 18:51	CSS	TAL BUF

Client Sample ID: MW-24R-061721

Lab Sample ID: 480-186211-4

Date Collected: 06/17/21 11:30

Matrix: Water

Date Received: 06/17/21 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			586071	06/18/21 14:31	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	586260	06/21/21 15:28	IMZ	TAL BUF
Total/NA	Prep	3535			168431	06/25/21 12:40	KFW	TAL BUR
Total/NA	Analysis	537 (modified)		1	168505	06/28/21 18:08	BWC	TAL BUR
Total/NA	Prep	3005A			586047	06/18/21 12:18	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586616	06/22/21 14:53	LMH	TAL BUF
Total/NA	Prep	7470A			586326	06/22/21 12:49	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586504	06/22/21 17:13	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585948	06/17/21 18:51	CSS	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Client Sample ID: TB-061721

Date Collected: 06/17/21 00:00
Date Received: 06/17/21 12:24

Lab Sample ID: 480-186211-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	586361	06/22/21 12:31	WJD	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186211-1
Project/Site: Vanadium Site - National Grid

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-22

Laboratory: Eurofins TestAmerica, Burlington

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10391	04-01-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)
537 (modified)	3535	Water	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (PFOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR
5030C	Purge and Trap	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-186211-1	MW-18R-061721	Water	06/17/21 08:35	06/17/21 12:24	
480-186211-2	MW-24RI-061721	Water	06/17/21 10:10	06/17/21 12:24	
480-186211-3	MW-32I-061721	Water	06/17/21 11:20	06/17/21 12:24	
480-186211-4	MW-24R-061721	Water	06/17/21 11:30	06/17/21 12:24	
480-186211-5	TB-061721	Water	06/17/21 00:00	06/17/21 12:24	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: MAZ. ECL	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-161589-35499.3
Client Contact: Ms. Deborah Wright	Phone: 315-263-6009	E-Mail: John.Schove@Eurofinset.com	State of Origin: NY	Page: Page 1 of 1
Company: O'Brien & Gere Inc of North America	PWSID:	**Analysis Requested**		Job #:
Address: PO BOX 4873	**Due Date Requested:**			
City: Syracuse	**TAT Requested (days):**			
State, Zip: NY, 13221	**Compliance Project:** Δ Yes Δ No			
Phone: 315-437-6100(Tel)	PO #: 1951002549			
Email: deborah.wright@ramboll.com	WO #:			
Project Name: Vanadium Site - National Grid	Project #: 48023595			
Site: Vanadium	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

480-186211 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	7196A - Chromium, Hexavalent	8260C - TCL VOCs	PFC_IDA - PFAS, Standard List (21 analytes)	8270D_SIM_MS_ID - 1,4 Dioxane	Special Instructions/Note:
			Preservation Code:		X	X	D	N	A	N	N	
MW-18R-061721	6/17/21	0835	G	Water			X	X	X			
MW-24RI-061721	6/17/21	1010	G	Water			X	X				
MW-32I-061721	6/17/21	1120	G	Water			X	X				
MW-24R-061721	6/17/21	1130	G	Water		X	X	X		X	X	MS/MSD performed only on PFAs and 1,4-Dioxane
TB-061721	6/17/21	—	G	Water					X			
				Water								
				Water								
				Water								
				Water								
				Water								
				Water								

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Matthew Zeller	6/17/21 1224	Ramboll	[signature]	6/17/21 1224	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.7

Ver: 11/01/2020

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-186211 Chain of Custody

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	C No: 0-64598.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@Eurofinset.com	State of Origin: New York
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York	Page: Page 1 of 1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 6/30/2021		Job #: 480-186211-1
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: Vanadium Site - National Grid	Project #: 48023595		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT PFAS, Standard List (21 analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-24R-061721 (480-186211-4)	6/17/21	11:30 Eastern		Water			X	2	
MW-24R-061721 (480-186211-4MS)	6/17/21	11:30 Eastern	MS	Water			X	2	
MW-24R-061721 (480-186211-4MSD)	6/17/21	11:30 Eastern	MSD	Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	6-17-21 1700	TAB	Taylor J Whitehouse	6/18/21 1045	ETMBuf
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

ORIGIN ID:DKKA (716) 691-2600
SAMPLE RECEIPT
EUROFINS TESTAMERICA BUFFALO
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 17JUN21
ACTWGT: 22.40 LB
CAD: 846654/CAFE3409
DIMS: 19x15x10 IN

BILL SENDER

TO SAMPLE MGT.
TA BURLINGTON
530 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1026
REF: TA BURLINGTON

56BC3/B387/05A2

FedEx Express

J201120121801uv

TRK# 0201 1888 3864 3050

FRI - 18 JUN 10:30A
PRIORITY OVERNIGHT

NL BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-186211-1

Login Number: 186211
List Number: 1
Creator: Wallace, Cameron

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	RAMBOLL
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-186211-1

Login Number: 186211
List Number: 2
Creator: McNabb, Robert W

List Source: Eurofins TestAmerica, Burlington
List Creation: 06/18/21 03:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	1513184
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-186156-1
Client Project/Site: Vanadium Site - National Grid

For:
O'Brien & Gere Inc of North America
PO BOX 4873
Syracuse, New York 13221

Attn: Ms. Deborah Wright

Authorized for release by:
7/2/2021 6:03:56 PM
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

John Schove, Project Manager II
(716)504-9838
John.Schove@Eurofinset.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^6+	Interference Check Standard (ICSA and/or ICSAB) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-186156-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-186156-1

Comments
No additional comments.

Receipt
The samples were received on 6/16/2021 4:22 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2º C and 4.1º C.

GC/MS VOA
Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: FD-061621 (480-186156-4), SW-1-061621 (480-186156-5), SW-1-061621 (480-186156-5[MS]), SW-1-061621 (480-186156-5[MSD]) and SW-2-061621 (480-186156-6). Elevated reporting limits (RLs) are provided.

Method 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: MW-26R-061621 (480-186156-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010C: The interference check standard solution (ICSA) associated with the following samples showed results for Barium at a level greater than 2 times the limit of detection (LOD). It is believed that the solution contains trace impurities of this element and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. (LCS 480-587808/2-A), (LCSD 480-587808/25-A) and (MB 480-587808/1-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

LCMS
Method 537 (modified): Method 537 (modified): The “I” qualifier associated with sample FB-061621 (480-186156-7) is applied because the transition mass ratio for the indicated analyte(s) was outside of the established ratio limits. The qualitative identification has some degree of uncertainty, however analyst judgment was used to positively identify the analyte(s).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 7196A: The following sample(s) was received with less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: MW-32I-061621 (480-186156-1), MW-26R-061621 (480-186156-2) and FD-061621 (480-186156-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: MW-32I-061621 — Lab Sample ID: 480-186156-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic, Dissolved	0.0085	J	0.015	0.0056	mg/L	1		6010C	Dissolved
Barium, Dissolved	0.17	^6+	0.0020	0.00070	mg/L	1		6010C	Dissolved
Cadmium, Dissolved	0.00057	J	0.0020	0.00050	mg/L	1		6010C	Dissolved
Chromium, Dissolved	0.027		0.0040	0.0010	mg/L	1		6010C	Dissolved
Lead, Dissolved	0.032		0.010	0.0030	mg/L	1		6010C	Dissolved

Client Sample ID: MW-26R-061621 — Lab Sample ID: 480-186156-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.6	J	2.0	0.68	ug/L	2		8260C	Total/NA
cis-1,2-Dichloroethene	5.7		2.0	1.6	ug/L	2		8260C	Total/NA
Tetrachloroethene	6.3		2.0	0.72	ug/L	2		8260C	Total/NA
Trichloroethene	5.7		2.0	0.92	ug/L	2		8260C	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.8		1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	17		4.2	0.74	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.54	J	1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.47	J	1.7	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.1		1.7	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12		1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.0		1.7	0.38	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	9.5		1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	21		1.7	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	22		1.7	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	10		1.7	0.39	ng/L	1		537 (modified)	Total/NA
Barium	0.073		0.0020	0.00070	mg/L	1		6010C	Total/NA

Client Sample ID: MW-32-061621 — Lab Sample ID: 480-186156-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.097		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0099		0.0040	0.0010	mg/L	1		6010C	Total/NA
Chromium, hexavalent	0.0060	J	0.010	0.0050	mg/L	1		7196A	Total/NA

Client Sample ID: FD-061621 — Lab Sample ID: 480-186156-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.3	J	2.0	0.68	ug/L	2		8260C	Total/NA
cis-1,2-Dichloroethene	4.0		2.0	1.6	ug/L	2		8260C	Total/NA
Tetrachloroethene	4.9		2.0	0.72	ug/L	2		8260C	Total/NA
Trichloroethene	4.4		2.0	0.92	ug/L	2		8260C	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.7		1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	16		4.3	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.68	J	1.7	0.26	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.63	J	1.7	0.20	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.0		1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12		1.7	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	8.8		1.7	0.39	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	10		1.7	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	23		1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	22		1.7	0.37	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	11		1.7	0.41	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: FD-061621 (Continued) — Lab Sample ID: 480-186156-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.074		0.0020	0.00070	mg/L	1		6010C	Total/NA

Client Sample ID: SW-1-061621 — Lab Sample ID: 480-186156-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.038		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0051		0.0040	0.0010	mg/L	1		6010C	Total/NA
Chromium, hexavalent	0.015		0.010	0.0050	mg/L	1		7196A	Total/NA

Client Sample ID: SW-2-061621 — Lab Sample ID: 480-186156-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.019		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0026	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: FB-061621 — Lab Sample ID: 480-186156-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.85	J	4.4	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.37	J I	1.8	0.26	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EB-061621-1 — Lab Sample ID: 480-186156-8

No Detections.

Client Sample ID: EB-061621-2 — Lab Sample ID: 480-186156-9

No Detections.

Client Sample ID: TB-061621 — Lab Sample ID: 480-186156-10

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-32I-061621

Lab Sample ID: 480-186156-1

Date Collected: 06/16/21 09:40
Matrix: Water
Date Received: 06/16/21 16:22

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	**0.0085**	**J**	0.015	0.0056	mg/L		07/02/21 06:47	07/02/21 14:09	1
Barium, Dissolved	**0.17**	**^6+**	0.0020	0.00070	mg/L		07/02/21 06:47	07/02/21 14:09	1
Cadmium, Dissolved	**0.00057**	**J**	0.0020	0.00050	mg/L		07/02/21 06:47	07/02/21 14:09	1
Chromium, Dissolved	**0.027**		0.0040	0.0010	mg/L		07/02/21 06:47	07/02/21 14:09	1
Lead, Dissolved	**0.032**		0.010	0.0030	mg/L		07/02/21 06:47	07/02/21 14:09	1
Selenium, Dissolved	ND		0.025	0.0087	mg/L		07/02/21 06:47	07/02/21 14:09	1
Silver, Dissolved	ND		0.0060	0.0017	mg/L		07/02/21 06:47	07/02/21 14:09	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	0.00012	mg/L		06/24/21 13:41	06/24/21 16:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	0.010	0.0050	mg/L			06/17/21 10:00	1

Client Sample ID: MW-26R-061621

Lab Sample ID: 480-186156-2

Date Collected: 06/16/21 09:45
Matrix: Water
Date Received: 06/16/21 16:22

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			06/21/21 12:34	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			06/21/21 12:34	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			06/21/21 12:34	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			06/21/21 12:34	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			06/21/21 12:34	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			06/21/21 12:34	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			06/21/21 12:34	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			06/21/21 12:34	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			06/21/21 12:34	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			06/21/21 12:34	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/21/21 12:34	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			06/21/21 12:34	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			06/21/21 12:34	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			06/21/21 12:34	2
2-Butanone (MEK)	ND		20	2.6	ug/L			06/21/21 12:34	2
2-Hexanone	ND		10	2.5	ug/L			06/21/21 12:34	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			06/21/21 12:34	2
Acetone	ND		20	6.0	ug/L			06/21/21 12:34	2
Benzene	ND		2.0	0.82	ug/L			06/21/21 12:34	2
Bromodichloromethane	ND		2.0	0.78	ug/L			06/21/21 12:34	2
Bromoform	ND		2.0	0.52	ug/L			06/21/21 12:34	2
Bromomethane	ND		2.0	1.4	ug/L			06/21/21 12:34	2
Carbon disulfide	ND		2.0	0.38	ug/L			06/21/21 12:34	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			06/21/21 12:34	2
Chlorobenzene	ND		2.0	1.5	ug/L			06/21/21 12:34	2
Chloroethane	ND		2.0	0.64	ug/L			06/21/21 12:34	2
Chloroform	**1.6**	**J**	2.0	0.68	ug/L			06/21/21 12:34	2
Chloromethane	ND		2.0	0.70	ug/L			06/21/21 12:34	2

Client Sample ID: MW-26R-061621
Date Collected: 06/16/21 09:45
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**5.7**		2.0	1.6	ug/L			06/21/21 12:34	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			06/21/21 12:34	2
Cyclohexane	ND		2.0	0.36	ug/L			06/21/21 12:34	2
Dibromochloromethane	ND		2.0	0.64	ug/L			06/21/21 12:34	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			06/21/21 12:34	2
Ethylbenzene	ND		2.0	1.5	ug/L			06/21/21 12:34	2
Isopropylbenzene	ND		2.0	1.6	ug/L			06/21/21 12:34	2
Methyl acetate	ND		5.0	2.6	ug/L			06/21/21 12:34	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			06/21/21 12:34	2
Methylcyclohexane	ND		2.0	0.32	ug/L			06/21/21 12:34	2
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/21 12:34	2
Styrene	ND		2.0	1.5	ug/L			06/21/21 12:34	2
Tetrachloroethene	**6.3**		2.0	0.72	ug/L			06/21/21 12:34	2
Toluene	ND		2.0	1.0	ug/L			06/21/21 12:34	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			06/21/21 12:34	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			06/21/21 12:34	2
Trichloroethene	**5.7**		2.0	0.92	ug/L			06/21/21 12:34	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			06/21/21 12:34	2
Vinyl chloride	ND		2.0	1.8	ug/L			06/21/21 12:34	2
Xylenes, Total	ND		4.0	1.3	ug/L			06/21/21 12:34	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*06/21/21 12:34*	*2*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*06/21/21 12:34*	*2*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*06/21/21 12:34*	*2*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/21/21 12:34*	*2*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/18/21 14:31	06/21/21 15:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*26*		*15 - 110*	*06/18/21 14:31*	*06/21/21 15:51*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.32	ng/L		06/21/21 12:45	06/22/21 14:47	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.2	0.91	ng/L		06/21/21 12:45	06/22/21 14:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.2	0.62	ng/L		06/21/21 12:45	06/22/21 14:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.2	0.75	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorobutanesulfonic acid (PFBS)	**3.8**		1.7	0.21	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorobutanoic acid (PFBA)	**17**		4.2	0.74	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.25	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorodecanoic acid (PFDA)	**0.54**	**J**	1.7	0.25	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.47**	**J**	1.7	0.19	ng/L		06/21/21 12:45	06/22/21 14:47	1

Client Sample ID: MW-26R-061621
Date Collected: 06/16/21 09:45
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**6.1**		1.7	0.20	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorohexanesulfonic acid (PFHxS)	**12**		1.7	0.25	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorohexanoic acid (PFHxA)	**9.0**		1.7	0.38	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorononanoic acid (PFNA)	**9.5**		1.7	0.23	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.48	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorooctanesulfonic acid (PFOS)	**21**		1.7	0.24	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorooctanoic acid (PFOA)	**22**		1.7	0.35	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluoropentanoic acid (PFPeA)	**10**		1.7	0.39	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.53	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		06/21/21 12:45	06/22/21 14:47	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.29	ng/L		06/21/21 12:45	06/22/21 14:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*103*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C2 PFDoA	*93*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C2 PFHxA	*97*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C2 PFUnA	*97*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C3 PFBS	*82*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C4 PFBA	*67*		*25 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C4 PFHpA	*100*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C4 PFOA	*103*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C4 PFOS	*90*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C5 PFNA	*103*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C5 PFPeA	*89*		*25 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
13C8 FOSA	*75*		*25 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
18O2 PFHxS	*88*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
d3-NMeFOSAA	*118*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
d5-NEtFOSAA	*111*		*50 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
M2-6:2 FTS	*102*		*25 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*
M2-8:2 FTS	*110*		*25 - 150*	*06/21/21 12:45*	*06/22/21 14:47*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 07:40	06/22/21 14:10	1
Barium	**0.073**		0.0020	0.00070	mg/L		06/18/21 07:40	06/22/21 14:10	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 07:40	06/22/21 14:10	1
Chromium	ND		0.0040	0.0010	mg/L		06/18/21 07:40	06/22/21 14:10	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 07:40	06/22/21 14:10	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 07:40	06/22/21 14:10	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 07:40	06/22/21 14:10	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 18:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	0.010	0.0050	mg/L			06/17/21 10:00	1

