PERIODIC REVIEW REPORT
MARCH 2017 – MARCH 2020

SCHATZ FEDERAL BEARINGS
POUGHKEEPSIE, NEW YORK 12601

NYSDEC Site No. 3-14-003
Work Assignment No. D007620-45

Prepared for:

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

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TRC Project No. 320919

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LIST OF ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
AROD	Amended Record of Decision
COCs	Contaminants of Concern
CY	Cubic Yard
DER	Division of Environmental Remediation
DUSRs	Data Usability Summary Reports
Eurofins/TestAmerica	Eurofins/TestAmerica Laboratories of Amherst, New York
GWMR	Groundwater Monitoring Report
HASP	Health and Safety Plan
ICs/ECs	Institutional Controls/Engineering Controls
IHWDS	Inactive Hazardous Waste Disposal Site
NYSDEC	New York State Department of Environmental Conservation
NYS	New York State
NYSDOH	New York State Department of Health
OM&M	Operation, Maintenance and Monitoring
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PFAS	Per- and Polyfluoroalkyl Substances
PPM	Parts Per million
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RAOs	Remedial Action Objectives
Rev.	Revision
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SIM	Selected Ion Monitoring
SMP	Site Management Plan
SMR	Site Management Report
TAL	Target Analyte List
TCL	Target Compound List
TRC	TRC Engineers, Inc.
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WA	Work Assignment

Executive Summary

Category	Summary/Results
Engineering Controls	• Landfill cover system • Perimeter fence • Monitoring wells • Groundwater interceptor trench
Institutional Controls	• ROD (1989) • AROD (1994) • SMP (2019) • Groundwater- and land-use restriction
Site Classification	Class 4 IHWDS
Site Management Plan	SMP Rev. No. 1 – April 2014 SMP Rev. No. 2 – April 2019
Certification/Reporting Period	The SMP (2019) requires a GWMR every 5th quarter and a PRR every 3 years. The date of the most recent GWMR April 2018. The most recent PRR was completed for the period March 2014 to March 2017.
Inspection	**Frequency**
Site Inspection	Semi-annual
Monitoring	**Frequency**
Groundwater, Surface Water and Sediment	Every 5th quarter
Prior PRR/GWMR Recommendations	The 2017 PRR recommended adding VOCs and filtered metals (to account for elevated turbidity) to the Site groundwater analyte list. The analytes were added to the Site monitoring program following issuance of the April 2019 SMP.
Site Management Activities (March 2017 to December 2018) – AECOM Technical Services Northeast, Inc.	Based upon correspondence with the NYSDEC, site management activities from March 2017 through December 2018 were completed by AECOM Technical Services Northeast, Inc. During this time, three site inspections, one round of groundwater level measurements, and one groundwater sampling event were completed. Reports and correspondence regarding these activities have been submitted to the NYSDEC separately and have been incorporated into this PRR (sampling results only). • 03/21/2017: Site Inspection and Landfill Gas Monitoring Event. • 09/20/2017: Site Inspection and Landfill Gas Monitoring Event. • 04/25/2018: 14 monitoring wells were gauged. Twelve of the 14 monitoring wells were sampled. • 05/03/2018: Site Inspection and Landfill Gas Monitoring Event.

Site Management Activities (January 2019 to March 2020) - TRC	Site management activities from January 2019 to March 2020 included two Site inspections, one round of groundwater level measurements, and one sampling event. • 03/21/2019: Site Inspection and Landfill Gas Monitoring Event. • 09/24/2019: Site Inspection and Landfill Gas Monitoring Event. • 09/24/2019: 14 monitoring wells were gauged. Eleven of the 14 monitoring wells were sampled. Additionally, six surface water and six sediment samples were collected from the ponded area, located on the west side of the Site.
Category	**Summary/Results**
Significant Findings or Concerns	1. Arsenic in monitoring well S-7 and lead in monitoring well S-1 were detected at concentrations above Class GA Values in the filtered groundwater samples. 2. PFAS were detected at concentrations exceeding their guidance values in the downgradient co-located overburden/bedrock monitoring wells S-3/B-3. 3. Metals were detected at elevated concentrations in the surface water and sediment samples submitted for analysis. 4. PCBs were detected at concentrations slightly above Class B Freshwater Guidance Values in SED-3A and Class C Freshwater Guidance Values in the sediment sample collected from SED-3B.
Recommendations	1. Site inspection frequency should be reduced from semi-annual to annual and following severe weather events (as needed) to certify that the ICs/ECs are functioning as intended. A site inspection report should be completed following each inspection event. 2. Water level measurements should continue to be collected from the Site monitoring wells during the inspection and sampling events. 3. Based on the elevated PFAS results in downgradient overburden and bedrock monitoring wells S-3 and B-3, PFAS should be included as an analyte in all monitoring wells for at least one future groundwater sampling event to confirm the presence/absence of PFAS at the Site. 4. It is recommended that the groundwater, surface water and sediment sampling frequency be reduced from one sampling event every fifth quarter to one sampling event every three years. 5. The GWMR requirement should be eliminated. 6. The April 2019 SMP should be revised to reflect the above changes/modifications, if the changes are acceptable to the NYSDEC.
Cost Evaluation	The total cost of TRC's site management activities for the period January 1, 2019 through March 31, 2020 was $44,225.00. This cost includes engineering (e.g., labor and expense) and subcontractor costs (i.e., laboratory). It should be noted that this total does not include any direct costs incurred by the NYSDEC.

1.0 Introduction

This PRR has been prepared for the Schatz Federal Bearings Site (referred to as "the Site") and covers the period March 2017 through March 2020. This report was prepared in accordance with the NYSDEC DER WA No. D007620-45 Notice to Proceed dated October 11, 2018, the NYSDEC-approved amended Scope of Work dated February 26, 2020 (WA No. D007620-45.1) and NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (NYSDEC DER-10). This PRR discusses the Site management activities and results from those activities, performed by TRC from January 2019 to March 2020. Site Management Activities conducted from March 2017 to December 2018 were performed by others. Documents pertaining to activities completed by others were not available for review and are incorporated only by reference where applicable.

Site and applicable remedial program information is summarized below.

Site Information			
Site Name:	Schatz Federal Bearings	**NYSDEC Site No:**	3-14-003
Site Location:	Van Wagner Road, Poughkeepsie, Dutchess County, NY	**Remedial Program:**	State Superfund Program
Site Type:	Landfill	**Classification:**	04
Parcel Identification(s):	134689-6262-03-101380-0000, Dutchess County Tax Map	**Parcel Acreage / EE Acreage:**	56.6 / Not Applicable
Selected Remedy:	Landfill cover system, perimeter fence, groundwater monitoring, and groundwater interceptor trench	**Site COC(s):**	• VOCs • PCBs • Metals
Current Remedial Program Phase:	Post RA Site Monitoring; Site Management	**Institutional Controls:**	• ROD (1989) / AROD (1994) • EN (2014) • SMP (2019)
Post-Remediation Monitoring and Sampling Frequency:	Every 5 quarters - Groundwater, surface water, and sediment sampling Semi-annual - Site inspection	**Engineering Controls:**	Landfill cover system, perimeter fence, monitoring wells, and groundwater interceptor trench
Monitoring Well Network:	9 overburden and 5 bedrock monitoring wells Bedrock monitoring wells (5)	**Required Reporting**	PRR – Every 3 years Groundwater Monitoring Report – Every 5 quarters or as part of the PRR.

1.1 Site Location, Ownership, and Description

The Schatz Federal Bearings site is located at 223-247 Van Wagner Road, about two miles northeast of downtown Poughkeepsie, Dutchess County, New York. Refer to **Figure 1**, Site Location Map. The Site area consists of a ± 22-acre portion of a 56.6-acre property identified on the Dutchess County Tax Maps as Section 6262, Block 03, Lot 101380 (tax parcel identification 134689-6262-03-101380-0000). The current owner of the property is listed as McKebe Corporation in the Dutchess County Tax Records. The Site is currently unoccupied, and there are no structures on the property.

The Site area was originally a wetland that was filled by waste disposal activities and transfer of soil from surrounding upland areas. Disposal activities occurred from 1935 to 1973 and included an estimated 125,000 cubic yards of municipal and industrial waste. A major contributor of the waste was Schatz Federal Bearing Co., which operated at the Site from 1949 until 1973. Manufacturing waste including cuttings oils, lubricants, grinding sludges, solvents, coolants and metal parts were disposed of at the Site. Historical photographs of the Site showed areas of solid waste, liquids and drums within the Site boundaries.

A remedial action, which included consolidating and capping the waste on the Site among other activities described in Section 1.2 below, was completed in 1997. The capped area comprises approximately 5-acres of the approximately 22-acre Site area and is surrounded by a drainage swale, gravel access road, and chain link fence. Access to the Site is from Van Wagner Road.

The Site rises from Van Wagner Road to a plateau surrounded by small hills, wetlands/ponded areas and forested areas. Abandoned railroad tracks run along the southwest border of the property, which have been redeveloped by the Rails-to-Trails Conservancy program into a paved bicycle/pedestrian path. The surrounding area is sparsely developed with mixed residential and commercial use. Three residences are adjacent to the Site, the nearest being approximately 100-feet east of the Site boundary. Businesses and homes adjacent to the Site are served by public water. Dutchess County Sanitation (FICA) landfill, a Class 04 IHWDS (Site No. 3-14-047), is located approximately 0.5 miles northeast of the Site. Refer to **Figure 2** for a Site Layout Map.

1.2 Investigation/Remedial History

A RI/FS was initiated at the Site by Metcalf & Eddy of New York, Inc. in July 1986 to determine the nature and extent of Site contamination. The RI was completed in April 1988 and reported the following:

- The Site contained an estimated 124,000 cubic yards of waste material from four primary waste areas including manufacturing waste (90,000 cy), municipal waste (24,000 cy), slag waste (5,000 cy), and sediment in on-site ponds (5,000 cy).
- Soil and on-site pond sediment were contaminated with VOCs, PAHs, PCBs, and metals including arsenic, cadmium, lead, barium, chromium, and zinc.
- The glacial soil aquifer was found to be contaminated with VOCs and metals including barium, chromium, and zinc.

- The bedrock aquifer was found to be contaminated with VOCs, PCBs, and metals including barium, cadmium, chromium, lead, mercury, and zinc.
- Contaminants may have migrated off-site via the bedrock aquifer and surface runoff. Groundwater movement is in a southerly direction, and some private wells both upgradient and downgradient of the Site were found to contain detectable concentrations of contaminants, possibly originating from the Site.

Remedial alternatives for the Site were screened and evaluated in Metcalf & Eddy of New York, Inc.'s September 1988 FS Report. Based on the results of the screening and evaluation process, a remedial alternative including on-site groundwater extraction and treatment (air stripping, carbon adsorption, and chemical precipitation); landfilling of municipal waste; and, stabilization/solidification and landfilling of manufacturing waste, slag waste and pond sediment was recommended for the Site. The NYSDEC subsequently issued a ROD in March 1989 which selected the recommended remedial alternative in the 1988 FS Report as the cleanup plan for the Site.

A Remedial Design Study was completed by Metcalf & Eddy of New York, Inc. in July 1992 to verify and design the selected remedial alternative as present in the 1989 ROD. Treatability studies and sampling performed as part of the Remedial Design Study indicated that portions of the selected remedial alternative were not applicable to the Site. As a result, a revised remedial alternative consisting of removal and off-site disposal of PCB waste above 500 ppm; stabilization/solidification of slag waste; waste consolidation; construction of a landfill cover; perimeter fencing and institutional controls; and, groundwater monitoring was selected in a March 1994 AROD. The remedy was completed in 1997.

Routine site maintenance, inspections, and environmental monitoring have been conducted at a frequency determined by the NYSDEC since 2000 to ensure the remedy remains effective. In April 2014, a SMP was developed and implemented to manage the Site's ICs/ECs. In April 2019, the SMP was revised (Rev. 2) to be consistent with the NYSDEC SMP template and incorporate a QAPP, HASP, additional groundwater sampling procedures and laboratory analytes, and requirements for sediment and surface water sampling.

A detailed Site history, including the dates and descriptions of significant events, and a Custodial Record detailing available Site reports, are included in **Appendix A**.

1.3 Regulatory Requirements/Cleanup Goals

The 1997 remedial action removed the highly contaminated waste and consolidated the remaining waste, impact sediment and impacted soil below an engineered cap. On-site groundwater periodically exhibits elevated levels of VOCs and metals. Surface water is monitored for metal exceedances.

The March 1994 AROD does not specify RAOs for the Site; however, the following RAOs are presented in the April 2019 SMP:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore the groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.

Soil/Waste Material under Landfill Cap

RAOs for Public Health Protection

- Prevent indigestion/direct contact with contaminated soil/waste material under the landfill cap.
- Prevent inhalation of or exposure from contaminants volatizing in soil/waste material under the landfill cap.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in the groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil/waste material causing toxicity or impacts from bioaccumulation through the terrestrial food chains.

2.0 Institutional and Engineering Control Plan Compliance

2.1 Institutional Controls

The Schatz Federal Bearing Site is managed under the New York State Superfund Program. The Site's inclusion on the Registry of IHWDS, ROD, AROD, EN and the SMP act as ICs.

The April 2019 SMP defines the following for the Site:

- OM&M procedures for the Site;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Dutchess County Department of Health, to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the NYSDEC;
- Access to the Site must be provided to agents, employees, or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions; and,
- Restricts Site use to prohibit farming and vegetable gardens.

2.2 Engineering Controls

The Site EC's include the landfill cover, perimeter fence, monitoring well network, and a groundwater interceptor trench.

With regard to the groundwater interceptor trench, construction records could not be located to confirm construction details. The April 2019 SMP should be updated to include as-built details and monitoring methods to confirm its effectiveness when the records are located. The interceptor trench is believed to drain to the pond located west of the landfill as a buried pipe was located between the trench and pond. The approximate location of the groundwater interceptor trench can be found on **Figure 2.**

3.0 Monitoring and Sampling Plan Compliance

The April 2019 SMP was prepared to manage remaining on-site contamination and ensure that the remedy remains effective. The April 2019 SMP specifies the following Site monitoring and sampling activities:

Summary of April 2019 SMP Site Monitoring and Sampling Plan			
Site Management Activity	**Frequency**	**Location**	**Laboratory Analysis**
Site Inspection	Semi-annual	Site property	Not Applicable
Groundwater Sampling	Every 5 quarters	Bedrock Wells: B-1, B-2, B-3, B-4, B-5 Overburden Wells: S-1, S-2, S-3, S-4, S-5, S-7, S-8, S-9, S-10	• TCL VOCs by USEPA Method 8260 • TAL Metals by USEPA Method 6010/7470 for total and dissolved fractions
Surface Water Sampling	Every 5 quarters	Six samples from locations adjacent to the landfill	• TCL VOCs by USEPA Method 8260 • TAL Metals by USEPA Method 6010/7470 • Total Suspended Solids by USEPA Method 160.2
Sediment Sampling	Every 5 quarters	Six samples from locations adjacent to the landfill	• PCBs by USEPA Method 8082 • TAL Metals by USEPA Method 6010/7471 • Total Organic Carbon by USEPA Method 415.1
Groundwater Monitoring Report	Every 5 quarters or included within the PRR	Not Applicable	Not Applicable
PRR	Every 3 years	Not Applicable	Not Applicable

3.1 Site Inspection

In March and September 2019, TRC performed semi-annual Site inspections in accordance with the SMP. The Site inspections included an evaluation of the current site use, condition of the landfill cover system, vegetation, monitoring wells, access gates, roads, etc. A semi-annual Site inspection could not be completed in March 2020 due to NYS Executive Order 202.6 and as directed by the NYSDEC in response to the 2019 Novel Coronavirus (COVID-19) outbreak. The inspection event will be rescheduled and completed upon resumption of field activities and included in the next PRR.

A summary of the March and September 2019 Site Management activities are provided in the table below:

Summary of Site Management Activities March and September 2019		
Site Management Activity	**Summary of Results**	**Maintenance/Corrective Measure**
Landfill cover, access road and perimeter fence	During the March and September 2019 inspections, the landfill perimeter and cover appeared to be dry, and the soil stable, containing no visible erosion or seeps. Site access roads were in good condition, as were the perimeter fence and gates. An animal burrow was noted on the south portion of the landfill cap; however, no animals were observed at the time of the inspections.	No routine maintenance or corrective measures needed at this time.
Drainage	During the March and September 2019 inspections, the Site drainage swales and culverts appeared to be in good condition, containing no vegetation that would inhibit stormwater flow. No noticeable areas of active erosion were observed.	No routine maintenance or corrective measures needed at this time.
Monitoring Well Network	In September 2019, all 14 monitoring wells including protective casings and covers, were observed to be in good condition.	No routine maintenance or corrective measures needed at this time.
Groundwater gauging and sampling	In September 2019, all 14 monitoring wells were gauged. Groundwater samples were collected from 11 of the 14 wells utilizing USEPA low-flow sampling methods. Overburden monitoring wells S-2, S-4, and S-5 were dry at the time of sampling, and therefore, groundwater samples were not collected.	No routine maintenance or corrective measures needed at this time.
Surface water sampling	In September 2019, six surface water samples were collected from the ponded area located west of the landfill.	No routine maintenance or corrective measures needed at this time.
Sediment sampling	In September 2019, six sediment samples were collected from the ponded area located west of the landfill.	No routine maintenance or corrective measures needed at this time.

Field activity reports and photographic logs from March and September 2019 inspection activities can be found in **Appendix B**.

3.2 Groundwater Monitoring Summary

3.2.1 Groundwater Gauging

From September 23 to 24, 2019, prior to groundwater sample collection, all wells were gauged for depth to groundwater to determine potentiometric surface flow direction. For each hydrogeologic unit, the number of gauged monitoring wells, measured groundwater elevation range, and inferred groundwater flow direction is presented in the table below:

September 2019 Hydrogeologic Summary	
Overburden Aquifer	**Bedrock Aquifer**
Number of Gauged Wells	**Number of Gauged Wells**
9 (including 3 dry)	5
Groundwater Elevation Range	**Groundwater Elevation Range**
Lowest groundwater elevation: 150.22 feet AMSL (S-10) Highest groundwater elevation: 179.56 feet AMSL (S-1)	Lowest groundwater elevation: 159.08 feet AMSL (B-4) Highest groundwater elevation: 184.19 feet AMSL (B-2)
Inferred Groundwater Flow Direction	**Inferred Groundwater Flow Direction**
South	South

A table summarizing the groundwater gauging measurements for all monitoring wells is provided in **Table 1**. Contour maps showing the groundwater flow directions for the overburden and bedrock aquifers are presented on **Figures 3** and **4,** respectively.

3.2.2 Groundwater Monitoring

TRC collected groundwater samples from 11 of the 14 monitoring wells utilizing USEPA low-flow sampling techniques. Overburden monitoring wells S-2, S-3, and S-5 were dry upon gauging, and therefore, groundwater samples could not be collected. Groundwater sampling logs are presented in **Appendix C**.