Client Sample ID: MW-32-061621

Lab Sample ID: 480-186156-3

Date Collected: 06/16/21 10:50

Matrix: Water

Date Received: 06/16/21 16:22

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 07:40	06/22/21 14:14	1
Barium	**0.097**		0.0020	0.00070	mg/L		06/18/21 07:40	06/22/21 14:14	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 07:40	06/22/21 14:14	1
Chromium	**0.0099**		0.0040	0.0010	mg/L		06/18/21 07:40	06/22/21 14:14	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 07:40	06/22/21 14:14	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 07:40	06/22/21 14:14	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 07:40	06/22/21 14:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 18:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.0060**	**J**	0.010	0.0050	mg/L			06/17/21 10:00	1

Client Sample ID: FD-061621

Lab Sample ID: 480-186156-4

Date Collected: 06/16/21 00:00

Matrix: Water

Date Received: 06/16/21 16:22

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			06/21/21 16:31	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			06/21/21 16:31	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			06/21/21 16:31	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			06/21/21 16:31	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			06/21/21 16:31	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			06/21/21 16:31	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			06/21/21 16:31	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			06/21/21 16:31	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			06/21/21 16:31	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			06/21/21 16:31	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/21/21 16:31	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			06/21/21 16:31	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			06/21/21 16:31	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			06/21/21 16:31	2
2-Butanone (MEK)	ND		20	2.6	ug/L			06/21/21 16:31	2
2-Hexanone	ND		10	2.5	ug/L			06/21/21 16:31	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			06/21/21 16:31	2
Acetone	ND		20	6.0	ug/L			06/21/21 16:31	2
Benzene	ND		2.0	0.82	ug/L			06/21/21 16:31	2
Bromodichloromethane	ND		2.0	0.78	ug/L			06/21/21 16:31	2
Bromoform	ND		2.0	0.52	ug/L			06/21/21 16:31	2
Bromomethane	ND		2.0	1.4	ug/L			06/21/21 16:31	2
Carbon disulfide	ND		2.0	0.38	ug/L			06/21/21 16:31	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			06/21/21 16:31	2
Chlorobenzene	ND		2.0	1.5	ug/L			06/21/21 16:31	2
Chloroethane	ND		2.0	0.64	ug/L			06/21/21 16:31	2
Chloroform	**1.3**	**J**	2.0	0.68	ug/L			06/21/21 16:31	2
Chloromethane	ND		2.0	0.70	ug/L			06/21/21 16:31	2

Client Sample ID: FD-061621
Date Collected: 06/16/21 00:00
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**4.0**		2.0	1.6	ug/L			06/21/21 16:31	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			06/21/21 16:31	2
Cyclohexane	ND		2.0	0.36	ug/L			06/21/21 16:31	2
Dibromochloromethane	ND		2.0	0.64	ug/L			06/21/21 16:31	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			06/21/21 16:31	2
Ethylbenzene	ND		2.0	1.5	ug/L			06/21/21 16:31	2
Isopropylbenzene	ND		2.0	1.6	ug/L			06/21/21 16:31	2
Methyl acetate	ND		5.0	2.6	ug/L			06/21/21 16:31	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			06/21/21 16:31	2
Methylcyclohexane	ND		2.0	0.32	ug/L			06/21/21 16:31	2
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/21 16:31	2
Styrene	ND		2.0	1.5	ug/L			06/21/21 16:31	2
Tetrachloroethene	**4.9**		2.0	0.72	ug/L			06/21/21 16:31	2
Toluene	ND		2.0	1.0	ug/L			06/21/21 16:31	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			06/21/21 16:31	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			06/21/21 16:31	2
Trichloroethene	**4.4**		2.0	0.92	ug/L			06/21/21 16:31	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			06/21/21 16:31	2
Vinyl chloride	ND		2.0	1.8	ug/L			06/21/21 16:31	2
Xylenes, Total	ND		4.0	1.3	ug/L			06/21/21 16:31	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*77 - 120*		*06/21/21 16:31*	*2*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*06/21/21 16:31*	*2*
Dibromofluoromethane (Surr)	*92*		*75 - 123*		*06/21/21 16:31*	*2*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/21/21 16:31*	*2*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/18/21 14:31	06/21/21 16:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*27*		*15 - 110*	*06/18/21 14:31*	*06/21/21 16:15*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.34	ng/L		06/21/21 12:45	06/22/21 15:04	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.3	0.95	ng/L		06/21/21 12:45	06/22/21 15:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.3	0.64	ng/L		06/21/21 12:45	06/22/21 15:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.3	0.78	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorobutanesulfonic acid (PFBS)	**3.7**		1.7	0.22	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorobutanoic acid (PFBA)	**16**		4.3	0.77	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.26	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorodecanoic acid (PFDA)	**0.68**	**J**	1.7	0.26	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.33	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.63**	**J**	1.7	0.20	ng/L		06/21/21 12:45	06/22/21 15:04	1

Client Sample ID: FD-061621

Date Collected: 06/16/21 00:00
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**6.0**		1.7	0.21	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorohexanesulfonic acid (PFHxS)	**12**		1.7	0.26	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorohexanoic acid (PFHxA)	**8.8**		1.7	0.39	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorononanoic acid (PFNA)	**10**		1.7	0.24	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.50	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorooctanesulfonic acid (PFOS)	**23**		1.7	0.25	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorooctanoic acid (PFOA)	**22**		1.7	0.37	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluoropentanoic acid (PFPeA)	**11**		1.7	0.41	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.55	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.38	ng/L		06/21/21 12:45	06/22/21 15:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.30	ng/L		06/21/21 12:45	06/22/21 15:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*98*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C2 PFDoA	*84*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C2 PFHxA	*90*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C2 PFTeDA	*81*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C2 PFUnA	*94*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C3 PFBS	*75*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C4 PFBA	*63*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C4 PFHpA	*92*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C4 PFOA	*97*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C4 PFOS	*82*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C5 PFNA	*97*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C5 PFPeA	*80*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
13C8 FOSA	*74*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
18O2 PFHxS	*80*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
d3-NMeFOSAA	*111*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
d5-NEtFOSAA	*104*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
M2-6:2 FTS	*96*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*
M2-8:2 FTS	*108*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:04*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 07:40	06/22/21 14:18	1
Barium	**0.074**		0.0020	0.00070	mg/L		06/18/21 07:40	06/22/21 14:18	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 07:40	06/22/21 14:18	1
Chromium	ND		0.0040	0.0010	mg/L		06/18/21 07:40	06/22/21 14:18	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 07:40	06/22/21 14:18	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 07:40	06/22/21 14:18	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 07:40	06/22/21 14:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 18:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	H	0.010	0.0050	mg/L			06/17/21 10:00	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: SW-1-061621
Date Collected: 06/16/21 14:20
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	F1 F2	2.0	1.6	ug/L			06/21/21 16:54	2
1,1,2,2-Tetrachloroethane	ND	F2	2.0	0.42	ug/L			06/21/21 16:54	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			06/21/21 16:54	2
1,1,2-Trichloroethane	ND	F1	2.0	0.46	ug/L			06/21/21 16:54	2
1,1-Dichloroethane	ND	F1	2.0	0.76	ug/L			06/21/21 16:54	2
1,1-Dichloroethene	ND	F2	2.0	0.58	ug/L			06/21/21 16:54	2
1,2,4-Trichlorobenzene	ND	F1	2.0	0.82	ug/L			06/21/21 16:54	2
1,2-Dibromo-3-Chloropropane	ND	F2	2.0	0.78	ug/L			06/21/21 16:54	2
1,2-Dibromoethane	ND	F1	2.0	1.5	ug/L			06/21/21 16:54	2
1,2-Dichlorobenzene	ND	F1	2.0	1.6	ug/L			06/21/21 16:54	2
1,2-Dichloroethane	ND	F1	2.0	0.42	ug/L			06/21/21 16:54	2
1,2-Dichloropropane	ND	F1	2.0	1.4	ug/L			06/21/21 16:54	2
1,3-Dichlorobenzene	ND	F1	2.0	1.6	ug/L			06/21/21 16:54	2
1,4-Dichlorobenzene	ND	F1	2.0	1.7	ug/L			06/21/21 16:54	2
2-Butanone (MEK)	ND	F2	20	2.6	ug/L			06/21/21 16:54	2
2-Hexanone	ND	F2	10	2.5	ug/L			06/21/21 16:54	2
4-Methyl-2-pentanone (MIBK)	ND	F1	10	4.2	ug/L			06/21/21 16:54	2
Acetone	ND	F2	20	6.0	ug/L			06/21/21 16:54	2
Benzene	ND	F1 F2	2.0	0.82	ug/L			06/21/21 16:54	2
Bromodichloromethane	ND	F1 F2	2.0	0.78	ug/L			06/21/21 16:54	2
Bromoform	ND		2.0	0.52	ug/L			06/21/21 16:54	2
Bromomethane	ND	F2	2.0	1.4	ug/L			06/21/21 16:54	2
Carbon disulfide	ND	F2	2.0	0.38	ug/L			06/21/21 16:54	2
Carbon tetrachloride	ND	F1 F2	2.0	0.54	ug/L			06/21/21 16:54	2
Chlorobenzene	ND	F1	2.0	1.5	ug/L			06/21/21 16:54	2
Chloroethane	ND	F2	2.0	0.64	ug/L			06/21/21 16:54	2
Chloroform	ND	F1	2.0	0.68	ug/L			06/21/21 16:54	2
Chloromethane	ND	F2	2.0	0.70	ug/L			06/21/21 16:54	2
cis-1,2-Dichloroethene	ND	F1 F2	2.0	1.6	ug/L			06/21/21 16:54	2
cis-1,3-Dichloropropene	ND	F1 F2	2.0	0.72	ug/L			06/21/21 16:54	2
Cyclohexane	ND		2.0	0.36	ug/L			06/21/21 16:54	2
Dibromochloromethane	ND	F1	2.0	0.64	ug/L			06/21/21 16:54	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			06/21/21 16:54	2
Ethylbenzene	ND	F1 F2	2.0	1.5	ug/L			06/21/21 16:54	2
Isopropylbenzene	ND		2.0	1.6	ug/L			06/21/21 16:54	2
Methyl acetate	ND	F1 F2	5.0	2.6	ug/L			06/21/21 16:54	2
Methyl tert-butyl ether	ND	F1	2.0	0.32	ug/L			06/21/21 16:54	2
Methylcyclohexane	ND		2.0	0.32	ug/L			06/21/21 16:54	2
Methylene Chloride	ND	F2	2.0	0.88	ug/L			06/21/21 16:54	2
Styrene	ND	F1	2.0	1.5	ug/L			06/21/21 16:54	2
Tetrachloroethene	ND	F1	2.0	0.72	ug/L			06/21/21 16:54	2
Toluene	ND	F1	2.0	1.0	ug/L			06/21/21 16:54	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			06/21/21 16:54	2
trans-1,3-Dichloropropene	ND	F1	2.0	0.74	ug/L			06/21/21 16:54	2
Trichloroethene	ND	F1 F2	2.0	0.92	ug/L			06/21/21 16:54	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			06/21/21 16:54	2
Vinyl chloride	ND	F2	2.0	1.8	ug/L			06/21/21 16:54	2
Xylenes, Total	ND		4.0	1.3	ug/L			06/21/21 16:54	2

Client Sample ID: SW-1-061621

Date Collected: 06/16/21 14:20
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-5

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*77 - 120*		*06/21/21 16:54*	*2*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*06/21/21 16:54*	*2*
Dibromofluoromethane (Surr)	*91*		*75 - 123*		*06/21/21 16:54*	*2*
Toluene-d8 (Surr)	*91*		*80 - 120*		*06/21/21 16:54*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 07:40	06/22/21 14:22	1
Barium	**0.038**		0.0020	0.00070	mg/L		06/18/21 07:40	06/22/21 14:22	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 07:40	06/22/21 14:22	1
Chromium	**0.0051**		0.0040	0.0010	mg/L		06/18/21 07:40	06/22/21 14:22	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 07:40	06/22/21 14:22	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 07:40	06/22/21 14:22	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 07:40	06/22/21 14:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 18:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.015**		0.010	0.0050	mg/L			06/17/21 10:00	1

Client Sample ID: SW-2-061621

Date Collected: 06/16/21 14:55
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			06/21/21 17:17	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			06/21/21 17:17	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			06/21/21 17:17	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			06/21/21 17:17	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			06/21/21 17:17	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			06/21/21 17:17	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			06/21/21 17:17	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			06/21/21 17:17	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			06/21/21 17:17	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			06/21/21 17:17	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			06/21/21 17:17	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			06/21/21 17:17	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			06/21/21 17:17	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			06/21/21 17:17	2
2-Butanone (MEK)	ND		20	2.6	ug/L			06/21/21 17:17	2
2-Hexanone	ND		10	2.5	ug/L			06/21/21 17:17	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			06/21/21 17:17	2
Acetone	ND		20	6.0	ug/L			06/21/21 17:17	2
Benzene	ND		2.0	0.82	ug/L			06/21/21 17:17	2
Bromodichloromethane	ND		2.0	0.78	ug/L			06/21/21 17:17	2
Bromoform	ND		2.0	0.52	ug/L			06/21/21 17:17	2
Bromomethane	ND		2.0	1.4	ug/L			06/21/21 17:17	2

Client Sample ID: SW-2-061621

Date Collected: 06/16/21 14:55
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		2.0	0.38	ug/L			06/21/21 17:17	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			06/21/21 17:17	2
Chlorobenzene	ND		2.0	1.5	ug/L			06/21/21 17:17	2
Chloroethane	ND		2.0	0.64	ug/L			06/21/21 17:17	2
Chloroform	ND		2.0	0.68	ug/L			06/21/21 17:17	2
Chloromethane	ND		2.0	0.70	ug/L			06/21/21 17:17	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			06/21/21 17:17	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			06/21/21 17:17	2
Cyclohexane	ND		2.0	0.36	ug/L			06/21/21 17:17	2
Dibromochloromethane	ND		2.0	0.64	ug/L			06/21/21 17:17	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			06/21/21 17:17	2
Ethylbenzene	ND		2.0	1.5	ug/L			06/21/21 17:17	2
Isopropylbenzene	ND		2.0	1.6	ug/L			06/21/21 17:17	2
Methyl acetate	ND		5.0	2.6	ug/L			06/21/21 17:17	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			06/21/21 17:17	2
Methylcyclohexane	ND		2.0	0.32	ug/L			06/21/21 17:17	2
Methylene Chloride	ND		2.0	0.88	ug/L			06/21/21 17:17	2
Styrene	ND		2.0	1.5	ug/L			06/21/21 17:17	2
Tetrachloroethene	ND		2.0	0.72	ug/L			06/21/21 17:17	2
Toluene	ND		2.0	1.0	ug/L			06/21/21 17:17	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			06/21/21 17:17	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			06/21/21 17:17	2
Trichloroethene	ND		2.0	0.92	ug/L			06/21/21 17:17	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			06/21/21 17:17	2
Vinyl chloride	ND		2.0	1.8	ug/L			06/21/21 17:17	2
Xylenes, Total	ND		4.0	1.3	ug/L			06/21/21 17:17	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*		*06/21/21 17:17*	*2*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*06/21/21 17:17*	*2*
Dibromofluoromethane (Surr)	*93*		*75 - 123*		*06/21/21 17:17*	*2*
Toluene-d8 (Surr)	*90*		*80 - 120*		*06/21/21 17:17*	*2*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 07:40	06/22/21 14:51	1
Barium	**0.019**		0.0020	0.00070	mg/L		06/18/21 07:40	06/22/21 14:51	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 07:40	06/22/21 14:51	1
Chromium	**0.0026**	**J**	0.0040	0.0010	mg/L		06/18/21 07:40	06/22/21 14:51	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 07:40	06/22/21 14:51	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 07:40	06/22/21 14:51	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 07:40	06/22/21 14:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/17/21 10:00	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: FB-061621