All 11 groundwater samples, in addition to QA/QC samples collected at the frequencies specified in TRC's April 2011 Generic QAPP, were submitted to Eurofins/TestAmerica Laboratories of Amherst, New York (Eurofins/TestAmerica) for analysis of VOCs and metals by USEPA Methods 8260 and 6010/7470, respectively. Additionally, groundwater samples from B-3, S-3, and S-1 were submitted for analysis of PFAS and 1,4-dioxane by USEPA Methods 537 modified and 8270 SIM, respectively. These three monitoring wells were selected based upon their distribution across the Site, historical groundwater flow direction (upgradient, on-site, downgradient), hydrogeologic zone, and historical analytical results. All monitoring wells were sampled in general accordance with the NYSDEC August 2018 Collection of Groundwater Samples for PFAS from Monitoring Wells Sample Protocol (Rev 1.2).

A summary of the monitoring well details and applicable groundwater sampling information is presented in the table below:

Summary of Groundwater Monitoring and Sampling Activities September 2019							
Well ID	Monitoring Well Details				Sept. 2019 Groundwater Sampling Event		
	Northing*	Easting*	Screen Zone (ft. bgs)	Unit Screened	DTW (ft. bgs)	SMP Analytes	Notes
B-1	1048888.92	659261.09	26.5 – 52.5	Bedrock	11.15	VOCs and Metals	
B-2	1049192.04	658787.36	15.5 – 35.5	Bedrock	9.25	VOCs and Metals	
B-3	1048573.39	658797.73	40.5 – 121.7	Bedrock	20.60	VOCs and Metals	PFAS, 1,4-Dioxane
B-4	1048363.64	658912.17	13.0 – 33.0	Bedrock	16.30	VOCs and Metals	
B-5	1048752.31	658488.73	29.5 – 122.0	Bedrock	16.30	VOCs and Metals	
S-1	1048884.31	659263.56	10.0 – 20.0	Overburden	10.90	VOCs and Metals	PFAS, 1,4-Dioxane
S-2	1049190.76	658792.34	NA	Overburden	Dry	NS	Well was dry and not sampled.
S-3	1048572.43	658792.10	23.5 – 33.5	Overburden	24.21	VOCs and Metals	PFAS, 1,4-Dioxane
S-4	1048868.35	658613.02	20.0 – 30.0	Overburden	Dry	NS	Well was dry and not sampled.
S-5	1048808.22	658863.53	47.0 – 52.0	Overburden	Dry	NS	Well was dry and not sampled
S-7	1048750.12	658482.63	17.0 – 22.0	Overburden	13.72	VOCs and Metals	
S-8	1049011.99	658496.40	5.5 – 9.5	Overburden	8.16	VOCs and Metals	
S-9	1048521.01	659169.01	18.0 – 28.0	Overburden	9.95	VOCs and Metals	
S-10	1048597.24	659304.75	20.0 - 30.0	Overburden	18.00	VOCs and Metals	

Notes:

NS – Not sampled

NA – Not available, a well construction log for S-2 could not be located.

DTW – Depth to water

ft. bgs – feet below ground surface

* – Horizontal Coordinate System: New York State Plane – East 3101; Vertical Datum NAD 1983 in US Survey Feet
Monitoring wells B-3 and B-5 were reportedly deepened in 1990.

A table with well construction details is provided in **Appendix A**.

3.2.3 Groundwater Analytical Results

A summary of groundwater analytical data for VOCs, metals, and PFAS can be found in **Tables 2, 3,** and **4**, respectively. The DUSRs (for the associated Analytical Services Protocol Category B laboratory reports) can be found in **Appendix D**. Detected compounds exceeding their respective NYSDEC Class GA Values and SCGs for the overburden and bedrock monitoring wells are illustrated on **Figure 5**. Concentration trend line graphs for metal analytes identified in the ROD and April 2019 SMP (arsenic, barium, cadmium, chromium, lead, mercury, and zinc) are provided in **Appendix E**.

An exceedance summary of the September 2019 groundwater analytical results is outlined below:

Exceedance Summary of Laboratory Analytical Results in Groundwater
September 2019

Constituent	Class GA Value*	Concentration Range (µg/L)	Location with Highest Detection	Frequency Exceeding Class GA
Volatile Organic Compounds				
No Results above NYSDEC Class GA Values				
Metals, total				
Arsenic	25	ND - 29	S-7	1/11
Iron	300	37 - 12,400	S-1	6/11
Lead	25	ND - 30	S-1	1/11
Manganese	300	22 - 11,500	S-7	4/11
Sodium	20,000	2,100 - 47,000	B-1	3/11
Metals, dissolved				
Manganese	300	ND - 10,800	S-7	3/11
Sodium	20,000	2,500 - 49,900	B-1	4/11

Notes
ND – Not detected above the specified quantitation limit.
µg/L – micrograms per liter
* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

Additionally, the groundwater sample results from monitoring wells B-3, S-1, and S-3 that were analyzed for emerging contaminants are presented below:

Summary of Laboratory Analytical Results of Emerging Contaminants in Groundwater September 2019

Constituent	SCG*	Concentration Range (ng/L)	Location with Highest Detection	Frequency Exceeding SCG*
PFAS				
Perfluorooctanoic acid (PFOA)	10	ND – 29.0	S-3	2/3
6:2 Perfluorooctane Sulfonate (6:2 FTS)	100	ND – 900	B-3	2/3
Total PFAS	500	ND – 915.39	B-3	2/3
1,4-Dioxane				
Constituent	**SCG****	**Concentration Range (µg/L)**	**Location with Highest Detection**	**Frequency Detected**
1,4-Dioxane	NS	ND – 42	S-3	2/3

Notes

ND – Not detected above the specified quantitation limit

NS – No standard

µg/L – micrograms per liter

ng/L – nanograms per liter

* - NYSDEC Recommended Values from the Guidelines for Sampling and Analysis of PFAS Under NYSDEC's Part 375 Remedial Programs, January 2020.

** - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

3.3 Surface Water and Sediment Monitoring

3.3.1 Surface Water and Sediment Sampling

On September 24, 2019, TRC collected six co-located surface water and sediment samples. The six surface water samples were submitted to Eurofins/TestAmerica for analysis of VOCs, metals, and total suspended solids by USEPA Methods 8260, 6010/7470, and 160.2, respectively. The six sediment samples were submitted for laboratory analysis of PCBs, metals, and total organic carbon by USEPA Methods 8082, 6010/7471, and 514.1, respectively.

A summary of the September surface water and sediment sampling activities is presented in the table below:

Summary of Surface Water and Sediment Sampling Activities September 2019			
	Location Details		2019 Surface Water/Sediment Sampling Event
Sample ID	Northing	Easting	SMP Analytes
SW-1A	1048732.14	658410.6265	VOCs, Metals, Total Suspended Solids
SED-1A			PCBs, Metals, Total Organic Carbon
SW-1B	1048714.71	658428.05	VOCs, Metals, Total Suspended Solids
SED-1B			PCBs, Metals, Total Organic Carbon
SW-2A	1048600.15	658633.50	VOCs, Metals, Total Suspended Solids
SED-2A			PCBs, Metals, Total Organic Carbon
SW-2B	1048580.23	658683.31	VOCs, Metals, Total Suspended Solids
SED-2B			PCBs, Metals, Total Organic Carbon
SW-3A	1048547.86	658723.15	VOCs, Metals, Total Suspended Solids
SED-3A			PCBs, Metals, Total Organic Carbon
SW-3B	1048499.29	658760.51	VOCs, Metals, Total Suspended Solids
SED-3B			PCBs, Metals, Total Organic Carbon

3.3.2 Surface Water Analytical Results

Surface water analytical data for VOCs, metals, and total suspended solids can be found in **Tables 5** and **6**, respectively. The DUSRs (for the associated Analytical Services Protocol Category B laboratory reports) can be found in **Appendix D**. Detected compounds exceeding their respective NYSDEC Class GA Values for each surface water sample location are illustrated on **Figure 6** and summarized in the table below:

Exceedance Summary of Laboratory Analytical Results in Surface Water Samples September 2019				
Constituent	**Class GA Value***	**Concentration Range (µg/L)**	**Location with Highest Detection**	**Frequency Exceeding Class GA***
Volatile Organic Compounds				
Chloroethane	5	ND – 13	SW-3B	1/6
Metals, total				
Arsenic	25	6.4 - 61	SW-2B	2/6
Barium	1,000	160 – 1,900	SW-3A	2/6
Beryllium	3	ND – 3.7	SW-2B	1/6
Cadmium	5	ND – 28	SW-2B	3/6
Chromium	50	ND – 150	SW-2B	2/6
Copper	200	2.3 – 970	SW-2B	2/6
Iron	300	22,200 – 174,000	SW-2B	6/6
Lead	25	6.2 – 2,000	SW-2B	5/6
Manganese	300	1,200 – 18,300	SW-2B	6/6
Mercury	0.7	ND – 1.1	SW-2B	2/6
Nickel	100	ND – 220	SW-2B	2/6
Selenium	10	ND – 11	SW-2B	1/6
Sodium	20,000	11,200 – 22,700	SW-1B	4/6

Notes

ND – Not detected above the specified quantitation limit.