Date Collected: 06/16/21 15:15
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.8	0.34	ng/L		06/21/21 12:45	06/22/21 15:12	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.4	0.96	ng/L		06/21/21 12:45	06/22/21 15:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.4	0.65	ng/L		06/21/21 12:45	06/22/21 15:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.4	0.79	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.22	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorobutanoic acid (PFBA)	**0.85**	**J**	4.4	0.78	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.27	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.34	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.21	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.21	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.27	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.40	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.51	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorooctanesulfonic acid (PFOS)	**0.37**	**J I**	1.8	0.26	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.37	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.42	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.55	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.38	ng/L		06/21/21 12:45	06/22/21 15:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.30	ng/L		06/21/21 12:45	06/22/21 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*98*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C2 PFDoA	*80*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C2 PFHxA	*93*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C2 PFTeDA	*75*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C2 PFUnA	*87*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C3 PFBS	*83*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C4 PFBA	*91*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C4 PFHpA	*95*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C4 PFOA	*96*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C4 PFOS	*79*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C5 PFNA	*95*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C5 PFPeA	*94*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
13C8 FOSA	*64*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
18O2 PFHxS	*79*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
d3-NMeFOSAA	*103*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
d5-NEtFOSAA	*96*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
M2-6:2 FTS	*89*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*
M2-8:2 FTS	*101*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:12*	*1*

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: EB-061621-1
Date Collected: 06/16/21 15:20
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.6	0.31	ng/L		06/21/21 12:45	06/22/21 15:20	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.0	0.87	ng/L		06/21/21 12:45	06/22/21 15:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	0.59	ng/L		06/21/21 12:45	06/22/21 15:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	0.72	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.20	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorobutanoic acid (PFBA)	ND		4.0	0.71	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.24	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.24	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.31	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.19	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.19	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.24	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.36	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.22	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.46	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.23	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.34	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.38	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.50	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.34	ng/L		06/21/21 12:45	06/22/21 15:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.27	ng/L		06/21/21 12:45	06/22/21 15:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*107*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C2 PFDoA	*87*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C2 PFHxA	*108*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C2 PFTeDA	*79*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C2 PFUnA	*97*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C3 PFBS	*89*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C4 PFBA	*77*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C4 PFHpA	*106*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C4 PFOA	*105*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C4 PFOS	*89*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C5 PFNA	*106*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C5 PFPeA	*106*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
13C8 FOSA	*72*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
18O2 PFHxS	*86*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
d3-NMeFOSAA	*121*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
d5-NEtFOSAA	*106*		*50 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
M2-6:2 FTS	*94*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*
M2-8:2 FTS	*109*		*25 - 150*	*06/21/21 12:45*	*06/22/21 15:20*	*1*

Client Sample ID: EB-061621-2

Lab Sample ID: 480-186156-9

Date Collected: 06/16/21 15:25

Matrix: Water

Date Received: 06/16/21 16:22

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/18/21 14:31	06/21/21 16:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*28*		*15 - 110*	*06/18/21 14:31*	*06/21/21 16:38*	*1*

Client Sample ID: TB-061621

Lab Sample ID: 480-186156-10

Date Collected: 06/16/21 00:00

Matrix: Water

Date Received: 06/16/21 16:22

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/21/21 12:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/21/21 12:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/21/21 12:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/21/21 12:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/21/21 12:57	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/21/21 12:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/21/21 12:57	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/21/21 12:57	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/21/21 12:57	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/21/21 12:57	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/21/21 12:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/21/21 12:57	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/21/21 12:57	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/21/21 12:57	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/21/21 12:57	1
2-Hexanone	ND		5.0	1.2	ug/L			06/21/21 12:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/21/21 12:57	1
Acetone	ND		10	3.0	ug/L			06/21/21 12:57	1
Benzene	ND		1.0	0.41	ug/L			06/21/21 12:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/21/21 12:57	1
Bromoform	ND		1.0	0.26	ug/L			06/21/21 12:57	1
Bromomethane	ND		1.0	0.69	ug/L			06/21/21 12:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/21/21 12:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/21/21 12:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/21/21 12:57	1
Chloroethane	ND		1.0	0.32	ug/L			06/21/21 12:57	1
Chloroform	ND		1.0	0.34	ug/L			06/21/21 12:57	1
Chloromethane	ND		1.0	0.35	ug/L			06/21/21 12:57	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/21/21 12:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/21/21 12:57	1
Cyclohexane	ND		1.0	0.18	ug/L			06/21/21 12:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/21/21 12:57	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/21/21 12:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/21/21 12:57	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/21/21 12:57	1
Methyl acetate	ND		2.5	1.3	ug/L			06/21/21 12:57	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/21/21 12:57	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/21/21 12:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/21/21 12:57	1
Styrene	ND		1.0	0.73	ug/L			06/21/21 12:57	1

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: TB-061621
Date Collected: 06/16/21 00:00
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.36	ug/L			06/21/21 12:57	1
Toluene	ND		1.0	0.51	ug/L			06/21/21 12:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/21/21 12:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/21/21 12:57	1
Trichloroethene	ND		1.0	0.46	ug/L			06/21/21 12:57	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/21/21 12:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/21/21 12:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/21/21 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*06/21/21 12:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*06/21/21 12:57*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*06/21/21 12:57*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/21/21 12:57*	*1*

Surrogate Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-186156-2	MW-26R-061621	97	104	102	96
480-186156-4	FD-061621	91	99	92	93
480-186156-5	SW-1-061621	88	101	91	91
480-186156-5 MS	SW-1-061621	88	104	96	91
480-186156-5 MSD	SW-1-061621	85	102	92	91
480-186156-6	SW-2-061621	93	98	93	90
480-186156-10	TB-061621	100	99	102	94
LCS 480-586188/6	Lab Control Sample	94	100	97	91
LCS 480-586191/5	Lab Control Sample	86	102	92	90
MB 480-586188/8	Method Blank	90	106	95	96
MB 480-586191/7	Method Blank	86	97	91	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Isotope Dilution Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186156-1
Project/Site: Vanadium Site - National Grid

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DXE (15-110)
480-186156-2	MW-26R-061621	26
480-186156-4	FD-061621	27
480-186156-9	EB-061621-2	28
LCS 480-586071/2-A	Lab Control Sample	32
MB 480-586071/1-A	Method Blank	32

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDA (50-150)	PFDoA (50-150)	PFHxA (50-150)	PFTDA (50-150)	PFUnA (50-150)	C3PFBS (50-150)	PFBA (25-150)	C4PFHA (50-150)
480-186156-2	MW-26R-061621	103	93	97	83	97	82	67	100
480-186156-4	FD-061621	98	84	90	81	94	75	63	92
480-186156-7	FB-061621	98	80	93	75	87	83	91	95
480-186156-8	EB-061621-1	107	87	108	79	97	89	77	106
LCS 200-168175/2-A	Lab Control Sample	102	78	97	72	91	83	97	97
MB 200-168175/1-A	Method Blank	101	78	103	71	89	85	94	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOA (50-150)	PFOS (50-150)	PFNA (50-150)	PFPeA (25-150)	PFOSA (25-150)	PFHxS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)
480-186156-2	MW-26R-061621	103	90	103	89	75	88	118	111
480-186156-4	FD-061621	97	82	97	80	74	80	111	104
480-186156-7	FB-061621	96	79	95	94	64	79	103	96
480-186156-8	EB-061621-1	105	89	106	106	72	86	121	106
LCS 200-168175/2-A	Lab Control Sample	102	87	104	99	63	84	114	100
MB 200-168175/1-A	Method Blank	98	84	103	99	63	80	102	98

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
480-186156-2	MW-26R-061621	102	110
480-186156-4	FD-061621	96	108
480-186156-7	FB-061621	89	101
480-186156-8	EB-061621-1	94	109
LCS 200-168175/2-A	Lab Control Sample	94	111
MB 200-168175/1-A	Method Blank	96	109

Surrogate Legend

PFDA = 13C2 PFDA
PFDoA = 13C2 PFDoA
PFHxA = 13C2 PFHxA
PFTDA = 13C2 PFTeDA
PFUnA = 13C2 PFUnA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA

Isotope Dilution Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186156-1
Project/Site: Vanadium Site - National Grid

PFOS = 13C4 PFOS
PFNA = 13C5 PFNA
PFPeA = 13C5 PFPeA
PFOSA = 13C8 FOSA
PFHxS = 18O2 PFHxS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-586188/8
Matrix: Water
Analysis Batch: 586188

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/21/21 11:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/21/21 11:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/21/21 11:18	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/21/21 11:18	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/21/21 11:18	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/21/21 11:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/21/21 11:18	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/21/21 11:18	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/21/21 11:18	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/21/21 11:18	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/21/21 11:18	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/21/21 11:18	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/21/21 11:18	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/21/21 11:18	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/21/21 11:18	1
2-Hexanone	ND		5.0	1.2	ug/L			06/21/21 11:18	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/21/21 11:18	1
Acetone	ND		10	3.0	ug/L			06/21/21 11:18	1
Benzene	ND		1.0	0.41	ug/L			06/21/21 11:18	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/21/21 11:18	1
Bromoform	ND		1.0	0.26	ug/L			06/21/21 11:18	1
Bromomethane	ND		1.0	0.69	ug/L			06/21/21 11:18	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/21/21 11:18	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/21/21 11:18	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/21/21 11:18	1
Chloroethane	ND		1.0	0.32	ug/L			06/21/21 11:18	1
Chloroform	ND		1.0	0.34	ug/L			06/21/21 11:18	1
Chloromethane	ND		1.0	0.35	ug/L			06/21/21 11:18	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/21/21 11:18	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/21/21 11:18	1
Cyclohexane	ND		1.0	0.18	ug/L			06/21/21 11:18	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/21/21 11:18	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/21/21 11:18	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/21/21 11:18	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/21/21 11:18	1
Methyl acetate	ND		2.5	1.3	ug/L			06/21/21 11:18	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/21/21 11:18	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/21/21 11:18	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/21/21 11:18	1
Styrene	ND		1.0	0.73	ug/L			06/21/21 11:18	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/21/21 11:18	1
Toluene	ND		1.0	0.51	ug/L			06/21/21 11:18	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/21/21 11:18	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/21/21 11:18	1
Trichloroethene	ND		1.0	0.46	ug/L			06/21/21 11:18	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/21/21 11:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/21/21 11:18	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/21/21 11:18	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-586188/8
Matrix: Water
Analysis Batch: 586188

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*90*		*77 - 120*		*06/21/21 11:18*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*06/21/21 11:18*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*06/21/21 11:18*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*06/21/21 11:18*	*1*

Lab Sample ID: LCS 480-586188/6
Matrix: Water
Analysis Batch: 586188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	22.9		ug/L		92	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.4		ug/L		90	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	21.8		ug/L		87	61 - 148
1,1,2-Trichloroethane	25.0	22.1		ug/L		88	76 - 122
1,1-Dichloroethane	25.0	22.7		ug/L		91	77 - 120
1,1-Dichloroethene	25.0	22.8		ug/L		91	66 - 127
1,2,4-Trichlorobenzene	25.0	21.8		ug/L		87	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	20.5		ug/L		82	56 - 134
1,2-Dibromoethane	25.0	22.4		ug/L		90	77 - 120
1,2-Dichlorobenzene	25.0	20.7		ug/L		83	80 - 124
1,2-Dichloroethane	25.0	22.0		ug/L		88	75 - 120
1,2-Dichloropropane	25.0	23.3		ug/L		93	76 - 120
1,3-Dichlorobenzene	25.0	21.5		ug/L		86	77 - 120
1,4-Dichlorobenzene	25.0	21.2		ug/L		85	80 - 120
2-Butanone (MEK)	125	129		ug/L		103	57 - 140
2-Hexanone	125	123		ug/L		98	65 - 127
4-Methyl-2-pentanone (MIBK)	125	116		ug/L		93	71 - 125
Acetone	125	147		ug/L		117	56 - 142
Benzene	25.0	22.8		ug/L		91	71 - 124
Bromodichloromethane	25.0	22.5		ug/L		90	80 - 122
Bromoform	25.0	24.9		ug/L		100	61 - 132
Bromomethane	25.0	21.4		ug/L		85	55 - 144
Carbon disulfide	25.0	21.3		ug/L		85	59 - 134
Carbon tetrachloride	25.0	23.8		ug/L		95	72 - 134
Chlorobenzene	25.0	21.6		ug/L		86	80 - 120
Chloroethane	25.0	19.8		ug/L		79	69 - 136
Chloroform	25.0	21.6		ug/L		87	73 - 127
Chloromethane	25.0	21.2		ug/L		85	68 - 124
cis-1,2-Dichloroethene	25.0	23.3		ug/L		93	74 - 124
cis-1,3-Dichloropropene	25.0	24.5		ug/L		98	74 - 124
Cyclohexane	25.0	21.8		ug/L		87	59 - 135
Dibromochloromethane	25.0	22.5		ug/L		90	75 - 125
Dichlorodifluoromethane	25.0	18.3		ug/L		73	59 - 135
Ethylbenzene	25.0	21.6		ug/L		87	77 - 123
Isopropylbenzene	25.0	22.2		ug/L		89	77 - 122
Methyl acetate	50.0	49.4		ug/L		99	74 - 133
Methyl tert-butyl ether	25.0	23.8		ug/L		95	77 - 120
Methylcyclohexane	25.0	22.5		ug/L		90	68 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-586188/6
Matrix: Water
Analysis Batch: 586188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	25.0	21.9		ug/L		87	75 - 124
Styrene	25.0	22.3		ug/L		89	80 - 120
Tetrachloroethene	25.0	22.8		ug/L		91	74 - 122
Toluene	25.0	21.4		ug/L		86	80 - 122
trans-1,2-Dichloroethene	25.0	21.3		ug/L		85	73 - 127
trans-1,3-Dichloropropene	25.0	23.5		ug/L		94	80 - 120
Trichloroethene	25.0	22.8		ug/L		91	74 - 123
Trichlorofluoromethane	25.0	21.6		ug/L		86	62 - 150
Vinyl chloride	25.0	20.7		ug/L		83	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*
Dibromofluoromethane (Surr)	*97*		*75 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 480-586191/7
Matrix: Water
Analysis Batch: 586191

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/21/21 10:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/21/21 10:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/21/21 10:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/21/21 10:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/21/21 10:57	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/21/21 10:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/21/21 10:57	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/21/21 10:57	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/21/21 10:57	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/21/21 10:57	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/21/21 10:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/21/21 10:57	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/21/21 10:57	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/21/21 10:57	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/21/21 10:57	1
2-Hexanone	ND		5.0	1.2	ug/L			06/21/21 10:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/21/21 10:57	1
Acetone	ND		10	3.0	ug/L			06/21/21 10:57	1
Benzene	ND		1.0	0.41	ug/L			06/21/21 10:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/21/21 10:57	1
Bromoform	ND		1.0	0.26	ug/L			06/21/21 10:57	1
Bromomethane	ND		1.0	0.69	ug/L			06/21/21 10:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/21/21 10:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/21/21 10:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/21/21 10:57	1
Chloroethane	ND		1.0	0.32	ug/L			06/21/21 10:57	1
Chloroform	ND		1.0	0.34	ug/L			06/21/21 10:57	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-586191/7
Matrix: Water
Analysis Batch: 586191