µg/L – micrograms per liter

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

3.3.3 Sediment Analytical Results

A summary of the sediment analytical data for PCBs, metals/mercury, and total organic carbon can be found in **Table 7**. The DUSRs (for the associated Analytical Services Protocol Category B laboratory reports) can be found in **Appendix D**. Detected compounds exceeding their respective NYSDEC Freshwater Sediment Guidance values for each well are illustrated on **Figure 6** and are summarized on the table below:

Exceedance Summary of Laboratory Analytical Results in Sediment Samples September 2019							
Constituent	**FSGV Class A**	**FSGV Class B**	**FSGV Class C**	**Concentration Range (mg/kg)**	**Location with Highest Detection**	**Frequency within Class B**	**Frequency within Class C**
PCB Aroclors							
PCBs, Total	<0.1	0.1 – 1.0	>1.0	ND - 1.1	SED-3B	1/6	1/6
Metals, total							
Arsenic	<10	10 - 33	>33	4.6 – 12.9	SED-1A	3/6	0/6
Cadmium	<1	1 - 5	>5	ND – 4.6	SED-2A	3/6	0/6
Copper	<32	32 - 150	>150	17.5 – 148	SED-2A	5/6	0/6
Lead	<36	36 - 130	>130	21.2 – 362	SED-2A	4/6	1/6
Mercury	<0.2	0.2 - 1	>1	0.065 – 0.21	SED-2A	1/6	0/6
Nickel	<23	23 - 49	>49	21 – 43.7	SED-2A	4/6	0/6
Zinc	<120	120 – 460	>460	137 – 351	SED-2A	6/6	0/6

Notes

ND – Not detected above the specified quantitation limit.

mg/kg – milligrams per kilogram

FSGV – Freshwater Sediment Guidance Values from the NYSDEC Screening and Assessment of Contaminated Sediment, June 2014.

4.0 Cost Summary

The total estimated cost of TRC's site management activities for the period January 1, 2019 through March 31, 2020 is approximately $44,225. Site management activities included semi-annual site inspections, groundwater monitoring, surface water and sediment sampling, and laboratory analysis of environmental samples as detailed in **Section 3.0**. The total includes engineering and subcontractor costs, as well as expenses associated with the project. It should be noted that the total does not include costs incurred by NYSDEC in support of the project. A summary of the site management costs is presented below:

Summary of Site Management Costs - TRC
January 1, 2019 through March 31, 2020

Cost Item	Amount Expended (January 1, 2019 through March 31, 2020)	Percent of Total Cost
Engineering Support		
TRC	$30,350	69%
Subcontractors		
Eurofins/TestAmerica	$10,925	25%
Expenses		
TRC	$2,950	6%
Total Cost	**$44,225**	----

The following is included in each cost item indicated in the table above:

- Engineering support includes labor costs associated with project management (e.g., WA Package preparation, monthly invoicing, project scheduling and coordination, etc.), site inspections, groundwater, surface water and sediment sampling, and reporting (i.e., site inspection report, DUSR, electronic data deliverable preparation, and PRR).
- Subcontractors include analytical laboratory costs associated with the groundwater sampling event.

Expense costs include travel, equipment, and supplies in support of the site inspection, groundwater sampling event and routine site maintenance activities.

5.0 Conclusions and Recommendations

5.1 Conclusions

- Based on the groundwater elevation measurements collected in September 2019, groundwater flow in both the overburden and bedrock aquifers is to the south. This is consistent with historical reporting.
- The VOC COCs in groundwater at the Site are 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane and vinyl chloride. Based on the information presented in **Table 8,** the following conclusions are made regarding concentrations of these contaminants in groundwater:
  - No VOCs were detected at concentrations above Class GA Values in the 11 groundwater samples collected during the September 2019 groundwater sampling event.
  - VOC COCs have not been detected at concentrations above Glass GA Values in overburden monitoring wells S-1 (cross gradient), S-2 (upgradient), S-9 (downgradient) and S-10 (downgradient) or bedrock monitoring wells B-1 (cross gradient), B-2 (upgradient) and B-4 (downgradient), since post-remediation monitoring began in 2000.
  - 1,1,1-Trichloroethane is the only VOC COC that has been detected at a concentration above Class GA Values in overburden monitoring wells S-7 (cross gradient) and S-8 (upgradient) and bedrock monitoring well B-5 (cross gradient) since post-remediation monitoring began in 2000. 1,1,1-Trichloroethane was detected at a concentration above its Class GA Value during one sampling event in October 2008 and has not been detected at a concentration above its Class GA Value since that time.
  - Concentrations of VOC COCs in overburden monitoring well S-3 (downgradient) and bedrock monitoring well B-3 (downgradient) show a declining trend and have not had concentrations above Class GA Values since the November 2005 and March 2016 sampling events, respectively.
- The metal COCs in groundwater at the Site are arsenic, barium, cadmium, chromium, lead, mercury, and zinc. Metal COCs were not detected at concentrations above Class GA Values in the 11 filtered groundwater samples collected during the September 2019 groundwater sampling event. Arsenic and lead were the only metal COCs detected at concentrations above Class GA Values in the 11 filtered groundwater samples collected during the September 2019 groundwater sampling event. Total arsenic was detected at a concentration slightly above its Class GA Value in overburden monitoring well S-7 (cross gradient). Total lead was detected at a concentration slightly above its Class GA Value in overburden monitoring well S-1 (cross gradient). Concentration verses time graphs for total metal COC results are presented in **Appendix E**. As shown on the graphs, total metal COC concentrations vary over time, but are generally below Class GA Values for most of the sampling events.
- PFAS including PFOA and 6:2 FTS were detected at concentrations above guidance values in downgradient overburden monitoring well S-3 and downgradient bedrock monitoring well B-3. No Site-related VOC or metal COCs were detected at concentrations above Class GA Values in the samples collected from these wells during the September 2019 sampling event. However, VOC COCs have been detected at concentrations above Class GA Values in both S-3 and B-3 as part of prior sampling events. As such, it is unclear if the PFAS detections are related to the Site.

- Metal COCs including arsenic, barium, cadmium, chromium, lead and mercury were detected in the September 2019 surface water samples at concentrations above guidance values. September 2019 metals concentrations were generally one order of magnitude higher than the March 2016 concentrations.
- Metal COCs including arsenic, cadmium, lead and mercury were detected in the September 2019 sediment samples at concentrations above guidance values. September 2019 metals concentrations were lower than the concentrations detected in March 2016 but were generally within the same order of magnitude.
- Total PCBs were detected in SED-3A and SED-3B, collected from the western portion of the Site, at concentrations of 0.78 mg/kg and 1.1 mg/kg, respectively. SED-3A exceeds the Class B Freshwater Sediment Guidance Values and SED-3B exceeds the Class C Freshwater Sediment Guidance Values. The NYSDEC cleanup goal for PCBs in surface soils and stream or pond sediments is 1 mg/kg.
- Site and groundwater use are consistent with the with the restrictions set forth in the AROD and the April 2019 SMP.
- The remedy continued to be protective of human health and the environment during this reporting period.

5.2 Recommendations

- It is recommended that the site inspection frequency be reduced from semi-annual to annual and following severe weather events (as needed) to certify that the ICs/ECs are functioning as intended. A site inspection report should be completed following each inspection event.
- Water level measurements should continue to be collected from the Site monitoring wells during the inspection and groundwater sampling events.
- Based on the elevated PFAS results in downgradient overburden and bedrock monitoring wells S-3 and B-3, PFAS should be included as an analyte in all monitoring wells for at least one future groundwater sampling event to confirm the presence/absence of PFAS at the Site.
- It is recommended that the groundwater, surface water and sediment sampling frequency be reduced from one sampling event every fifth quarter to one sampling event every three years.
- The GWMR requirement should be eliminated.
- The April 2019 SMP should be revised to reflect the above changes/modifications, if the changes are acceptable to the NYSDEC.

6.0 Certification of Engineering and Institutional Controls

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The institutional and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by DER;
- Nothing has occurred that would impair the ability of such control to protect public health and the environment; and,
- Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control.

TRC Engineers, Inc.

Prepared By: 

Nathan T. Kranes, P.G.

Project Manager

Reviewed By: 

James J. Magda, P.G.

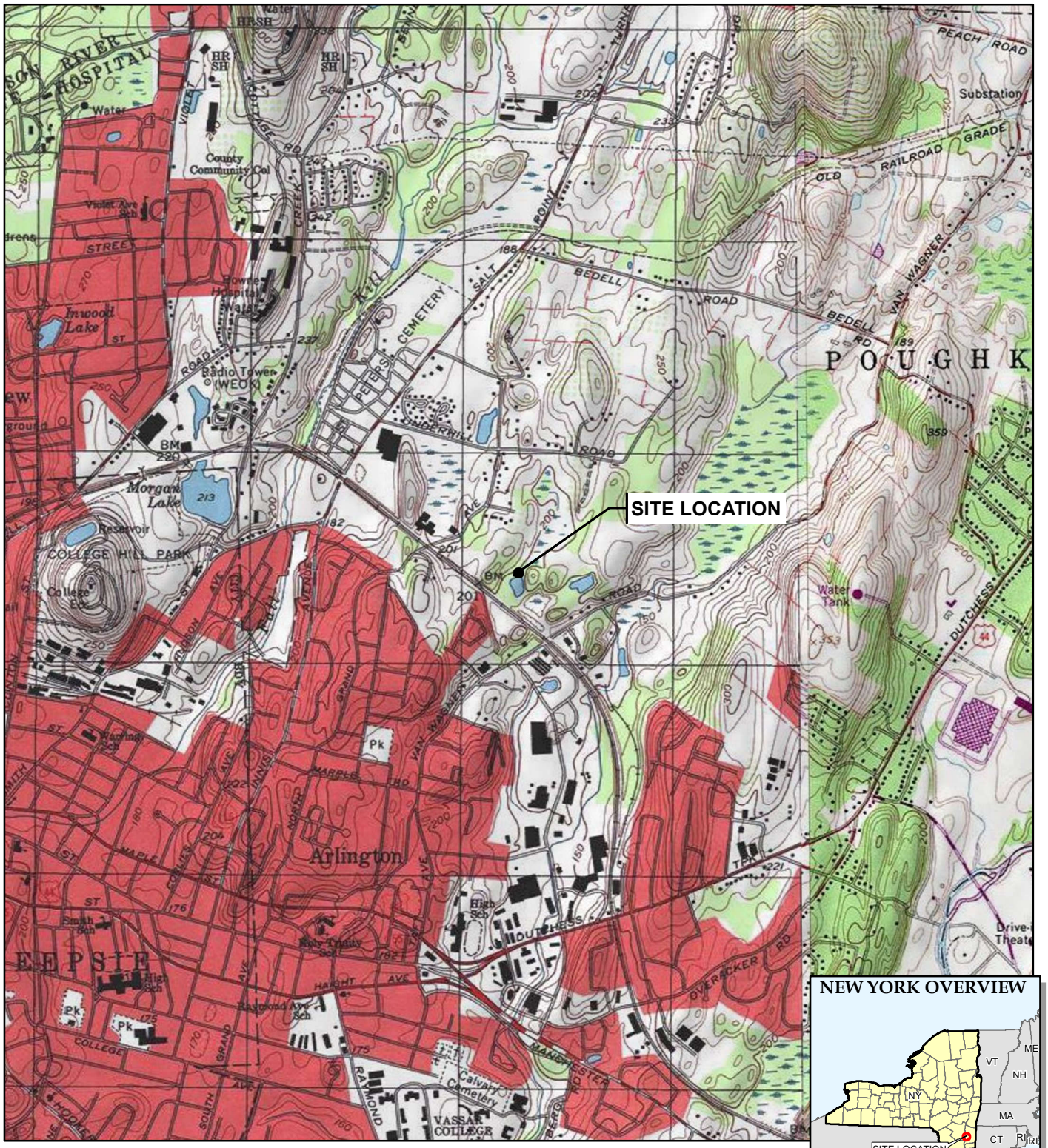
Senior Technical Reviewer

7.0 Future Site Activities

Based on the recommendations in Section 5.0, the following site management activities will be completed during the next reporting period (March 2020 to March 2023):

- Site Inspections – Annual (next scheduled: Q2 2020, Q1 2021, Q1 2022, Q1 2023, Q1 2024 and Q1 2025)
- Groundwater Sampling – Every 3 years (next scheduled: Q1 2022)
- Sediment Sampling – Every 3 years (next scheduled: Q1 2022)
- Surface Water Sampling – Every 3 years (next scheduled: Q1 2022)

FIGURES



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES - POUGHKEEPSIE QUAD

1 " = 2,200 '
1:26,400

0 2,000 4,000 FEET

TRC
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PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SCHATZ FEDERAL BEARINGS SITE - SITE NO. 3-14-003
223-247 VAN WAGNER ROAD
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

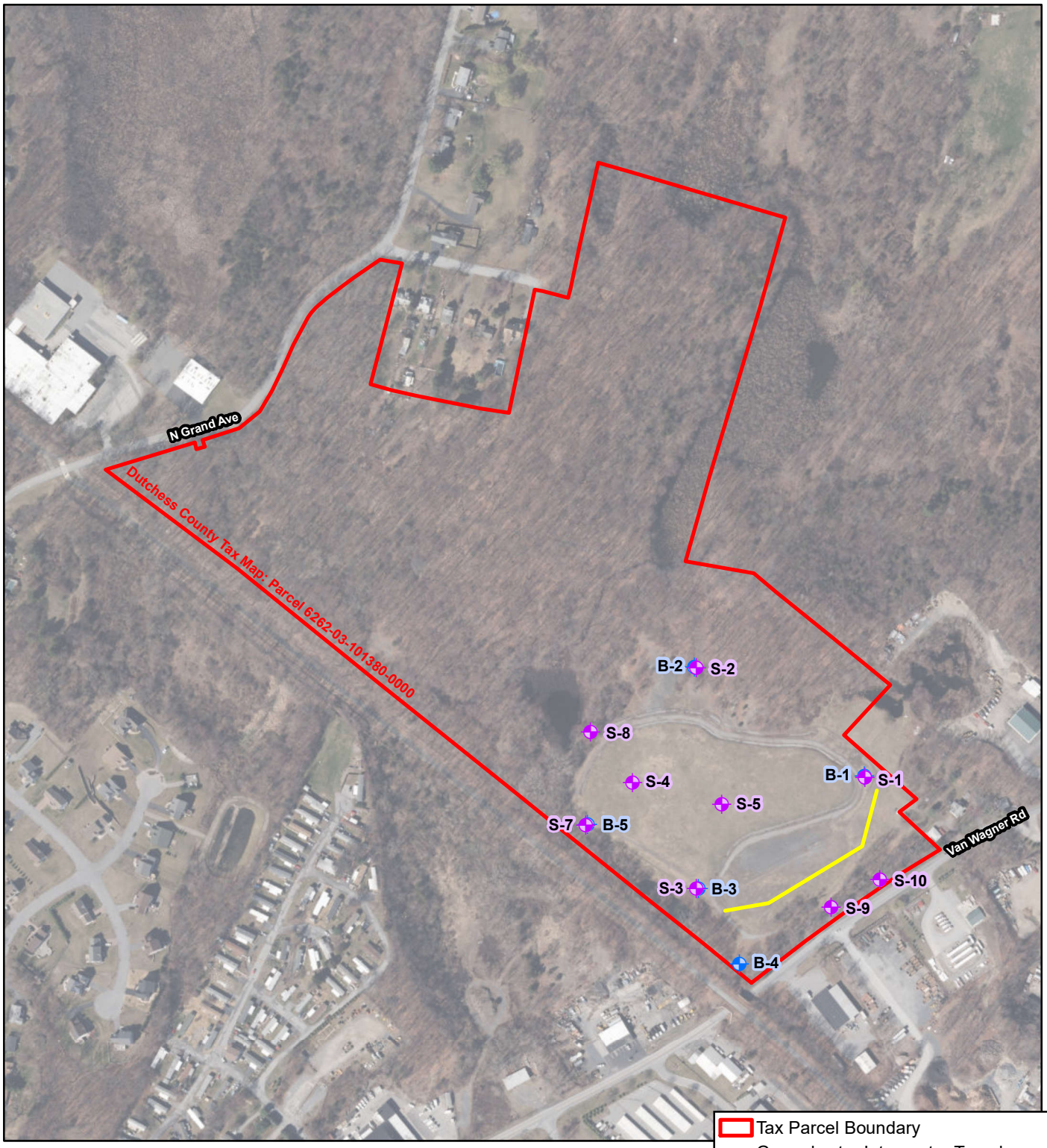
TITLE:

SITE LOCATION MAP

DRAWN BY:	M. OPEL
CHECKED BY:	C. SEROWIK
APPROVED BY:	N. KRANES
DATE:	JULY 2020
PROJ. NO.:	320919.0000
FILE:	Fig01_SiteLoc.mxd

FIGURE 1

S:\1-PROJECTS\NYSDEC\320919_SchatzSite\Fig01_SiteLoc.mxd -- Saved By: MOPEL on 4/24/2020, 13:21:06 PM



BASE MAP FROM ESRI

1" = 400
1:4,800

0 200 400
FEET

Tax Parcel Boundary
Groundwater Interceptor Trench
Bedrock Monitoring Well Location
Overburden Monitoring Well Location

Note: All locations and boundaries are approximate

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SCHATZ FEDERAL BEARINGS SITE - SITE NO. 3-14-003
223-247 VAN WAGNER ROAD
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

TITLE:

SITE LAYOUT MAP

DRAWN BY:	M. OPEL
CHECKED BY:	C. SEROWIK
APPROVED BY:	N. KRANES
DATE:	JULY 2020
PROJ. NO.:	320919.0000
FILE:	Fig02_SiteLayout.mxd