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.35	ug/L			06/21/21 10:57	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/21/21 10:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/21/21 10:57	1
Cyclohexane	ND		1.0	0.18	ug/L			06/21/21 10:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/21/21 10:57	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/21/21 10:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/21/21 10:57	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/21/21 10:57	1
Methyl acetate	ND		2.5	1.3	ug/L			06/21/21 10:57	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/21/21 10:57	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/21/21 10:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/21/21 10:57	1
Styrene	ND		1.0	0.73	ug/L			06/21/21 10:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/21/21 10:57	1
Toluene	ND		1.0	0.51	ug/L			06/21/21 10:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/21/21 10:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/21/21 10:57	1
Trichloroethene	ND		1.0	0.46	ug/L			06/21/21 10:57	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/21/21 10:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/21/21 10:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/21/21 10:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*77 - 120*		*06/21/21 10:57*	*1*
4-Bromofluorobenzene (Surr)	*97*		*73 - 120*		*06/21/21 10:57*	*1*
Dibromofluoromethane (Surr)	*91*		*75 - 123*		*06/21/21 10:57*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/21/21 10:57*	*1*

Lab Sample ID: LCS 480-586191/5
Matrix: Water
Analysis Batch: 586191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	20.9		ug/L		84	73 - 126
1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.0		ug/L		104	61 - 148
1,1,2-Trichloroethane	25.0	23.0		ug/L		92	76 - 122
1,1-Dichloroethane	25.0	22.5		ug/L		90	77 - 120
1,1-Dichloroethene	25.0	24.8		ug/L		99	66 - 127
1,2,4-Trichlorobenzene	25.0	22.7		ug/L		91	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	23.3		ug/L		93	56 - 134
1,2-Dibromoethane	25.0	23.9		ug/L		96	77 - 120
1,2-Dichlorobenzene	25.0	21.7		ug/L		87	80 - 124
1,2-Dichloroethane	25.0	21.0		ug/L		84	75 - 120
1,2-Dichloropropane	25.0	22.2		ug/L		89	76 - 120
1,3-Dichlorobenzene	25.0	21.9		ug/L		88	77 - 120
1,4-Dichlorobenzene	25.0	21.2		ug/L		85	80 - 120
2-Butanone (MEK)	125	119		ug/L		95	57 - 140

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-586191/5
Matrix: Water
Analysis Batch: 586191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Hexanone	125	124		ug/L		99	65 - 127
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	71 - 125
Acetone	125	122		ug/L		97	56 - 142
Benzene	25.0	22.4		ug/L		89	71 - 124
Bromodichloromethane	25.0	22.1		ug/L		88	80 - 122
Bromoform	25.0	22.7		ug/L		91	61 - 132
Bromomethane	25.0	24.6		ug/L		98	55 - 144
Carbon disulfide	25.0	22.7		ug/L		91	59 - 134
Carbon tetrachloride	25.0	21.4		ug/L		86	72 - 134
Chlorobenzene	25.0	23.2		ug/L		93	80 - 120
Chloroethane	25.0	26.9		ug/L		108	69 - 136
Chloroform	25.0	21.0		ug/L		84	73 - 127
Chloromethane	25.0	23.1		ug/L		92	68 - 124
cis-1,2-Dichloroethene	25.0	21.7		ug/L		87	74 - 124
cis-1,3-Dichloropropene	25.0	24.4		ug/L		97	74 - 124
Cyclohexane	25.0	24.0		ug/L		96	59 - 135
Dibromochloromethane	25.0	22.9		ug/L		92	75 - 125
Dichlorodifluoromethane	25.0	20.8		ug/L		83	59 - 135
Ethylbenzene	25.0	23.2		ug/L		93	77 - 123
Isopropylbenzene	25.0	24.4		ug/L		98	77 - 122
Methyl acetate	50.0	43.5		ug/L		87	74 - 133
Methyl tert-butyl ether	25.0	24.4		ug/L		98	77 - 120
Methylcyclohexane	25.0	24.2		ug/L		97	68 - 134
Methylene Chloride	25.0	24.0		ug/L		96	75 - 124
Styrene	25.0	23.5		ug/L		94	80 - 120
Tetrachloroethene	25.0	21.2		ug/L		85	74 - 122
Toluene	25.0	23.6		ug/L		94	80 - 122
trans-1,2-Dichloroethene	25.0	22.8		ug/L		91	73 - 127
trans-1,3-Dichloropropene	25.0	24.6		ug/L		98	80 - 120
Trichloroethene	25.0	22.5		ug/L		90	74 - 123
Trichlorofluoromethane	25.0	21.9		ug/L		88	62 - 150
Vinyl chloride	25.0	25.4		ug/L		101	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*77 - 120*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*92*		*75 - 123*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: 480-186156-5 MS
Matrix: Water
Analysis Batch: 586191

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND	F1 F2	50.0	39.7		ug/L		79	73 - 126
1,1,2,2-Tetrachloroethane	ND	F2	50.0	46.1		ug/L		92	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50.0	47.8		ug/L		96	61 - 148
1,1,2-Trichloroethane	ND	F1	50.0	43.0		ug/L		86	76 - 122

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-186156-5 MS
Matrix: Water
Analysis Batch: 586191

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND	F1	50.0	41.3		ug/L		83	77 - 120
1,1-Dichloroethene	ND	F2	50.0	48.0		ug/L		96	66 - 127
1,2,4-Trichlorobenzene	ND	F1	50.0	41.1		ug/L		82	79 - 122
1,2-Dibromo-3-Chloropropane	ND	F2	50.0	44.1		ug/L		88	56 - 134
1,2-Dibromoethane	ND	F1	50.0	43.3		ug/L		87	77 - 120
1,2-Dichlorobenzene	ND	F1	50.0	40.0		ug/L		80	80 - 124
1,2-Dichloroethane	ND	F1	50.0	38.6		ug/L		77	75 - 120
1,2-Dichloropropane	ND	F1	50.0	40.2		ug/L		80	76 - 120
1,3-Dichlorobenzene	ND	F1	50.0	41.1		ug/L		82	77 - 120
1,4-Dichlorobenzene	ND	F1	50.0	39.8		ug/L		80	78 - 124
2-Butanone (MEK)	ND	F2	250	210		ug/L		84	57 - 140
2-Hexanone	ND	F2	250	212		ug/L		85	65 - 127
4-Methyl-2-pentanone (MIBK)	ND	F1	250	215		ug/L		86	71 - 125
Acetone	ND	F2	250	195		ug/L		78	56 - 142
Benzene	ND	F1 F2	50.0	42.3		ug/L		85	71 - 124
Bromodichloromethane	ND	F1 F2	50.0	42.1		ug/L		84	80 - 122
Bromoform	ND		50.0	40.0		ug/L		80	61 - 132
Bromomethane	ND	F2	50.0	47.6		ug/L		95	55 - 144
Carbon disulfide	ND	F2	50.0	39.9		ug/L		80	59 - 134
Carbon tetrachloride	ND	F1 F2	50.0	39.9		ug/L		80	72 - 134
Chlorobenzene	ND	F1	50.0	42.5		ug/L		85	80 - 120
Chloroethane	ND	F2	50.0	50.3		ug/L		101	69 - 136
Chloroform	ND	F1	50.0	39.5		ug/L		79	73 - 127
Chloromethane	ND	F2	50.0	43.6		ug/L		87	68 - 124
cis-1,2-Dichloroethene	ND	F1 F2	50.0	41.4		ug/L		83	74 - 124
cis-1,3-Dichloropropene	ND	F1 F2	50.0	42.5		ug/L		85	74 - 124
Cyclohexane	ND		50.0	44.8		ug/L		90	59 - 135
Dibromochloromethane	ND	F1	50.0	41.7		ug/L		83	75 - 125
Dichlorodifluoromethane	ND		50.0	36.5		ug/L		73	59 - 135
Ethylbenzene	ND	F1 F2	50.0	43.4		ug/L		87	77 - 123
Isopropylbenzene	ND		50.0	46.0		ug/L		92	77 - 122
Methyl acetate	ND	F1 F2	100	77.4		ug/L		77	74 - 133
Methyl tert-butyl ether	ND	F1	50.0	44.5		ug/L		89	77 - 120
Methylcyclohexane	ND		50.0	44.9		ug/L		90	68 - 134
Methylene Chloride	ND	F2	50.0	45.7		ug/L		91	75 - 124
Styrene	ND	F1	50.0	42.9		ug/L		86	80 - 120
Tetrachloroethene	ND	F1	50.0	38.4		ug/L		77	74 - 122
Toluene	ND	F1	50.0	42.6		ug/L		85	80 - 122
trans-1,2-Dichloroethene	ND		50.0	41.9		ug/L		84	73 - 127
trans-1,3-Dichloropropene	ND	F1	50.0	43.0		ug/L		86	80 - 120
Trichloroethene	ND	F1 F2	50.0	41.6		ug/L		83	74 - 123
Trichlorofluoromethane	ND		50.0	42.3		ug/L		85	62 - 150
Vinyl chloride	ND	F2	50.0	47.9		ug/L		96	65 - 133

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*77 - 120*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*
Dibromofluoromethane (Surr)	*96*		*75 - 123*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-186156-5 MS
Matrix: Water
Analysis Batch: 586191

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: 480-186156-5 MSD
Matrix: Water
Analysis Batch: 586191

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND	F1 F2	50.0	33.3	F1 F2	ug/L		67	73 - 126	17	15
1,1,2,2-Tetrachloroethane	ND	F2	50.0	39.0	F2	ug/L		78	76 - 120	17	15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		50.0	39.6		ug/L		79	61 - 148	19	20
1,1,2-Trichloroethane	ND	F1	50.0	37.6	F1	ug/L		75	76 - 122	13	15
1,1-Dichloroethane	ND	F1	50.0	35.4	F1	ug/L		71	77 - 120	16	20
1,1-Dichloroethene	ND	F2	50.0	40.4	F2	ug/L		81	66 - 127	17	16
1,2,4-Trichlorobenzene	ND	F1	50.0	36.0	F1	ug/L		72	79 - 122	13	20
1,2-Dibromo-3-Chloropropane	ND	F2	50.0	34.8	F2	ug/L		70	56 - 134	23	15
1,2-Dibromoethane	ND	F1	50.0	37.3	F1	ug/L		75	77 - 120	15	15
1,2-Dichlorobenzene	ND	F1	50.0	34.5	F1	ug/L		69	80 - 124	15	20
1,2-Dichloroethane	ND	F1	50.0	32.5	F1	ug/L		65	75 - 120	17	20
1,2-Dichloropropane	ND	F1	50.0	34.7	F1	ug/L		69	76 - 120	15	20
1,3-Dichlorobenzene	ND	F1	50.0	35.2	F1	ug/L		70	77 - 120	16	20
1,4-Dichlorobenzene	ND	F1	50.0	34.2	F1	ug/L		68	78 - 124	15	20
2-Butanone (MEK)	ND	F2	250	165	F2	ug/L		66	57 - 140	24	20
2-Hexanone	ND	F2	250	173	F2	ug/L		69	65 - 127	20	15
4-Methyl-2-pentanone (MIBK)	ND	F1	250	176	F1	ug/L		70	71 - 125	20	35
Acetone	ND	F2	250	163	F2	ug/L		65	56 - 142	18	15
Benzene	ND	F1 F2	50.0	35.2	F1 F2	ug/L		70	71 - 124	18	13
Bromodichloromethane	ND	F1 F2	50.0	35.4	F1 F2	ug/L		71	80 - 122	17	15
Bromoform	ND		50.0	36.9		ug/L		74	61 - 132	8	15
Bromomethane	ND	F2	50.0	39.0	F2	ug/L		78	55 - 144	20	15
Carbon disulfide	ND	F2	50.0	33.7	F2	ug/L		67	59 - 134	17	15
Carbon tetrachloride	ND	F1 F2	50.0	33.4	F1 F2	ug/L		67	72 - 134	18	15
Chlorobenzene	ND	F1	50.0	36.6	F1	ug/L		73	80 - 120	15	25
Chloroethane	ND	F2	50.0	42.8	F2	ug/L		86	69 - 136	16	15
Chloroform	ND	F1	50.0	33.5	F1	ug/L		67	73 - 127	16	20
Chloromethane	ND	F2	50.0	36.8	F2	ug/L		74	68 - 124	17	15
cis-1,2-Dichloroethene	ND	F1 F2	50.0	35.2	F1 F2	ug/L		70	74 - 124	16	15
cis-1,3-Dichloropropene	ND	F1 F2	50.0	35.8	F1 F2	ug/L		72	74 - 124	17	15
Cyclohexane	ND		50.0	37.0		ug/L		74	59 - 135	19	20
Dibromochloromethane	ND	F1	50.0	36.3	F1	ug/L		73	75 - 125	14	15
Dichlorodifluoromethane	ND		50.0	31.0		ug/L		62	59 - 135	16	20
Ethylbenzene	ND	F1 F2	50.0	36.9	F1 F2	ug/L		74	77 - 123	16	15
Isopropylbenzene	ND		50.0	38.3		ug/L		77	77 - 122	18	20
Methyl acetate	ND	F1 F2	100	61.7	F1 F2	ug/L		62	74 - 133	22	20
Methyl tert-butyl ether	ND	F1	50.0	37.4	F1	ug/L		75	77 - 120	18	37
Methylcyclohexane	ND		50.0	37.4		ug/L		75	68 - 134	18	20
Methylene Chloride	ND	F2	50.0	37.7	F2	ug/L		75	75 - 124	19	15
Styrene	ND	F1	50.0	37.9	F1	ug/L		76	80 - 120	12	20
Tetrachloroethene	ND	F1	50.0	32.6	F1	ug/L		65	74 - 122	16	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-186156-5 MSD
Matrix: Water
Analysis Batch: 586191

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	ND	F1	50.0	37.3	F1	ug/L		75	80 - 122	13	15
trans-1,2-Dichloroethene	ND		50.0	36.5		ug/L		73	73 - 127	14	20
trans-1,3-Dichloropropene	ND	F1	50.0	38.1	F1	ug/L		76	80 - 120	12	15
Trichloroethene	ND	F1 F2	50.0	34.8	F1 F2	ug/L		70	74 - 123	18	16
Trichlorofluoromethane	ND		50.0	35.6		ug/L		71	62 - 150	17	20
Vinyl chloride	ND	F2	50.0	40.8	F2	ug/L		82	65 - 133	16	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*77 - 120*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*
Dibromofluoromethane (Surr)	*92*		*75 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-586071/1-A
Matrix: Water
Analysis Batch: 586260

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/18/21 14:31	06/21/21 13:24	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*32*		*15 - 110*	*06/18/21 14:31*	*06/21/21 13:24*	*1*

Lab Sample ID: LCS 480-586071/2-A
Matrix: Water
Analysis Batch: 586260

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586071

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			1.00	1.08		ug/L		108	40 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*32*		*15 - 110*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-168175/1-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168175

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		2.0	0.39	ng/L		06/21/21 12:45	06/22/21 13:16	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		5.0	1.1	ng/L		06/21/21 12:45	06/22/21 13:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	0.74	ng/L		06/21/21 12:45	06/22/21 13:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	0.90	ng/L		06/21/21 12:45	06/22/21 13:16	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 200-168175/1-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168175

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.25	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorobutanoic acid (PFBA)	ND		5.0	0.89	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.39	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.23	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.24	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.30	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.45	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.58	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.29	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.42	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.47	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.63	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.43	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.34	ng/L		06/21/21 12:45	06/22/21 13:16	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*101*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C2 PFDoA	*78*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C2 PFHxA	*103*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C2 PFTeDA	*71*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C2 PFUnA	*89*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C3 PFBS	*85*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C4 PFBA	*94*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C4 PFHpA	*94*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C4 PFOA	*98*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C4 PFOS	*84*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C5 PFNA	*103*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C5 PFPeA	*99*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
13C8 FOSA	*63*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
18O2 PFHxS	*80*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
d5-NEtFOSAA	*98*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
M2-6:2 FTS	*96*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*
M2-8:2 FTS	*109*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:16*	*1*

Lab Sample ID: LCS 200-168175/2-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168175

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	40.7		ng/L		106	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	43.9		ng/L		116	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.8		ng/L		107	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 200-168175/2-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168175