FIGURE 2

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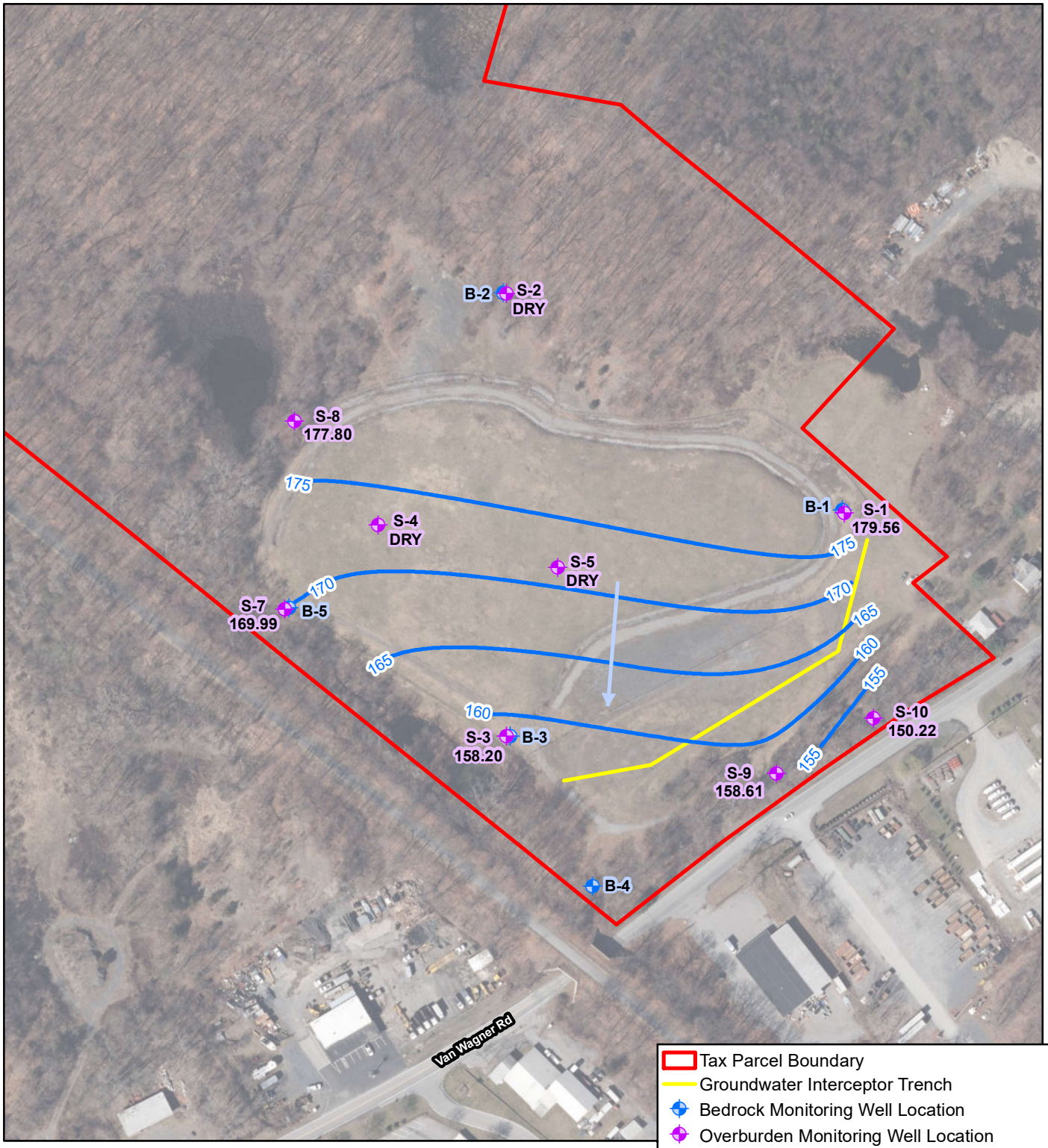

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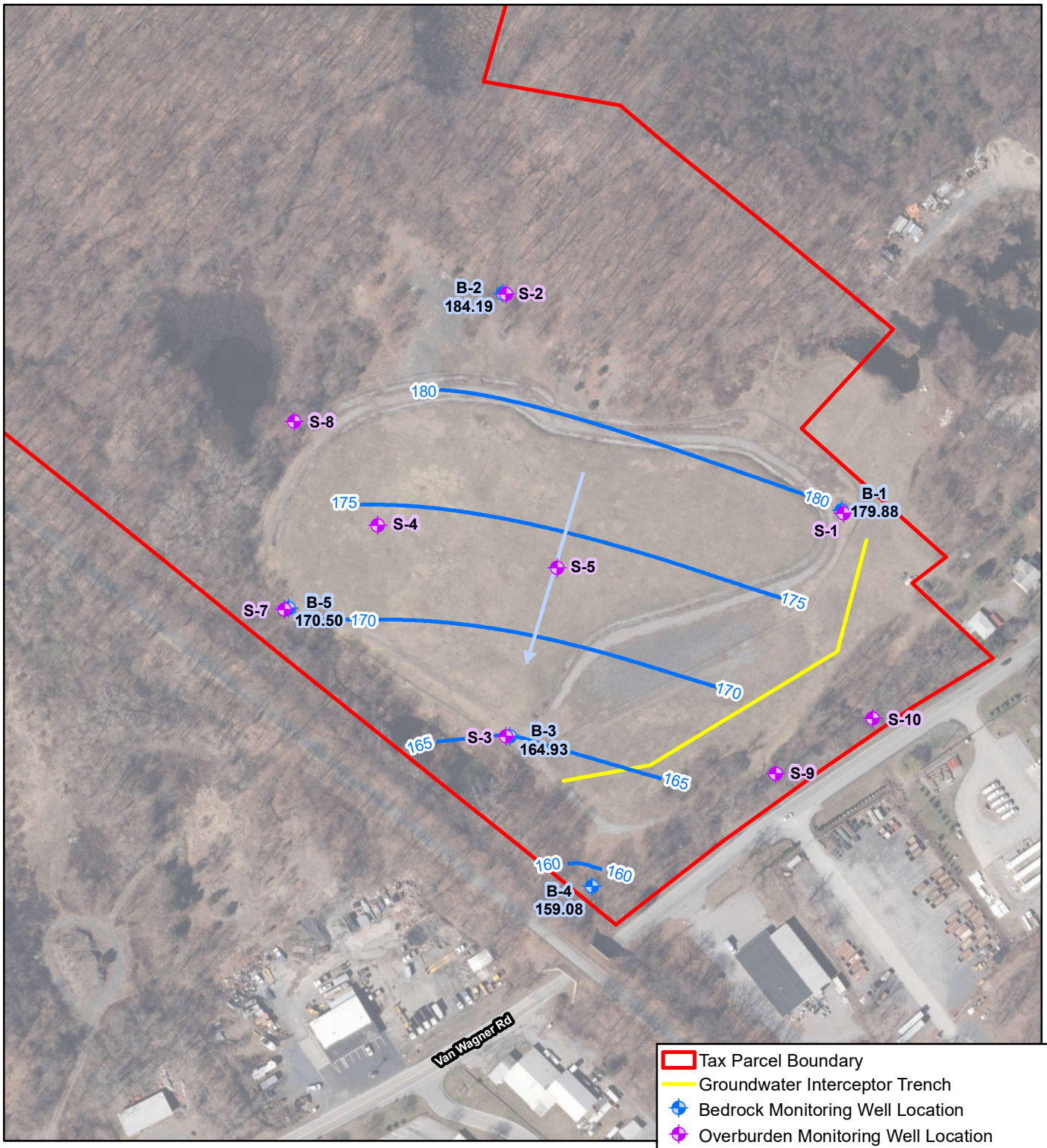
SCHATZ FEDERAL BEARINGS SITE - SITE NO. 3-14-003
223-247 VAN WAGNER ROAD
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

TITLE:
OVERBURDEN GROUNDWATER SURFACE ELEVATIONS AND FLOW MAP - SEPTEMBER 23-26, 2019

DRAWN BY:	M. OPEL
CHECKED BY:	C. SEROWIK
APPROVED BY:	N. KRANES
DATE:	JULY 2020
PROJ. NO.:	320919.0000
FILE:	Fig03_OverburdenGW.mxd

FIGURE 3

S:\1-PROJECTS\NYSDEC\320919_SchatzSite\Fig03_OverburdenGW.mxd -- Saved By: MOPEL on 4/24/2020, 13:40:19 PM



BASE MAP FROM ESRI

1 " = 200 '
1:2,400

0 200 400 FEET

Tax Parcel Boundary
Groundwater Interceptor Trench
Bedrock Monitoring Well Location
Overburden Monitoring Well Location
Groundwater Elevation Contour (5' Intervals)
Inferred Groundwater Flow Direction

Notes: All locations and boundaries are approximate.
Elevations are feet above mean sea level (AMSL).

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SCHATZ FEDERAL BEARINGS SITE - SITE NO. 3-14-003
223-247 VAN WAGNER ROAD
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

TITLE:
BEDROCK GROUNDWATER SURFACE ELEVATIONS AND FLOW MAP - SEPTEMBER 23-26, 2019

DRAWN BY:	M. OPEL
CHECKED BY:	C. SEROWIK
APPROVED BY:	N. KRANES
DATE:	JULY 2020
PROJ. NO.:	320919.0000
FILE:	Fig04_BedrockGW.mxd

FIGURE 4

S:\1-PROJECTS\NYSDEC\320919_SchatzSite\Fig04_BedrockGW.mxd -- Saved By: MOPEL on 4/24/2020, 13:45:42 PM

TRC - GIS

N Grand Ave

SFB-MW-S08	
CONSTITUENT	9/24/2019
Metals, total	µg/L
Iron	**600**
Manganese	**370**

SFB-MW-B02	
CONSTITUENT	9/23/2019
Metals, total	µg/L
Iron	**1,100**

SFB-MW-B05	
CONSTITUENT	9/24/2019
Metals, total	µg/L
Sodium	**22,500**
Metals, dissolved	µg/L
Sodium	**20,300**

SFB-MW-B01	
CONSTITUENT	9/23/2019
Metals, total	µg/L
Sodium	**47,000**
Metals, dissolved	µg/L
Sodium	**49,900**

SFB-MW-S07	
CONSTITUENT	9/24/2019
Metals, total	µg/L
Arsenic	**29**
Iron	**4,400**
Manganese	**11,500**
Metals, dissolved	µg/L
Manganese	**10,800**

SFB-MW-S01	
CONSTITUENT	9/23/2019
Metals, total	µg/L
Iron	**12,400**
Lead	**30**
Manganese	**4,100**
Metals, dissolved	µg/L
Manganese	**3,700**

SFB-MW-S03	
CONSTITUENT	9/23/2019
Metals, total	µg/L
Iron	**2,600**
Manganese	**1,500**
Metals, dissolved	µg/L
Manganese	**1,600**
PFAS	ng/L
Perfluorooctanoic acid (PFOA)	**29**
PFOA + PFOS	**30.8**

SFB-MW-B03	
CONSTITUENT	9/23/2019
Metals, dissolved	µg/L
Sodium	**20,800**
PFAS	ng/L
6:2 Perfluorooctane Sulfonate (6:2 FTS)	**900**
Total PFAS	**915.39**

SFB-MW-B04	
CONSTITUENT	9/24/2019
Metals, total	µg/L
Iron	**910**

SFB-MW-S09	
CONSTITUENT	9/24/2019
Metals, total	µg/L
Sodium	**21,000**
Metals, dissolved	µg/L
Sodium	**20,600**

B-2 S-2 S-8 S-4 S-5 B-5 S-7 S-3 B-3 B-4 B-1 S-1 S-10 S-9

Van Wagner Rd

Tax Parcel Boundary

Groundwater Interceptor Trench

Bedrock Monitoring Well Location

Overburden Monitoring Well Location

CONSTITUENT	Class GA Value
Metals, total	µg/L
Arsenic	25
Iron	300
Lead	25
Manganese	300
Sodium	20,000
Metals, dissolved	µg/L
Manganese	300
Sodium	20,000
PFAS	ng/L
PFOA	10**
6:2 Perfluorooctane Sulfonate (6:2 FTS)	100**
PFOA + PFOS	10**
Total PFAS	500*

List of Acronyms:
µg/L - micrograms per liter
ng/L - nanograms per liter
PFAS - Per- and polyfluoroalkyl substances
PFOA - Perfluorooctanoic acid
PFOS - Perfluorooctanesulfonic acid

Notes:
Shading indicates result above Class GA Value.
* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water.
** - Guidelines for Sampling and Analysis of PFAS, NYSDEC Part 375 Remedial Programs, January 2020.
All locations and boundaries are approximate.