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	38.8		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	39.8		ng/L		113	70 - 130
Perfluorobutanoic acid (PFBA)	40.0	43.1		ng/L		108	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	33.8		ng/L		88	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	45.6		ng/L		114	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	42.7		ng/L		107	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.2		ng/L		108	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	42.9		ng/L		107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	38.9		ng/L		107	70 - 130
Perfluorohexanoic acid (PFHxA)	40.0	44.1		ng/L		110	70 - 130
Perfluorononanoic acid (PFNA)	40.0	42.6		ng/L		106	70 - 130
Perfluorooctanesulfonamide (PFOSA)	40.0	40.9		ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	39.1		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	42.0		ng/L		105	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	44.9		ng/L		112	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	40.8		ng/L		102	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	39.9		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	45.1		ng/L		113	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*102*		*50 - 150*
13C2 PFDoA	*78*		*50 - 150*
13C2 PFHxA	*97*		*50 - 150*
13C2 PFTeDA	*72*		*50 - 150*
13C2 PFUnA	*91*		*50 - 150*
13C3 PFBS	*83*		*50 - 150*
13C4 PFBA	*97*		*25 - 150*
13C4 PFHpA	*97*		*50 - 150*
13C4 PFOA	*102*		*50 - 150*
13C4 PFOS	*87*		*50 - 150*
13C5 PFNA	*104*		*50 - 150*
13C5 PFPeA	*99*		*25 - 150*
13C8 FOSA	*63*		*25 - 150*
18O2 PFHxS	*84*		*50 - 150*
d3-NMeFOSAA	*114*		*50 - 150*
d5-NEtFOSAA	*100*		*50 - 150*
M2-6:2 FTS	*94*		*25 - 150*
M2-8:2 FTS	*111*		*25 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-585922/1-A
Matrix: Water
Analysis Batch: 586608

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 585922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/18/21 07:40	06/22/21 13:59	1
Barium	ND		0.0020	0.00070	mg/L		06/18/21 07:40	06/22/21 13:59	1
Cadmium	ND		0.0020	0.00050	mg/L		06/18/21 07:40	06/22/21 13:59	1
Chromium	ND		0.0040	0.0010	mg/L		06/18/21 07:40	06/22/21 13:59	1
Lead	ND		0.010	0.0030	mg/L		06/18/21 07:40	06/22/21 13:59	1
Selenium	ND		0.025	0.0087	mg/L		06/18/21 07:40	06/22/21 13:59	1
Silver	ND		0.0060	0.0017	mg/L		06/18/21 07:40	06/22/21 13:59	1

Lab Sample ID: LCS 480-585922/2-A
Matrix: Water
Analysis Batch: 586608

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.207		mg/L		103	80 - 120
Barium	0.200	0.236		mg/L		118	80 - 120
Cadmium	0.200	0.203		mg/L		101	80 - 120
Chromium	0.200	0.213		mg/L		107	80 - 120
Lead	0.200	0.209		mg/L		104	80 - 120
Selenium	0.200	0.198		mg/L		99	80 - 120
Silver	0.0500	0.0514		mg/L		103	80 - 120

Lab Sample ID: 480-186156-5 MS
Matrix: Water
Analysis Batch: 586608

Client Sample ID: SW-1-061621
Prep Type: Total/NA
Prep Batch: 585922

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.200	0.220		mg/L		110	75 - 125
Barium	0.038		0.200	0.277		mg/L		120	75 - 125
Cadmium	ND		0.200	0.212		mg/L		106	75 - 125
Chromium	0.0051		0.200	0.223		mg/L		109	75 - 125
Lead	ND		0.200	0.218		mg/L		109	75 - 125
Selenium	ND		0.200	0.211		mg/L		105	75 - 125
Silver	ND		0.0500	0.0536		mg/L		107	75 - 125

Lab Sample ID: 480-186156-5 MSD
Matrix: Water
Analysis Batch: 586608

Client Sample ID: SW-1-061621
Prep Type: Total/NA
Prep Batch: 585922

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.200	0.220		mg/L		110	75 - 125	0	20
Barium	0.038		0.200	0.276		mg/L		119	75 - 125	0	20
Cadmium	ND		0.200	0.212		mg/L		106	75 - 125	0	20
Chromium	0.0051		0.200	0.224		mg/L		109	75 - 125	1	20
Lead	ND		0.200	0.218		mg/L		109	75 - 125	0	20
Selenium	ND		0.200	0.209		mg/L		105	75 - 125	1	20
Silver	ND		0.0500	0.0530		mg/L		106	75 - 125	1	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-587808/1-A
Matrix: Water
Analysis Batch: 587970

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 587808

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.015	0.0056	mg/L		07/02/21 06:47	07/02/21 13:58	1
Barium, Dissolved	ND	^6+	0.0020	0.00070	mg/L		07/02/21 06:47	07/02/21 13:58	1
Cadmium, Dissolved	ND		0.0020	0.00050	mg/L		07/02/21 06:47	07/02/21 13:58	1
Chromium, Dissolved	ND		0.0040	0.0010	mg/L		07/02/21 06:47	07/02/21 13:58	1
Lead, Dissolved	ND		0.010	0.0030	mg/L		07/02/21 06:47	07/02/21 13:58	1
Selenium, Dissolved	ND		0.025	0.0087	mg/L		07/02/21 06:47	07/02/21 13:58	1
Silver, Dissolved	ND		0.0060	0.0017	mg/L		07/02/21 06:47	07/02/21 13:58	1

Lab Sample ID: LCS 480-587808/2-A
Matrix: Water
Analysis Batch: 587970

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 587808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic, Dissolved	0.200	0.208		mg/L		104	80 - 120
Barium, Dissolved	0.200	0.224	^6+	mg/L		112	80 - 120
Cadmium, Dissolved	0.200	0.207		mg/L		104	80 - 120
Chromium, Dissolved	0.200	0.202		mg/L		101	80 - 120
Lead, Dissolved	0.200	0.204		mg/L		102	80 - 120
Selenium, Dissolved	0.200	0.199		mg/L		100	80 - 120
Silver, Dissolved	0.0500	0.0514		mg/L		103	80 - 120

Lab Sample ID: LCSD 480-587808/25-A
Matrix: Water
Analysis Batch: 587970

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 587808

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic, Dissolved	0.200	0.207		mg/L		103	80 - 120	0	20
Barium, Dissolved	0.200	0.224	^6+	mg/L		112	80 - 120	0	20
Cadmium, Dissolved	0.200	0.206		mg/L		103	80 - 120	1	20
Chromium, Dissolved	0.200	0.202		mg/L		101	80 - 120	0	20
Lead, Dissolved	0.200	0.203		mg/L		101	80 - 120	1	20
Selenium, Dissolved	0.200	0.198		mg/L		99	80 - 120	1	20
Silver, Dissolved	0.0500	0.0506		mg/L		101	80 - 120	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-586109/1-A
Matrix: Water
Analysis Batch: 586328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586109

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 18:03	1

Lab Sample ID: LCS 480-586109/2-A
Matrix: Water
Analysis Batch: 586328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586109

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00667		mg/L		100	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 480-586109/22-A
Matrix: Water
Analysis Batch: 586328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 586109

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.00667	0.00643		mg/L		96	80 - 120	4	20

Lab Sample ID: 480-186156-5 MS
Matrix: Water
Analysis Batch: 586328

Client Sample ID: SW-1-061621
Prep Type: Total/NA
Prep Batch: 586109

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.00667	0.00660		mg/L		99	80 - 120		

Lab Sample ID: 480-186156-5 MSD
Matrix: Water
Analysis Batch: 586328

Client Sample ID: SW-1-061621
Prep Type: Total/NA
Prep Batch: 586109

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00653		mg/L		98	80 - 120	1	20

Lab Sample ID: MB 480-586828/1-A
Matrix: Water
Analysis Batch: 586918

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	0.00012	mg/L		06/24/21 13:41	06/24/21 16:28	1

Lab Sample ID: LCS 480-586828/2-A
Matrix: Water
Analysis Batch: 586918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586828

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury, Dissolved			0.00667	0.00678		mg/L		102	80 - 120		

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-585898/3
Matrix: Water
Analysis Batch: 585898

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/17/21 10:00	1

Lab Sample ID: LCS 480-585898/4
Matrix: Water
Analysis Batch: 585898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			0.200	0.200		mg/L		100	85 - 115		

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCSD 480-585898/5
Matrix: Water
Analysis Batch: 585898

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent			0.200	0.197		mg/L		98	85 - 115	1	20

Lab Sample ID: 480-186156-5 MS
Matrix: Water
Analysis Batch: 585898

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	0.015		0.0500	0.0634		mg/L		98	85 - 115		

Lab Sample ID: 480-186156-5 MSD
Matrix: Water
Analysis Batch: 585898

Client Sample ID: SW-1-061621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.015		0.0500	0.0658		mg/L		103	85 - 115	4	20

GC/MS VOA

Analysis Batch: 586188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	8260C	
480-186156-10	TB-061621	Total/NA	Water	8260C	
MB 480-586188/8	Method Blank	Total/NA	Water	8260C	
LCS 480-586188/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 586191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-4	FD-061621	Total/NA	Water	8260C	
480-186156-5	SW-1-061621	Total/NA	Water	8260C	
480-186156-6	SW-2-061621	Total/NA	Water	8260C	
MB 480-586191/7	Method Blank	Total/NA	Water	8260C	
LCS 480-586191/5	Lab Control Sample	Total/NA	Water	8260C	
480-186156-5 MS	SW-1-061621	Total/NA	Water	8260C	
480-186156-5 MSD	SW-1-061621	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 586071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	3510C	
480-186156-4	FD-061621	Total/NA	Water	3510C	
480-186156-9	EB-061621-2	Total/NA	Water	3510C	
MB 480-586071/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-586071/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 586260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	8270D SIM ID	586071
480-186156-4	FD-061621	Total/NA	Water	8270D SIM ID	586071
480-186156-9	EB-061621-2	Total/NA	Water	8270D SIM ID	586071
MB 480-586071/1-A	Method Blank	Total/NA	Water	8270D SIM ID	586071
LCS 480-586071/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	586071

LCMS

Prep Batch: 168175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	3535	
480-186156-4	FD-061621	Total/NA	Water	3535	
480-186156-7	FB-061621	Total/NA	Water	3535	
480-186156-8	EB-061621-1	Total/NA	Water	3535	
MB 200-168175/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-168175/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 168238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	537 (modified)	168175
480-186156-4	FD-061621	Total/NA	Water	537 (modified)	168175
480-186156-7	FB-061621	Total/NA	Water	537 (modified)	168175
480-186156-8	EB-061621-1	Total/NA	Water	537 (modified)	168175
MB 200-168175/1-A	Method Blank	Total/NA	Water	537 (modified)	168175
LCS 200-168175/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	168175

Metals

Prep Batch: 585922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	3005A	
480-186156-3	MW-32-061621	Total/NA	Water	3005A	
480-186156-4	FD-061621	Total/NA	Water	3005A	
480-186156-5	SW-1-061621	Total/NA	Water	3005A	
480-186156-6	SW-2-061621	Total/NA	Water	3005A	
MB 480-585922/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-585922/2-A	Lab Control Sample	Total/NA	Water	3005A	
480-186156-5 MS	SW-1-061621	Total/NA	Water	3005A	
480-186156-5 MSD	SW-1-061621	Total/NA	Water	3005A	

Prep Batch: 586109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	7470A	
480-186156-3	MW-32-061621	Total/NA	Water	7470A	
480-186156-4	FD-061621	Total/NA	Water	7470A	
480-186156-5	SW-1-061621	Total/NA	Water	7470A	
480-186156-6	SW-2-061621	Total/NA	Water	7470A	
MB 480-586109/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-586109/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 480-586109/22-A	Lab Control Sample Dup	Total/NA	Water	7470A	
480-186156-5 MS	SW-1-061621	Total/NA	Water	7470A	
480-186156-5 MSD	SW-1-061621	Total/NA	Water	7470A	

Analysis Batch: 586328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	7470A	586109
480-186156-3	MW-32-061621	Total/NA	Water	7470A	586109
480-186156-4	FD-061621	Total/NA	Water	7470A	586109
480-186156-5	SW-1-061621	Total/NA	Water	7470A	586109
480-186156-6	SW-2-061621	Total/NA	Water	7470A	586109
MB 480-586109/1-A	Method Blank	Total/NA	Water	7470A	586109
LCS 480-586109/2-A	Lab Control Sample	Total/NA	Water	7470A	586109
LCSD 480-586109/22-A	Lab Control Sample Dup	Total/NA	Water	7470A	586109
480-186156-5 MS	SW-1-061621	Total/NA	Water	7470A	586109
480-186156-5 MSD	SW-1-061621	Total/NA	Water	7470A	586109

Analysis Batch: 586608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-2	MW-26R-061621	Total/NA	Water	6010C	585922
480-186156-3	MW-32-061621	Total/NA	Water	6010C	585922
480-186156-4	FD-061621	Total/NA	Water	6010C	585922
480-186156-5	SW-1-061621	Total/NA	Water	6010C	585922
480-186156-6	SW-2-061621	Total/NA	Water	6010C	585922
MB 480-585922/1-A	Method Blank	Total/NA	Water	6010C	585922
LCS 480-585922/2-A	Lab Control Sample	Total/NA	Water	6010C	585922
480-186156-5 MS	SW-1-061621	Total/NA	Water	6010C	585922
480-186156-5 MSD	SW-1-061621	Total/NA	Water	6010C	585922

Prep Batch: 586828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-1	MW-32I-061621	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 586828 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-586828/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-586828/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 586918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-1	MW-32I-061621	Dissolved	Water	7470A	586828
MB 480-586828/1-A	Method Blank	Total/NA	Water	7470A	586828
LCS 480-586828/2-A	Lab Control Sample	Total/NA	Water	7470A	586828

Prep Batch: 587808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-1	MW-32I-061621	Dissolved	Water	3005A	
MB 480-587808/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 480-587808/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 480-587808/25-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Analysis Batch: 587970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-1	MW-32I-061621	Dissolved	Water	6010C	587808
MB 480-587808/1-A	Method Blank	Total Recoverable	Water	6010C	587808
LCS 480-587808/2-A	Lab Control Sample	Total Recoverable	Water	6010C	587808
LCSD 480-587808/25-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	587808

General Chemistry

Analysis Batch: 585898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186156-1	MW-32I-061621	Total/NA	Water	7196A	
480-186156-2	MW-26R-061621	Total/NA	Water	7196A	
480-186156-3	MW-32-061621	Total/NA	Water	7196A	
480-186156-4	FD-061621	Total/NA	Water	7196A	
480-186156-5	SW-1-061621	Total/NA	Water	7196A	
480-186156-6	SW-2-061621	Total/NA	Water	7196A	
MB 480-585898/3	Method Blank	Total/NA	Water	7196A	
LCS 480-585898/4	Lab Control Sample	Total/NA	Water	7196A	
LCSD 480-585898/5	Lab Control Sample Dup	Total/NA	Water	7196A	
480-186156-5 MS	SW-1-061621	Total/NA	Water	7196A	
480-186156-5 MSD	SW-1-061621	Total/NA	Water	7196A	

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: MW-32I-061621

Lab Sample ID: 480-186156-1

Date Collected: 06/16/21 09:40
Date Received: 06/16/21 16:22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			587808	07/02/21 06:47	KMP	TAL BUF
Dissolved	Analysis	6010C		1	587970	07/02/21 14:09	AMH	TAL BUF
Dissolved	Prep	7470A			586828	06/24/21 13:41	BMB	TAL BUF
Dissolved	Analysis	7470A		1	586918	06/24/21 16:31	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585898	06/17/21 10:00	CLT	TAL BUF