0 200 400 Feet
1 " = 250 '
1:3,000

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SCHATZ FEDERAL BEARINGS SITE - SITE NO. 3-14-003
223-247 VAN WAGNER ROAD
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

TITLE:
SUMMARY OF DETECTED COMPOUNDS EXCEEDING NYSDEC GROUNDWATER QUALITY STANDARDS/GUIDANCE - SEPTEMBER 23-26, 2019

DRAWN BY:	M. OPEL	PROJ NO.:	320919.0000
CHECKED BY:	C. SEROWIK		
APPROVED BY:	N. KRANES		**FIGURE 5**
DATE:	JULY 2020		

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Plot Date: 4/24/2020, 14:01:42 PM by MOPEL -- LAYOUT: ANSI B (11"x17")
Path: S:\1-PROJECTS\NYSDEC\320919_SchatzSite\Fig05_GWSumExceed.mxd

TRC - GIS

SFB-SW-1A	
CONSTITUENT	9/25/2019
Metals, total	µg/L
Cadmium	8.2
Iron	22,200
Lead	210
Manganese	9,200
Sodium	20,100

SFB-SED-1A	
CONSTITUENT	9/23/2019
Metals, total	mg/kg
Arsenic	12.9
Zinc	159

SFB-SW-1B	
CONSTITUENT	9/25/2019
Metals, total	µg/L
Iron	28,000
Lead	63
Manganese	3,200
Sodium	22,700

SFB-SED-1B	
CONSTITUENT	9/23/2019
Metals, total	mg/kg
Arsenic	10.5
Cadmium	1
Copper	34.5
Lead	75.9
Zinc	204

SFB-SW-2A	
CONSTITUENT	9/25/2019
Metals, total	µg/L
Iron	24,600
Lead	160
Manganese	6,300
Sodium	20,900

SFB-SED-2A	
CONSTITUENT	9/23/2019
Metals, total	mg/kg
Arsenic	12.4
Cadmium	4.6
Copper	148
Lead	362
Mercury	0.21
Nickel	43.7
Zinc	351

SFB-SW-2B	
CONSTITUENT	9/25/2019
Metals, total	µg/L
Aresenic	61
Beryllium	3.7
Cadmium	28
Chromium	150
Copper	970
Iron	174,000
Lead	2,000
Manganese	18,300
Mercury	1.1
Nickel	220
Selenium	11
Sodium	21,500

SFB-SED-2B	
CONSTITUENT	9/23/2019
Metals, total	mg/kg
Cadmium	1.3
Copper	71.2
Lead	130
Nickel	30.5
Zinc	195

SFB-SW-3A	
CONSTITUENT	9/25/2019
Metals, total	µg/L
Arsenic	38
Barium	1,900
Cadmium	14
Chromium	78
Copper	570
Iron	152,000
Lead	720
Manganese	10,400
Mercury	0.72
Nickel	120

SFB-SED-3A	
CONSTITUENT	9/23/2019
PCB Aroclors	mg/kg
PCBs, Total	0.78
Metals, total	mg/kg
Copper	49.6
Lead	104
Nickel	33.7
Zinc	137

SFB-SW-3B	
CONSTITUENT	9/25/2019
VOCs	µg/L
Chloroethane	13
Metals, total	µg/L
Barium	1,200
Iron	31,000
Manganese	1,200

SFB-SED-3B	
CONSTITUENT	9/23/2019
PCB Aroclors	mg/kg
PCBs, Total	1.1
Metals, total	mg/kg
Copper	48.1
Lead	45.6
Nickel	31.4
Zinc	183

N Grand Ave

SW-1A/SED-1A

SW-1B/SED-1B

SW-2A/SED-2A

SW-2B/SED-2B

SW-3A/SED-3A

SW-3B/SED-3B

Van Wagner Rd

Tax Parcel Boundary

Groundwater Interceptor Trench

Surface Water / Sediment Location

CONSTITUENT	Class GA Value
VOCs	µg/L
Chloroethane	5
Metals, total	µg/L
Arsenic	25
Barium	1,000
Beryllium	3
Cadmium	5
Chromium	50
Copper	200
Iron	300
Lead	25
Manganese	300
Mercury	0.7
Nickel	100
Selenium	10
Sodium	20,000

CONSTITUENT	Class A*	Class B*	Class C*
PCB Aroclors	mg/kg	mg/kg	mg/kg
PCBs, Total	< 0.1	0.1-1	> 1
Metals, total	mg/kg	mg/kg	mg/kg
Arsenic	< 10	10-33	> 33
Cadmium	< 1	1-5	> 5
Copper	< 32	32-150	> 150
Cadmium	< 1	1-5	> 5
Lead	< 36	36-130	> 130
Mercury	< 0.2	0.2-1	>1
Nickel	< 23	23-49	> 49
Zinc	< 120	120-460	> 460

List of Acronyms:
µg/L - micrograms per liter
mg/kg - milligrams per kilogram
PCBs - Polychlorinated biphenyls
VOCs - Volatile Organic Compounds

Notes:
Values shown in bold and green shaded type exceed the listed Guidance value.
* - New York State Department of Environmental Conservation (NYSDEC), Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.
* -New York State Department of Environmental Conservation (NYSDEC), Freshwater Sediment Guidance Values, Screening and Assessment of Contaminated Sediment, June 24, 2014.
No shading - indicates the result is below the Class A Sediment Guidance Values.
Blue shading - indicates the result is above the Class B Sediment Guidance Values.
Orange shading - indicates the result is above the Class C Sediment Guidance Values.
BOLD - indicates the result exceeds the applicable standard.

0 200 400 Feet
1 " = 250 '
1:3,000

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SCHATZ FEDERAL BEARINGS SITE - SITE NO. 3-14-003
223-247 VAN WAGNER ROAD
POUGHKEEPSIE, DUTCHESS COUNTY, NEW YORK

TITLE:
SUMMARY OF DETECTED COMPOUNDS EXCEEDING NYSDEC SEDIMENT AND SURFACE WATER QUALITY STANDARDS/GUIDANCE - SEPTEMBER 23-26, 2019

DRAWN BY:	M. OPEL	PROJ NO.:	320919.0000
CHECKED BY:	C. SEROWIK		
APPROVED BY:	N. KRANES		**FIGURE 6**
DATE:	JULY 2020		

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TABLES

Table 1
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of Depth to Water Measurements and Groundwater Elevations

Well ID	Screened Formation	Coordinates (North/East)**	TOC Elevation (feet AMSL)	Gauge Date	Depth to Water (feet below TOC)	Depth to Bottom (feet below (ground surface)	Groundwater Elev. (feet AMSL)
B-1*	Bedrock	1048888.9190/ 659261.0900	191.03	9/23/2019	11.15	52.50	179.88
B-2	Bedrock	1049192.038/ 658787.357	193.44	9/23/2019	9.25	35.50	184.19
B-3	Bedrock	1048573.394/ 658797.73	185.53	9/23/2019	20.60	121.70	164.93
B-4	Bedrock	1048363.644/ 658912.171	175.38	9/24/2019	16.30	33.00	159.08
B-5	Bedrock	1048752.308/ 658488.727	186.80	9/24/2019	16.30	122.00	170.50
S-1	Overburden	1048884.311/ 659263.561	190.46	9/23/2019	10.90	20.00	179.56
S-2	Overburden	1049190.764/ 658792.338	193.61	9/23/2019	Dry	11.44	NM
S-3	Overburden	1048572.431/ 658792.104	182.41	9/23/2019	24.21	33.50	158.20
S-4	Overburden	1048868.35/ 658613.024	197.72	9/23/2019	Dry	30.00	NM
S-5	Overburden	1048808.217/ 658863.533	194.05	9/23/2019	Dry	52.00	NM
S-7	Overburden	1048750.117/ 658482.627	183.71	9/24/2019	13.72	22.00	169.99
S-8	Overburden	1049011.991/ 658496.396	185.96	9/24/2019	8.16	9.50	177.80
S-9	Overburden	1048521.006/ 659169.014	168.56	9/24/2019	9.95	28.00	158.61
S-10	Overburden	1048597.241/ 659304.745	168.22	9/24/2019	18.00	30.00	150.22

Notes

Elev. : Elevation
AMSL : Above Mean Sea Level
ID : Identification
TOC : Top of Casing
NM : Not Measured
* :Well measured from the top of riser
** : Horizontal Coordinate System: New York State Plane - East 3101; Vertical Datum NAD 1983 (conus)