Client Sample ID: MW-26R-061621

Lab Sample ID: 480-186156-2

Date Collected: 06/16/21 09:45
Date Received: 06/16/21 16:22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	586188	06/21/21 12:34	CRL	TAL BUF
Total/NA	Prep	3510C			586071	06/18/21 14:31	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	586260	06/21/21 15:51	IMZ	TAL BUF
Total/NA	Prep	3535			168175	06/21/21 12:45	KFW	TAL BUR
Total/NA	Analysis	537 (modified)		1	168238	06/22/21 14:47	BWC	TAL BUR
Total/NA	Prep	3005A			585922	06/18/21 07:40	KMP	TAL BUF
Total/NA	Analysis	6010C		1	586608	06/22/21 14:10	LMH	TAL BUF
Total/NA	Prep	7470A			586109	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 18:24	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585898	06/17/21 10:00	CLT	TAL BUF

Client Sample ID: MW-32-061621

Lab Sample ID: 480-186156-3

Date Collected: 06/16/21 10:50
Date Received: 06/16/21 16:22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			585922	06/18/21 07:40	KMP	TAL BUF
Total/NA	Analysis	6010C		1	586608	06/22/21 14:14	LMH	TAL BUF
Total/NA	Prep	7470A			586109	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 18:25	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585898	06/17/21 10:00	CLT	TAL BUF

Client Sample ID: FD-061621

Lab Sample ID: 480-186156-4

Date Collected: 06/16/21 00:00
Date Received: 06/16/21 16:22

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	586191	06/21/21 16:31	CRL	TAL BUF
Total/NA	Prep	3510C			586071	06/18/21 14:31	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	586260	06/21/21 16:15	IMZ	TAL BUF
Total/NA	Prep	3535			168175	06/21/21 12:45	KFW	TAL BUR
Total/NA	Analysis	537 (modified)		1	168238	06/22/21 15:04	BWC	TAL BUR
Total/NA	Prep	3005A			585922	06/18/21 07:40	KMP	TAL BUF
Total/NA	Analysis	6010C		1	586608	06/22/21 14:18	LMH	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: FD-061621
Date Collected: 06/16/21 00:00
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			586109	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 18:26	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585898	06/17/21 10:00	CLT	TAL BUF

Client Sample ID: SW-1-061621
Date Collected: 06/16/21 14:20
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	586191	06/21/21 16:54	CRL	TAL BUF
Total/NA	Prep	3005A			585922	06/18/21 07:40	KMP	TAL BUF
Total/NA	Analysis	6010C		1	586608	06/22/21 14:22	LMH	TAL BUF
Total/NA	Prep	7470A			586109	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 18:28	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585898	06/17/21 10:00	CLT	TAL BUF

Client Sample ID: SW-2-061621
Date Collected: 06/16/21 14:55
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	586191	06/21/21 17:17	CRL	TAL BUF
Total/NA	Prep	3005A			585922	06/18/21 07:40	KMP	TAL BUF
Total/NA	Analysis	6010C		1	586608	06/22/21 14:51	LMH	TAL BUF
Total/NA	Prep	7470A			586109	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 18:35	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585898	06/17/21 10:00	CLT	TAL BUF

Client Sample ID: FB-061621
Date Collected: 06/16/21 15:15
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			168175	06/21/21 12:45	KFW	TAL BUR
Total/NA	Analysis	537 (modified)		1	168238	06/22/21 15:12	BWC	TAL BUR

Client Sample ID: EB-061621-1
Date Collected: 06/16/21 15:20
Date Received: 06/16/21 16:22

Lab Sample ID: 480-186156-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			168175	06/21/21 12:45	KFW	TAL BUR
Total/NA	Analysis	537 (modified)		1	168238	06/22/21 15:20	BWC	TAL BUR

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Client Sample ID: EB-061621-2

Lab Sample ID: 480-186156-9

Date Collected: 06/16/21 15:25

Matrix: Water

Date Received: 06/16/21 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			586071	06/18/21 14:31	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	586260	06/21/21 16:38	IMZ	TAL BUF

Client Sample ID: TB-061621

Lab Sample ID: 480-186156-10

Date Collected: 06/16/21 00:00

Matrix: Water

Date Received: 06/16/21 16:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	586188	06/21/21 12:57	CRL	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186156-1
Project/Site: Vanadium Site - National Grid

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-22

Laboratory: Eurofins TestAmerica, Burlington

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10391	04-01-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)
537 (modified)	3535	Water	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (PFOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR
5030C	Purge and Trap	SW846	TAL BUF
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-186156-1	MW-32I-061621	Water	06/16/21 09:40	06/16/21 16:22	
480-186156-2	MW-26R-061621	Water	06/16/21 09:45	06/16/21 16:22	
480-186156-3	MW-32-061621	Water	06/16/21 10:50	06/16/21 16:22	
480-186156-4	FD-061621	Water	06/16/21 00:00	06/16/21 16:22	
480-186156-5	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22	
480-186156-6	SW-2-061621	Water	06/16/21 14:55	06/16/21 16:22	
480-186156-7	FB-061621	Water	06/16/21 15:15	06/16/21 16:22	
480-186156-8	EB-061621-1	Water	06/16/21 15:20	06/16/21 16:22	
480-186156-9	EB-061621-2	Water	06/16/21 15:25	06/16/21 16:22	
480-186156-10	TB-061621	Water	06/16/21 00:00	06/16/21 16:22	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

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Client Information	Sampler: MAZ, ECL	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-161589-35499.2
Client Contact: Ms. Deborah Wright	Phone: 315-263-6009	E-Mail: John.Schove@Eurofinset.com	State of Origin: NY	Page: Page 1 of 1
Company: O'Brien & Gere Inc of North America	PWSID:	Analysis Requested		Job #:
Address: PO BOX 4873	Due Date Requested:			
City: Syracuse	TAT Requested (days):			
State, Zip: NY, 13221	Compliance Project: Δ Yes Δ No			
Phone: 315-437-6100(Tel)	PO #: 1951002549			
Email: deborah.wright@ramboll.com	WO #:			
Project Name: Vanadium Site - National Grid	Project #: 48023595			
Site: Vanadium	SSOW#:			

480-186156 Chain of Custody

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
H2SO4
TSP Dodecahydrate
Acetone
MCAA
- pH 4-5
- other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	7196A - Chromium, Hexavalent	8260C - TCL VOCs	PFC_IDA - PFAS, Standard List (21 analytes)	8270D_SIM_MS_ID - 1,4 Dioxane	Total Number	Special Instructions/Note:
			Preservation Code:				D	N	A	N	N		
MW-32I-061621	6/16/21	0940	G	Water	X		X	X					Field Filtered
MW-26R-061621	6/16/21	0945	G	Water			X	X	X	X	X		
MW-32-061621	6/16/21	1050	G	Water			X	X					
MAZ FD-061621	6/16/21	—	G	Water			X	X	X	X	X		
SW-1-061621	6/16/21	1420	G	Water		X	X	X	X				
SW-2-061621	6/16/21	1455	G	Water			X	X	X				
FB-061621	6/16/21	1515	G	Water						X			
EB-061621-1	6/16/21	1520	G	Water						X			
EB-061621-2	6/16/21	1525	G	Water							X		
TB-061621	6/16/21	—	G	Water					X				
				Water									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Matthew Zeeble	6/16/21 1622	Ramboll			
				6/16/21 1622	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.1 3.2 #1

Ver: 11/01/2020

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-186156 Chain of Custody

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R	COC No: 480-64593.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@Eurofinset.com	State of Origin: New York	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York	Job #: 480-186156-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 6/29/2021		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: Vanadium Site - National Grid	Project #: 48023595		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IVWT PFAS, Standard List (21 analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-26R-061621 (480-186156-2)	6/16/21	09:45 Eastern		Water			X	2	
FD-061621 (480-186156-4)	6/16/21	Eastern		Water			X	2	
FB-061621 (480-186156-7)	6/16/21	15:15 Eastern		Water			X	2	
EB-061621-1 (480-186156-8)	6/16/21	15:20 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	6-17-21 1700	TAB	Taylor J Whitthouse	6/18/21 1045	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

ORIGIN ID:DKKA (716) 691-2600
SAMPLE RECEIPT
EUROFINS TESTAMERICA BUFFALO
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 17JUN21
ACTWGT: 22.40 LB
CAD: 848654/CAFE3409
DIMS: 19x15x10 IN

BILL SENDER

TO SAMPLE MGT.
TA BURLINGTON
530 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1026
REF: TA BURLINGTON

FedEx Express

TRK# 0201 1888 3864 3050

FRI - 18 JUN 10:30A
PRIORITY OVERNIGHT

NL BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-186156-1

Login Number: 186156
List Number: 1
Creator: Stopa, Erik S

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ramboll
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-186156-1

Login Number: 186156
List Number: 2
Creator: McNabb, Robert W

List Source: Eurofins TestAmerica, Burlington
List Creation: 06/18/21 03:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	1513184
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-186053-1
Client Project/Site: Vanadium Site - National Grid

For:
O'Brien & Gere Inc of North America
PO BOX 4873
Syracuse, New York 13221

Attn: Ms. Deborah Wright

Authorized for release by:
6/25/2021 10:53:31 AM
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

John Schove, Project Manager II
(716)504-9838
John.Schove@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-186053-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-186053-1

Comments
No additional comments.

Receipt
The samples were received on 6/15/2021 4:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Client Sample ID: MW-31-061521 — Lab Sample ID: 480-186053-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.088		0.0020	0.00070	mg/L	1		6010C	Total/NA

Client Sample ID: MW-30-061521 — Lab Sample ID: 480-186053-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	1.7		1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	12		4.1	0.74	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.31	J	1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		1.7	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1	J	1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.7		1.7	0.37	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.5	J	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.50	J	1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.2		1.7	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.2		1.7	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.1		1.7	0.39	ng/L	1		537 (modified)	Total/NA
Barium	0.33		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.26		0.0040	0.0010	mg/L	1		6010C	Total/NA
Selenium	0.014	J	0.025	0.0087	mg/L	1		6010C	Total/NA
Chromium, hexavalent	0.19		0.010	0.0050	mg/L	1		7196A	Total/NA

Client Sample ID: MW-16R-061521 — Lab Sample ID: 480-186053-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.038		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0015	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: MW-16RI-061521 — Lab Sample ID: 480-186053-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.078		0.0020	0.00070	mg/L	1		6010C	Total/NA
Chromium	0.0010	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-31-061521
Lab Sample ID: 480-186053-1
Date Collected: 06/15/21 14:45
Matrix: Water
Date Received: 06/15/21 16:10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/17/21 10:08	06/17/21 18:34	1
Barium	**0.088**		0.0020	0.00070	mg/L		06/17/21 10:08	06/17/21 18:34	1
Cadmium	ND		0.0020	0.00050	mg/L		06/17/21 10:08	06/17/21 18:34	1
Chromium	ND		0.0040	0.0010	mg/L		06/17/21 10:08	06/17/21 18:34	1
Lead	ND		0.010	0.0030	mg/L		06/17/21 10:08	06/17/21 18:34	1
Selenium	ND		0.025	0.0087	mg/L		06/17/21 10:08	06/17/21 18:34	1
Silver	ND		0.0060	0.0017	mg/L		06/17/21 10:08	06/17/21 18:34	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 17:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/16/21 10:55	1

Client Sample ID: MW-30-061521
Lab Sample ID: 480-186053-2
Date Collected: 06/15/21 12:45
Matrix: Water
Date Received: 06/15/21 16:10

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.19	0.095	ug/L		06/17/21 09:05	06/23/21 19:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*29*		*15 - 110*	*06/17/21 09:05*	*06/23/21 19:22*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.7	0.32	ng/L		06/21/21 12:45	06/22/21 13:32	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		4.1	0.91	ng/L		06/21/21 12:45	06/22/21 13:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.1	0.62	ng/L		06/21/21 12:45	06/22/21 13:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.1	0.75	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorobutanesulfonic acid (PFBS)	**1.7**		1.7	0.21	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorobutanoic acid (PFBA)	**12**		4.1	0.74	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.25	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorodecanoic acid (PFDA)	**0.31**	**J**	1.7	0.25	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.32	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.19	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		1.7	0.20	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**	**J**	1.7	0.25	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorohexanoic acid (PFHxA)	**4.7**		1.7	0.37	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorononanoic acid (PFNA)	**1.5**	**J**	1.7	0.23	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorooctanesulfonamide (PFOSA)	**0.50**	**J**	1.7	0.48	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorooctanesulfonic acid (PFOS)	**6.2**		1.7	0.24	ng/L		06/21/21 12:45	06/22/21 13:32	1

Client Sample ID: MW-30-061521

Date Collected: 06/15/21 12:45
Date Received: 06/15/21 16:10

Lab Sample ID: 480-186053-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**7.2**		1.7	0.35	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluoropentanoic acid (PFPeA)	**4.1**		1.7	0.39	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.52	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.36	ng/L		06/21/21 12:45	06/22/21 13:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.28	ng/L		06/21/21 12:45	06/22/21 13:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*91*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C2 PFDoA	*93*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C2 PFHxA	*85*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C2 PFUnA	*95*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C3 PFBS	*85*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C4 PFBA	*27*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C4 PFHpA	*88*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C4 PFOA	*95*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C4 PFOS	*75*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C5 PFNA	*95*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C5 PFPeA	*77*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
13C8 FOSA	*68*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
18O2 PFHxS	*73*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
d3-NMeFOSAA	*106*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
d5-NEtFOSAA	*121*		*50 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
M2-6:2 FTS	*113*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*
M2-8:2 FTS	*126*		*25 - 150*	*06/21/21 12:45*	*06/22/21 13:32*	*1*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/17/21 10:08	06/17/21 18:38	1
Barium	**0.33**		0.0020	0.00070	mg/L		06/17/21 10:08	06/17/21 18:38	1
Cadmium	ND		0.0020	0.00050	mg/L		06/17/21 10:08	06/17/21 18:38	1
Chromium	**0.26**		0.0040	0.0010	mg/L		06/17/21 10:08	06/17/21 18:38	1
Lead	ND		0.010	0.0030	mg/L		06/17/21 10:08	06/17/21 18:38	1
Selenium	**0.014**	**J**	0.025	0.0087	mg/L		06/17/21 10:08	06/17/21 18:38	1
Silver	ND		0.0060	0.0017	mg/L		06/17/21 10:08	06/17/21 18:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 17:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.19**		0.010	0.0050	mg/L			06/16/21 10:55	1

Client Sample ID: MW-16R-061521

Date Collected: 06/15/21 12:35
Date Received: 06/15/21 16:10

Lab Sample ID: 480-186053-3

Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/17/21 10:08	06/17/21 18:53	1

Client Sample ID: MW-16R-061521

Lab Sample ID: 480-186053-3

Date Collected: 06/15/21 12:35

Matrix: Water

Date Received: 06/15/21 16:10

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**0.038**		0.0020	0.00070	mg/L		06/17/21 10:08	06/17/21 18:53	1
Cadmium	ND		0.0020	0.00050	mg/L		06/17/21 10:08	06/17/21 18:53	1
Chromium	**0.0015**	**J**	0.0040	0.0010	mg/L		06/17/21 10:08	06/17/21 18:53	1
Lead	ND		0.010	0.0030	mg/L		06/17/21 10:08	06/17/21 18:53	1
Selenium	ND		0.025	0.0087	mg/L		06/17/21 10:08	06/17/21 18:53	1
Silver	ND		0.0060	0.0017	mg/L		06/17/21 10:08	06/17/21 18:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/16/21 10:55	1

Client Sample ID: MW-16RI-061521

Lab Sample ID: 480-186053-4

Date Collected: 06/15/21 11:30

Matrix: Water

Date Received: 06/15/21 16:10

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/17/21 10:08	06/17/21 18:57	1
Barium	**0.078**		0.0020	0.00070	mg/L		06/17/21 10:08	06/17/21 18:57	1
Cadmium	ND		0.0020	0.00050	mg/L		06/17/21 10:08	06/17/21 18:57	1
Chromium	**0.0010**	**J**	0.0040	0.0010	mg/L		06/17/21 10:08	06/17/21 18:57	1
Lead	ND		0.010	0.0030	mg/L		06/17/21 10:08	06/17/21 18:57	1
Selenium	ND		0.025	0.0087	mg/L		06/17/21 10:08	06/17/21 18:57	1
Silver	ND		0.0060	0.0017	mg/L		06/17/21 10:08	06/17/21 18:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 17:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/16/21 10:55	1

Isotope Dilution Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186053-1
Project/Site: Vanadium Site - National Grid

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(15-110)
480-186053-2	MW-30-061521	29
LCS 480-585829/2-A	Lab Control Sample	37
MB 480-585829/1-A	Method Blank	39

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDA	PFDoA	PFHxA	PFTDA	PFUnA	C3PFBS	PFBA	C4PFHA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(25-150)	(50-150)
480-186053-2	MW-30-061521	91	93	85	83	95	85	27	88
LCS 200-168175/2-A	Lab Control Sample	102	78	97	72	91	83	97	97
MB 200-168175/1-A	Method Blank	101	78	103	71	89	85	94	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOA	PFOS	PFNA	PFPeA	PFOSA	PFHxS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(25-150)	(25-150)	(50-150)	(50-150)	(50-150)
480-186053-2	MW-30-061521	95	75	95	77	68	73	106	121
LCS 200-168175/2-A	Lab Control Sample	102	87	104	99	63	84	114	100
MB 200-168175/1-A	Method Blank	98	84	103	99	63	80	102	98

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
480-186053-2	MW-30-061521	113	126
LCS 200-168175/2-A	Lab Control Sample	94	111
MB 200-168175/1-A	Method Blank	96	109

Surrogate Legend

PFDA = 13C2 PFDA
PFDoA = 13C2 PFDoA
PFHxA = 13C2 PFHxA
PFTDA = 13C2 PFTeDA
PFUnA = 13C2 PFUnA
C3PFBS = 13C3 PFBS
PFBA = 13C4 PFBA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFOS = 13C4 PFOS
PFNA = 13C5 PFNA
PFPeA = 13C5 PFPeA
PFOSA = 13C8 FOSA
PFHxS = 18O2 PFHxS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-585829/1-A
Matrix: Water
Analysis Batch: 586672

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 585829

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20	0.10	ug/L		06/17/21 09:05	06/23/21 16:37	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*39*		*15 - 110*	*06/17/21 09:05*	*06/23/21 16:37*	*1*

Lab Sample ID: LCS 480-585829/2-A
Matrix: Water
Analysis Batch: 586672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585829

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.00	1.08		ug/L		108	40 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*37*		*15 - 110*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-168175/1-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168175

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		2.0	0.39	ng/L		06/21/21 12:45	06/22/21 13:16	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		5.0	1.1	ng/L		06/21/21 12:45	06/22/21 13:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	0.74	ng/L		06/21/21 12:45	06/22/21 13:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	0.90	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.25	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorobutanoic acid (PFBA)	ND		5.0	0.89	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.39	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.23	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.24	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.30	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.45	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.58	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.29	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.42	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.47	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.63	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.43	ng/L		06/21/21 12:45	06/22/21 13:16	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.34	ng/L		06/21/21 12:45	06/22/21 13:16	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	101		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C2 PFDoA	78		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C2 PFHxA	103		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C2 PFTeDA	71		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C2 PFUnA	89		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C3 PFBS	85		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C4 PFBA	94		25 - 150	06/21/21 12:45	06/22/21 13:16	1
13C4 PFHpA	94		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C4 PFOA	98		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C4 PFOS	84		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C5 PFNA	103		50 - 150	06/21/21 12:45	06/22/21 13:16	1
13C5 PFPeA	99		25 - 150	06/21/21 12:45	06/22/21 13:16	1
13C8 FOSA	63		25 - 150	06/21/21 12:45	06/22/21 13:16	1
18O2 PFHxS	80		50 - 150	06/21/21 12:45	06/22/21 13:16	1
d3-NMeFOSAA	102		50 - 150	06/21/21 12:45	06/22/21 13:16	1
d5-NEtFOSAA	98		50 - 150	06/21/21 12:45	06/22/21 13:16	1
M2-6:2 FTS	96		25 - 150	06/21/21 12:45	06/22/21 13:16	1
M2-8:2 FTS	109		25 - 150	06/21/21 12:45	06/22/21 13:16	1

Lab Sample ID: LCS 200-168175/2-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168175

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	40.7		ng/L		106	50 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	43.9		ng/L		116	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.8		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	38.8		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	39.8		ng/L		113	70 - 130
Perfluorobutanoic acid (PFBA)	40.0	43.1		ng/L		108	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	33.8		ng/L		88	50 - 150
Perfluorodecanoic acid (PFDA)	40.0	45.6		ng/L		114	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	42.7		ng/L		107	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.2		ng/L		108	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	42.9		ng/L		107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	38.9		ng/L		107	70 - 130
Perfluorohexanoic acid (PFHxA)	40.0	44.1		ng/L		110	70 - 130
Perfluorononanoic acid (PFNA)	40.0	42.6		ng/L		106	70 - 130
Perfluorooctanesulfonamide (PFOSA)	40.0	40.9		ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	39.1		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	42.0		ng/L		105	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	44.9		ng/L		112	50 - 150
Perfluorotetradecanoic acid (PFTeA)	40.0	40.8		ng/L		102	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 200-168175/2-A
Matrix: Water
Analysis Batch: 168238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168175

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorotridecanoic acid (PFTriA)	40.0	39.9		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	45.1		ng/L		113	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*102*		*50 - 150*
13C2 PFDoA	*78*		*50 - 150*
13C2 PFHxA	*97*		*50 - 150*
13C2 PFTeDA	*72*		*50 - 150*
13C2 PFUnA	*91*		*50 - 150*
13C3 PFBS	*83*		*50 - 150*
13C4 PFBA	*97*		*25 - 150*
13C4 PFHpA	*97*		*50 - 150*
13C4 PFOA	*102*		*50 - 150*
13C4 PFOS	*87*		*50 - 150*
13C5 PFNA	*104*		*50 - 150*
13C5 PFPeA	*99*		*25 - 150*
13C8 FOSA	*63*		*25 - 150*
18O2 PFHxS	*84*		*50 - 150*
d3-NMeFOSAA	*114*		*50 - 150*
d5-NEtFOSAA	*100*		*50 - 150*
M2-6:2 FTS	*94*		*25 - 150*
M2-8:2 FTS	*111*		*25 - 150*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-585811/1-A
Matrix: Water
Analysis Batch: 586020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 585811

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/17/21 10:08	06/17/21 16:55	1
Barium	ND		0.0020	0.00070	mg/L		06/17/21 10:08	06/17/21 16:55	1
Cadmium	ND		0.0020	0.00050	mg/L		06/17/21 10:08	06/17/21 16:55	1
Chromium	ND		0.0040	0.0010	mg/L		06/17/21 10:08	06/17/21 16:55	1
Lead	ND		0.010	0.0030	mg/L		06/17/21 10:08	06/17/21 16:55	1
Selenium	ND		0.025	0.0087	mg/L		06/17/21 10:08	06/17/21 16:55	1
Silver	ND		0.0060	0.0017	mg/L		06/17/21 10:08	06/17/21 16:55	1

Lab Sample ID: LCS 480-585811/2-A
Matrix: Water
Analysis Batch: 586020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.209		mg/L		104	80 - 120
Barium	0.200	0.235		mg/L		117	80 - 120
Cadmium	0.200	0.208		mg/L		104	80 - 120
Chromium	0.200	0.212		mg/L		106	80 - 120
Lead	0.200	0.207		mg/L		103	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-585811/2-A
Matrix: Water
Analysis Batch: 586020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 585811

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.200	0.207		mg/L		103	80 - 120
Silver	0.0500	0.0513		mg/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-586106/1-A
Matrix: Water
Analysis Batch: 586328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 586106

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		06/21/21 13:35	06/21/21 16:42	1

Lab Sample ID: LCS 480-586106/2-A
Matrix: Water
Analysis Batch: 586328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 586106

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00687		mg/L		103	80 - 120

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-585741/3
Matrix: Water
Analysis Batch: 585741

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			06/16/21 10:55	1

Lab Sample ID: LCS 480-585741/4
Matrix: Water
Analysis Batch: 585741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0500	0.0528		mg/L		106	85 - 115

Lab Sample ID: 480-186053-3 MS
Matrix: Water
Analysis Batch: 585741

Client Sample ID: MW-16R-061521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0500	0.0503		mg/L		101	85 - 115

Lab Sample ID: 480-186053-2 DU
Matrix: Water
Analysis Batch: 585741

Client Sample ID: MW-30-061521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium, hexavalent	0.19		0.189		mg/L		0	20

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 480-186053-4 DU
Matrix: Water
Analysis Batch: 585741

Client Sample ID: MW-16RI-061521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chromium, hexavalent	ND			ND		mg/L				NC	20

GC/MS Semi VOA

Prep Batch: 585829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-2	MW-30-061521	Total/NA	Water	3510C	
MB 480-585829/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-585829/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 586672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-2	MW-30-061521	Total/NA	Water	8270D SIM ID	585829
MB 480-585829/1-A	Method Blank	Total/NA	Water	8270D SIM ID	585829
LCS 480-585829/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	585829

LCMS

Prep Batch: 168175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-2	MW-30-061521	Total/NA	Water	3535	
MB 200-168175/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-168175/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 168238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-2	MW-30-061521	Total/NA	Water	537 (modified)	168175
MB 200-168175/1-A	Method Blank	Total/NA	Water	537 (modified)	168175
LCS 200-168175/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	168175

Metals

Prep Batch: 585811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-1	MW-31-061521	Total/NA	Water	3005A	
480-186053-2	MW-30-061521	Total/NA	Water	3005A	
480-186053-3	MW-16R-061521	Total/NA	Water	3005A	
480-186053-4	MW-16RI-061521	Total/NA	Water	3005A	
MB 480-585811/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-585811/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 586020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-1	MW-31-061521	Total/NA	Water	6010C	585811
480-186053-2	MW-30-061521	Total/NA	Water	6010C	585811
480-186053-3	MW-16R-061521	Total/NA	Water	6010C	585811
480-186053-4	MW-16RI-061521	Total/NA	Water	6010C	585811
MB 480-585811/1-A	Method Blank	Total/NA	Water	6010C	585811
LCS 480-585811/2-A	Lab Control Sample	Total/NA	Water	6010C	585811

Prep Batch: 586106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-1	MW-31-061521	Total/NA	Water	7470A	
480-186053-2	MW-30-061521	Total/NA	Water	7470A	
480-186053-3	MW-16R-061521	Total/NA	Water	7470A	
480-186053-4	MW-16RI-061521	Total/NA	Water	7470A	
MB 480-586106/1-A	Method Blank	Total/NA	Water	7470A	
LCS 480-586106/2-A	Lab Control Sample	Total/NA	Water	7470A	

QC Association Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Metals

Analysis Batch: 586328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-1	MW-31-061521	Total/NA	Water	7470A	586106
480-186053-2	MW-30-061521	Total/NA	Water	7470A	586106
480-186053-3	MW-16R-061521	Total/NA	Water	7470A	586106
480-186053-4	MW-16RI-061521	Total/NA	Water	7470A	586106
MB 480-586106/1-A	Method Blank	Total/NA	Water	7470A	586106
LCS 480-586106/2-A	Lab Control Sample	Total/NA	Water	7470A	586106

General Chemistry

Analysis Batch: 585741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-186053-1	MW-31-061521	Total/NA	Water	7196A	
480-186053-2	MW-30-061521	Total/NA	Water	7196A	
480-186053-3	MW-16R-061521	Total/NA	Water	7196A	
480-186053-4	MW-16RI-061521	Total/NA	Water	7196A	
MB 480-585741/3	Method Blank	Total/NA	Water	7196A	
LCS 480-585741/4	Lab Control Sample	Total/NA	Water	7196A	
480-186053-3 MS	MW-16R-061521	Total/NA	Water	7196A	
480-186053-2 DU	MW-30-061521	Total/NA	Water	7196A	
480-186053-4 DU	MW-16RI-061521	Total/NA	Water	7196A	

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Client Sample ID: MW-31-061521
Lab Sample ID: 480-186053-1
Date Collected: 06/15/21 14:45
Matrix: Water
Date Received: 06/15/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			585811	06/17/21 10:08	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586020	06/17/21 18:34	AMH	TAL BUF
Total/NA	Prep	7470A			586106	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 17:04	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585741	06/16/21 10:55	KEB	TAL BUF

Client Sample ID: MW-30-061521
Lab Sample ID: 480-186053-2
Date Collected: 06/15/21 12:45
Matrix: Water
Date Received: 06/15/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			585829	06/17/21 09:05	JMP	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	586672	06/23/21 19:22	IMZ	TAL BUF
Total/NA	Prep	3535			168175	06/21/21 12:45	KFW	TAL BUR
Total/NA	Analysis	537 (modified)		1	168238	06/22/21 13:32	BWC	TAL BUR
Total/NA	Prep	3005A			585811	06/17/21 10:08	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586020	06/17/21 18:38	AMH	TAL BUF
Total/NA	Prep	7470A			586106	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 17:05	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585741	06/16/21 10:55	KEB	TAL BUF

Client Sample ID: MW-16R-061521
Lab Sample ID: 480-186053-3
Date Collected: 06/15/21 12:35
Matrix: Water
Date Received: 06/15/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			585811	06/17/21 10:08	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586020	06/17/21 18:53	AMH	TAL BUF
Total/NA	Prep	7470A			586106	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 17:07	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585741	06/16/21 10:55	KEB	TAL BUF

Client Sample ID: MW-16RI-061521
Lab Sample ID: 480-186053-4
Date Collected: 06/15/21 11:30
Matrix: Water
Date Received: 06/15/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			585811	06/17/21 10:08	ADM	TAL BUF
Total/NA	Analysis	6010C		1	586020	06/17/21 18:57	AMH	TAL BUF
Total/NA	Prep	7470A			586106	06/21/21 13:35	BMB	TAL BUF
Total/NA	Analysis	7470A		1	586328	06/21/21 17:08	BMB	TAL BUF
Total/NA	Analysis	7196A		1	585741	06/16/21 10:55	KEB	TAL BUF

Lab Chronicle

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: O'Brien & Gere Inc of North America
Job ID: 480-186053-1
Project/Site: Vanadium Site - National Grid

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-22

Laboratory: Eurofins TestAmerica, Burlington

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10391	04-01-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)
537 (modified)	3535	Water	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (PFOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Method	Method Description	Protocol	Laboratory
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF
7196A	Chromium, Hexavalent	SW846	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR
7470A	Preparation, Mercury	SW846	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-186053-1	MW-31-061521	Water	06/15/21 14:45	06/15/21 16:10	
480-186053-2	MW-30-061521	Water	06/15/21 12:45	06/15/21 16:10	
480-186053-3	MW-16R-061521	Water	06/15/21 12:35	06/15/21 16:10	
480-186053-4	MW-16RI-061521	Water	06/15/21 11:30	06/15/21 16:10	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: MAZ, ECL	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-161589-35499.1
Client Contact: Ms. Deborah Wright	Phone: 315-263-6007	E-Mail: John.Schove@Eurofinset.com	State of Origin: NY	Page: Page 1 of 4
Company: O'Brien & Gere Inc of North America	PWSID:	Analysis Requested		Job #:
Address: PO BOX 4873	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, M - Hexane, N - None, O - AsNaO2
City: Syracuse	TAT Requested (days):			
State, Zip: NY, 13221	Compliance Project: Δ Yes Δ No			
Phone: 315-437-6100(Tel)	PO #: 1951002549			
Email: deborah.wright@ramboll.com	WO #:			
Project Name: Vanadium Site - National Grid	Project #: 48023595			
Site: Vanadium	SSOW#:			Other:

480-186053 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	7196A - Chromium, Hexavalent	8260C - TCL VOCs	PFC_IDA - PFAS, Standard List (21 analytes)	8270D_SIM_MS_ID - 1,4 Dioxane	Total Number of con	Special Instructions/Note:
			Preservation Code:		X	X	D	N	A	N	N	X	
MW-31-061521	6/15/21	1445	G	Water			X	X					
MW-30-061521	6/15/21	1245	G	Water			X	X		X	X		
MW-16R-061521	6/15/21	1235	G	Water			X	X					
MW-16RI-061521	6/15/21	11:30	G	Water			X	X					
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									
				Water									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Matthew Zaske	6/15/21 1610	Ramboll	[illegible]	6/15/21 1610	TAT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.5

Ver: 11/01/2020

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

480-186053 Chain of Custody

Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schove, John R		
Client Contact: Shipping/Receiving	Phone:	E-Mail: John.Schove@Eurofinset.com	State of Origin: New York	Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - New York		Job #: 480-186053-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 6/29/2021			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: Vanadium Site - National Grid	Project #: 48023595			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_IWWT PFAS, Standard List (21 analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-30-061521 (480-186053-2)	6/15/21	12:45 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 6/16/21 1700	Company TA	Received by:	Date/Time: 6/17/21 1045	Company ETABU		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

ORIGIN ID:DKKA (716) 691-2600
SAMPLE RECEIPT
EUROFINS TESTAMERICA BUFFALO
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 16JUN21
ACTWGT: 20.50 LB
CAD: 846654/CAFE3409
DIMS: 19x15x10 IN

BILL SENDER

TO SAMPLE MGT.
TA BURLINGTON
530 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1026
REF: TA BURLINGTON

55DC3/B3B7/0582

FedEx Express

J2011201218011v

TRK# 0201 1888 3864 2867

THU - 17 JUN 10:30A
PRIORITY OVERNIGHT

NL BTVA

05403
VT-US BTV

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-186053-1

Login Number: 186053
List Number: 1
Creator: Wallace, Cameron

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	RAMBOLL
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: O'Brien & Gere Inc of North America

Job Number: 480-186053-1

Login Number: 186053
List Number: 2
Creator: Khudaier, Zahraa

List Source: Eurofins TestAmerica, Burlington
List Creation: 06/17/21 03:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	1513181
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT C

DUSR

Data Validation Services

120 Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone (518) 251-4429
harry@frontiernet.net

August 28, 2021

Deborah Wright
Ramboll Americas Engineering Solutions, Inc.
333 West Washington St.
Syracuse, NY 13221

RE: Validation of the National Grid Vanadium Site Analytical Laboratory Data
Data Usability Summary Report (DUSR)
Eurofins TestAmerica SDG Nos. 480-182652, 480-182677, 480-186053, 480-186156, and 480-186211

Dear Ms. Wright:

Review has been completed for the data packages generated by Eurofins TestAmerica that pertain to aqueous samples collected between 03/30/21 and 06/17/21 at the National Grid Vanadium site. Twelve samples and a field duplicate were processed for TCL volatiles, RCRA metals, and hexavalent chromium; the metals analyses of two of those samples were processed on the dissolved fraction. Five samples were processed for RCRA metals and hexavalent chromium; two of these were also processed for per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. Four samples were processed for RCRA metals and hexavalent chromium; the metals analyses of one of those samples were processed on the dissolved fraction. One sample and a field duplicate were processed for TCL volatiles, PFAS, 1,4-dioxane, RCRA metals, and hexavalent chromium. Equipment, field, trip blanks were processed. The analytical methodologies are those of the USEPA SW846, USEPA method TO-15, and a modified USEPA method 537.

The data packages submitted by the laboratory contain full deliverables for validation, and this usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents and the specific requirements of the analytical methodology. The following items were reviewed:

* Data Completeness
* Case Narrative
* Custody Documentation
* Holding Times
* Surrogate/Isotopic Dilution/Internal Standard Recoveries
* Method/Preparation/Canister Blanks
* Matrix Spike Recoveries/Duplicate Correlations
* Blind Field Duplicate Correlations
* Laboratory Control Sample (LCS)
* Instrumental Tunes
* Initial and Continuing Calibration Standards

* Serial Dilution Evaluation
* Method Compliance
* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review, as discussed in NYS DER-10 Appendix B Section 2.0 (c). Documentation of the outlying parameters cited in this report can be found in the laboratory data package.

In summary, the results for the samples are usable either as reported or with minor qualification. Data completeness, accuracy, precision, representativeness, reproducibility, and comparability are acceptable

The laboratory modifications to the USEPA method 537 are significant, including acceptance ranges, consistent in many respects to the advances in the available monitoring compounds. Validation actions are based on the laboratory procedures, in consideration that the laboratory undergoes NYS DOH and ELAP certifications. PFAS compounds are identified by their common acronyms in this report. The data package report forms reference both the technical names and the acronyms.

Validation data qualifier definitions and client sample identifications are attached to this text. Also included in this report are the laboratory EDDs with recommended qualifiers/edits applied in red.

Blind Field Duplicates

The blind field duplicate evaluations were performed on MW-30-033021 and MW-26R-061621. Correlations are within validation guidelines.

TCL Volatile Analyses by EPA 8260C

Matrix spikes of MW-31-033021 and SW-1-061621 show recoveries and duplicate correlations that are within validation guidelines, with the following exception, the result for which are qualified as estimated in the parent sample: toluene (123% and 131%) in MW-31-033021.

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination affecting sample reported results. Calibration standards show responses within validation action levels.

Some of the samples were processed at dilution due to foaming of the undiluted matrix

1,4-Dioxane Analyses by EPA8270D SIM

Matrix spikes performed on MW-24R-061721 show recoveries and duplicate correlations that are within validation guidelines.

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination. Calibration standards show responses within validation action levels.

PFAS by Modified EPA Method 537

The detection of PFOS in MW-24R-061721 is considered external contamination and edited to reflect non-detection due to presence in the associated field blank.

The detection of PFOS in FB-061621 is qualified as being the estimated maximum possible concentration (EMPC) due to an outlying ion ratio.

The matrix spikes of PFAS on MW-24R-061721 show recoveries and correlations within validation guidelines. LCS recoveries are compliant.

Isotopic dilution and internal standard recoveries fall within validation guidelines. Calibration standard responses are within validation action guidelines.

RCRA Metals' Analyses by EPA Methods 6010C and 7470B

Matrix spikes/duplicate evaluations performed for metals on MW-31-033021, MW-24R-061721 (ICP elements), MW-24RI-061721 mercury), and SW-1-061621. They show recoveries and correlations within validation guidelines.

Calibration standards show compliant recoveries and blanks show no contamination affecting sample reported results.

The ICP serial dilution evaluations of MW-31-0033021, MW-24R-061721 (ICP elements), and SW-1-061621 show acceptable correlations.

Hexavalent Chromium Analyses by EPA Method 7196A

The SW-1-061621 hexavalent chromium detected concentration of 0.015 mg/L is higher than the total chromium concentration of 0.0051 mg/L. In both bases, the associated QC, which includes matrix spikes of that sample for both fractions, is acceptable, and blanks show no contamination. Because the total chromium concentration is more definitive, interference may be contributory to the hexavalent chromium result. Therefore, the result for hexavalent chromium in SW-1-061621 is edited to reflect non-detection at an elevated reporting limit corresponding to the originally reported concentration, as the actual concentration is not definitively known.

The hexavalent chromium result for MW-24RI-061721 is below the reporting limit, and therefore qualified as estimated by the laboratory. That concentration is marginally higher than the total chromium result for that sample, and therefore there is likely a high bias to the hexavalent chromium result of the sample.

Matrix spikes/duplicate evaluations performed on MW-30-033021, MW-31-033021, X-1-033021, SW-1-061621, MW-18R-061721 (spike only), and MW-24RI-061721 (duplicate only). They show recoveries and correlations within validation guidelines, with the exception of those for MW-31-033021 (recoveries of 70%). The result for hexavalent chromium in that parent sample has been qualified as estimated.

Due to the timeframe of laboratory sample receipt, three samples were processed with the allowable holding time marginally exceeded by 1%. There is no perceived impact on the reported results, and no qualification is made.

Blanks show no contamination.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

Attachments: Validation Qualifier Definitions
Sample Identifications
Qualified Laboratory EQuIS EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Sample Summaries

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-182652-1	MW-32-033021	Water	03/30/21 15:50	03/30/21 16:40
480-182652-2	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40
480-182652-2 MS	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40
480-182652-2 MSD	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40
480-182652-3	MW-24RI-033021	Water	03/30/21 11:45	03/30/21 16:40
480-182652-4	MW-24R-033021	Water	03/30/21 11:00	03/30/21 16:40
480-182652-5	MW-16R-033021	Water	03/30/21 09:20	03/30/21 16:40
480-182652-6	MW-16RI-033021	Water	03/30/21 09:35	03/30/21 16:40
480-182652-7	MW-30-033021	Water	03/30/21 13:20	03/30/21 16:40
480-182652-8	X-1-033021	Water	03/30/21 00:00	03/30/21 16:40
480-182652-9	TB-1-033021	Water	03/30/21 00:00	03/30/21 16:40

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-182677-1	MW-32I-033121	Water	03/31/21 09:20	03/31/21 10:55
480-182677-2	MW-26R-033121	Water	03/31/21 10:00	03/31/21 10:55
480-182677-3	TB-2-033121	Water	03/31/21 00:00	03/31/21 10:55

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-186053-1	MW-31-061521	Water	06/15/21 14:45	06/15/21 16:10
480-186053-2	MW-30-061521	Water	06/15/21 12:45	06/15/21 16:10
480-186053-3	MW-16R-061521	Water	06/15/21 12:35	06/15/21 16:10
480-186053-4	MW-16RI-061521	Water	06/15/21 11:30	06/15/21 16:10

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-186156-1	MW-32I-061621	Water	06/16/21 09:40	06/16/21 16:22
480-186156-2	MW-26R-061621	Water	06/16/21 09:45	06/16/21 16:22
480-186156-3	MW-32-061621	Water	06/16/21 10:50	06/16/21 16:22
480-186156-4	FD-061621	Water	06/16/21 00:00	06/16/21 16:22
480-186156-5	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22
480-186156-5 MS	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22
480-186156-5 MSD	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22
480-186156-6	SW-2-061621	Water	06/16/21 14:55	06/16/21 16:22
480-186156-7	FB-061621	Water	06/16/21 15:15	06/16/21 16:22
480-186156-8	EB-061621-1	Water	06/16/21 15:20	06/16/21 16:22
480-186156-9	EB-061621-2	Water	06/16/21 15:25	06/16/21 16:22
480-186156-10	TB-061621	Water	06/16/21 00:00	06/16/21 16:22

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-186211-1	MW-18R-061721	Water	06/17/21 08:35	06/17/21 12:24
480-186211-2	MW-24RI-061721	Water	06/17/21 10:10	06/17/21 12:24
480-186211-3	MW-32I-061721	Water	06/17/21 11:20	06/17/21 12:24
480-186211-4	MW-24R-061721	Water	06/17/21 11:30	06/17/21 12:24
480-186211-5	TB-061721	Water	06/17/21 00:00	06/17/21 12:24

ATTACHMENT C

DUSR

Data Validation Services

120 Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone (518) 251-4429
harry@frontiernet.net

August 28, 2021

Deborah Wright
Ramboll Americas Engineering Solutions, Inc.
333 West Washington St.
Syracuse, NY 13221

RE: Validation of the National Grid Vanadium Site Analytical Laboratory Data
Data Usability Summary Report (DUSR)
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The data packages submitted by the laboratory contain full deliverables for validation, and this usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents and the specific requirements of the analytical methodology. The following items were reviewed:

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Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review, as discussed in NYS DER-10 Appendix B Section 2.0 (c). Documentation of the outlying parameters cited in this report can be found in the laboratory data package.

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TCL Volatile Analyses by EPA 8260C

Matrix spikes of MW-31-033021 and SW-1-061621 show recoveries and duplicate correlations that are within validation guidelines, with the following exception, the result for which are qualified as estimated in the parent sample: toluene (123% and 131%) in MW-31-033021.

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination affecting sample reported results. Calibration standards show responses within validation action levels.

Some of the samples were processed at dilution due to foaming of the undiluted matrix

1,4-Dioxane Analyses by EPA8270D SIM

Matrix spikes performed on MW-24R-061721 show recoveries and duplicate correlations that are within validation guidelines.

Holding times were met. Surrogate and internal standard recoveries are compliant. Blanks show no contamination. Calibration standards show responses within validation action levels.

PFAS by Modified EPA Method 537

The detection of PFOS in MW-24R-061721 is considered external contamination and edited to reflect non-detection due to presence in the associated field blank.

The detection of PFOS in FB-061621 is qualified as being the estimated maximum possible concentration (EMPC) due to an outlying ion ratio.

The matrix spikes of PFAS on MW-24R-061721 show recoveries and correlations within validation guidelines. LCS recoveries are compliant.

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The hexavalent chromium result for MW-24RI-061721 is below the reporting limit, and therefore qualified as estimated by the laboratory. That concentration is marginally higher than the total chromium result for that sample, and therefore there is likely a high bias to the hexavalent chromium result of the sample.

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Judy Harry

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Sample Identifications
Qualified Laboratory EQuIS EDDs

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J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
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UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
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R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
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Sample Summaries

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-182652-1	MW-32-033021	Water	03/30/21 15:50	03/30/21 16:40
480-182652-2	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40
480-182652-2 MS	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40
480-182652-2 MSD	MW-31-033021	Water	03/30/21 13:50	03/30/21 16:40
480-182652-3	MW-24RI-033021	Water	03/30/21 11:45	03/30/21 16:40
480-182652-4	MW-24R-033021	Water	03/30/21 11:00	03/30/21 16:40
480-182652-5	MW-16R-033021	Water	03/30/21 09:20	03/30/21 16:40
480-182652-6	MW-16RI-033021	Water	03/30/21 09:35	03/30/21 16:40
480-182652-7	MW-30-033021	Water	03/30/21 13:20	03/30/21 16:40
480-182652-8	X-1-033021	Water	03/30/21 00:00	03/30/21 16:40
480-182652-9	TB-1-033021	Water	03/30/21 00:00	03/30/21 16:40

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium

Job ID: 480-182677-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-182677-1	MW-32I-033121	Water	03/31/21 09:20	03/31/21 10:55
480-182677-2	MW-26R-033121	Water	03/31/21 10:00	03/31/21 10:55
480-182677-3	TB-2-033121	Water	03/31/21 00:00	03/31/21 10:55

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186053-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-186053-1	MW-31-061521	Water	06/15/21 14:45	06/15/21 16:10
480-186053-2	MW-30-061521	Water	06/15/21 12:45	06/15/21 16:10
480-186053-3	MW-16R-061521	Water	06/15/21 12:35	06/15/21 16:10
480-186053-4	MW-16RI-061521	Water	06/15/21 11:30	06/15/21 16:10

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186156-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-186156-1	MW-32I-061621	Water	06/16/21 09:40	06/16/21 16:22
480-186156-2	MW-26R-061621	Water	06/16/21 09:45	06/16/21 16:22
480-186156-3	MW-32-061621	Water	06/16/21 10:50	06/16/21 16:22
480-186156-4	FD-061621	Water	06/16/21 00:00	06/16/21 16:22
480-186156-5	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22
480-186156-5 MS	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22
480-186156-5 MSD	SW-1-061621	Water	06/16/21 14:20	06/16/21 16:22
480-186156-6	SW-2-061621	Water	06/16/21 14:55	06/16/21 16:22
480-186156-7	FB-061621	Water	06/16/21 15:15	06/16/21 16:22
480-186156-8	EB-061621-1	Water	06/16/21 15:20	06/16/21 16:22
480-186156-9	EB-061621-2	Water	06/16/21 15:25	06/16/21 16:22
480-186156-10	TB-061621	Water	06/16/21 00:00	06/16/21 16:22

Sample Summary

Client: O'Brien & Gere Inc of North America
Project/Site: Vanadium Site - National Grid

Job ID: 480-186211-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-186211-1	MW-18R-061721	Water	06/17/21 08:35	06/17/21 12:24
480-186211-2	MW-24RI-061721	Water	06/17/21 10:10	06/17/21 12:24
480-186211-3	MW-32I-061721	Water	06/17/21 11:20	06/17/21 12:24
480-186211-4	MW-24R-061721	Water	06/17/21 11:30	06/17/21 12:24
480-186211-5	TB-061721	Water	06/17/21 00:00	06/17/21 12:24