Table 2
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of VOC Results in Groundwater - September 2019

			Sample Location:	SFB-MW-B01	SFB-MW-B02	SFB-MW-B03	SFB-MW-B04	SFB-MW-B05	SFB-MW-S01	SFB-MW-S03	SFB-MW-S07	SFB-MW-S08	SFB-MW-S09	SFB-MW-S10
			Lab Sample ID:	480-159638-4	480-159638-5	480-159638-1	480-159817-3	480-159817-5	480-159638-3	480-159638-2	480-159817-6	480-159817-1	480-159817-2	480-159817-4
			Sample Date:	09/23/2019	09/23/2019	09/23/2019	09/24/2019	09/24/2019	09/23/2019	09/23/2019	09/24/2019	09/24/2019	09/24/2019	09/24/2019
VOCs	Unit	Class GA Value*		Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
1,1,1-Trichloroethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	1		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro- 1,2,2-trifluoroethane (Freon 113)	ug/L	5		1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 UJ	2.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	5		1.0 U	1.0 U	**0.73 J**	1.0 U	1.0 U	1.0 U	**1.1 J**	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	ug/L	0.04		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.0006		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	3		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	0.6		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	3		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	3		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	ug/L	50		10 U	10 U	10 U	10 UJ	10 UJ	10 U	20 U	10 UJ	10 UJ	10 UJ	10 UJ
2-Hexanone	ug/L	50		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	ug/L	NC		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	ug/L	50		10 U	10 U	10 U	10 UJ	10 UJ	10 U	20 U	10 UJ	10 UJ	10 UJ	10 UJ
Benzene	ug/L	1		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	50		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	50		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	60		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	ug/L	7		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	NC		1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 UJ	2.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	50		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	2.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Methylene chloride	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U	2.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	NC		2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 UJ	2.5 U	5.0 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ
Methyl tert-butyl ether	ug/L	10		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylcyclohexane	ug/L	NC		1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 UJ	2.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	2		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	ug/L	0.4		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	5		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	ug/L	0.4		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, total	ug/L	5		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,4-Dioxane	ug/L	NC		NA	NA	**21 J**	NA	NA	0.19 U	**42 J**	NA	NA	NA	NA

Notes:

ug/L - micrograms per liter.

J - Estimated value.

NA - Sample not analyzed for the listed analyte.

NC - No NYSDEC standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed the listed Guidance value.

VOCs - Volatile Organic Compounds.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

Table 3
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of Metals Results in Groundwater - September 2019

			Sample Location:		SFB-MW-B01		SFB-MW-B02		SFB-MW-B03		SFB-MW-B04		SFB-MW-B05		SFB-MW-S01		SFB-MW-S03		SFB-MW-S07		SFB-MW-S08		SFB-MW-S09		SFB-MW-S10	
			Lab Sample ID:		480-159638-4		480-159638-5		480-159638-1		480-159817-3		480-159817-5		480-159638-3		480-159638-2		480-159817-6		480-159817-1		480-159817-2		480-159817-4	
			Sample Date:		09/23/2019		09/23/2019		09/23/2019		09/24/2019		09/24/2019		09/23/2019		09/23/2019		09/24/2019		09/24/2019		09/24/2019		09/24/2019	
Metals, total	Unit	Class GA Value*	Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results	
Aluminum	ug/L	NC	200	U	**730**	**J+**	200	U	**940**		200	U	**7,800**	**J+**	200	U	**67**	**J**	**910**		**130**	**J**	200	U		
Antimony	ug/L	3	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U		
Arsenic	ug/L	25	15	U	15	U	15	U	15	U	15	U	**16**		15	U	**29**		15	U	15	U	15	U		
Barium	ug/L	1,000	**130**		**18**		**100**		**21**		**130**		**140**		**80**		**130**		**11**		**320**		**85**			
Beryllium	ug/L	3	2.0	U	**0.40**	**J**	2.0	U	2.0	U	2.0	U	**0.66**	**J**	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U		
Cadmium	ug/L	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**0.50**	**J**	2.0	U	2.0	U	**0.98**	**J**	2.0	U	**0.76**	**J**		
Calcium	ug/L	NC	**14,100**		**17,300**		**12,200**		**69,600**		**23,600**		**56,800**		**56,400**		**75,000**		**47,300**		**44,200**		**52,600**			
Chromium	ug/L	50	4.0	U	**3.2**	**J**	**25**		**28**		**2.0**	**J**	**14**		4.0	U	4.0	U	4.0	U	4.0	U	4.0	U		
Cobalt	ug/L	NC	4.0	U	**0.67**	**J**	4.0	U	4.0	U	**0.79**	**J**	**3.8**	**J**	4.0	U	4.0	U	**0.65**	**J**	4.0	U	4.0	U		
Copper	ug/L	200	10	U	**3.2**	**J**	**2.8**	**J**	10	U	10	U	**15**		10	U	10	U	10	U	10	U	10	U		
Iron	ug/L	300	**37**	**J**	**1,100**		**73**		**910**		**240**		**12,400**		**2,600**		**4,400**		**600**		**210**		**280**			
Lead	ug/L	25	10	U	10	U	10	U	10	U	10	U	**30**		10	U	10	U	10	U	10	U	10	U		
Magnesium	ug/L	35,000	**2,600**		**5,100**		**9,300**		**13,300**		**11,400**		**16,700**		**11,500**		**13,700**		**8,900**		**8,000**		**13,400**			
Manganese	ug/L	300	**52**		**190**		**22**		**44**		**110**		**4,100**		**1,500**		**11,500**		**370**		**89**		**100**			
Mercury	ug/L	0.7	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U		
Nickel	ug/L	100	10	U	**2.1**	**J**	**3.3**	**J**	**1.3**	**J**	10	U	**9.6**	**J**	10	U	10	U	**3.2**	**J**	10	U	10	U		
Potassium	ug/L	NC	**2,400**		**870**		**3,900**		**890**	**J+**	**2,900**		**6,000**		**1,600**		**1,900**		**2,200**		**3,100**		**2,100**			
Selenium	ug/L	10	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U		
Silver	ug/L	50	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U		
Sodium	ug/L	20,000	**47,000**		**2,600**		**19,700**		**2,600**		**22,500**		**9,700**		**11,400**		**18,900**		**2,100**		**21,000**		**10,400**			
Thallium	ug/L	0.5	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U		
Vanadium	ug/L	NC	5.0	U	**1.6**	**J**	5.0	U	**2.5**	**J**	5.0	U	**12**		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U		
Zinc	ug/L	2,000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	**49**		10	U	10	U		
Metals, dissolved	Unit	Class GA Value*	Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results	
Aluminum	ug/L	NC	200	U	200	U	200	U	200	U	200	U	200	U	200	U	200	U	200	U	200	U	200	U		
Antimony	ug/L	3	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U		
Arsenic	ug/L	25	15	U	15	U	**6.3**	**J**	15	U	15	U	15	U	15	U	**10**	**J**	15	U	15	U	15	U		
Barium	ug/L	1,000	**130**		**8.9**		**98**		**17**		**110**		**83**		**76**		**110**		**7.8**		**300**		**80**			
Beryllium	ug/L	3	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U		
Cadmium	ug/L	5	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**0.53**	**J**	2.0	U	2.0	U		
Calcium	ug/L	NC	**14,100**		**16,800**		**12,100**		**68,000**		**22,000**		**56,000**		**58,100**		**71,600**		**47,500**		**43,400**		**54,100**			
Chromium	ug/L	50	4.0	U	4.0	U	**24**		**25**		4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U		
Cobalt	ug/L	NC	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U		
Copper	ug/L	200	10	U	10	U	**1.6**	**J**	10	U	10	U	10	U	10	U	10	U	**3.2**	**J**	10	U	10	U		
Iron	ug/L	300	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U		
Lead	ug/L	25	10	U	**3.2**	**J**	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U		
Magnesium	ug/L	35,000	**2,600**		**4,600**		**9,500**		**12,600**		**10,400**		**14,200**		**12,200**		**12,900**		**8,800**		**7,700**		**13,600**			
Manganese	ug/L	300	**36**		**1.9**	**J**	3.0	U	**0.50**	**J**	**55**		**3,700**		**1,600**		**10,800**		**130**		**72**		**110**			
Nickel	ug/L	100	10	U	10	U	**1.5**	**J**	10	U	10	U	10	U	10	U	10	U	**3.2**	**J**	10	U	10	U		
Potassium	ug/L	NC	**2,600**		**730**		**4,100**		**730**		**2,700**		**4,300**		**1,700**		**1,700**		**2,200**		**2,900**		**2,000**			
Selenium	ug/L	10	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U		
Silver	ug/L	50	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U		
Sodium	ug/L	20,000	**49,900**		**2,500**		**20,800**		**2,500**		**20,300**		**10,000**		**12,400**		**17,700**		**2,000**		**20,600**		**9,700**			
Thallium	ug/L	0.5	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U		
Vanadium	ug/L	NC	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U		
Zinc	ug/L	2,000	10	U	10	U	10	U	10	U	10	U	**14**	**J+**	10	U	10	U	10	U	10	U	**0.012**	**J+**		

Notes:

ug/L - micrograms per liter.

J - Estimated value.

J+ - Estimated value; biased high.

NC - No NYSDEC standards exist for this analyte.

ND - Not detected.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed the listed Guidance value.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

Table 4
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of Emerging Contaminant Results in Groundwater - September 2019

		Sample Location:	SFB-MW-B01		SFB-MW-B02		SFB-MW-B03		SFB-MW-B04		SFB-MW-B05		SFB-MW-S01		SFB-MW-S03		SFB-MW-S07		SFB-MW-S08		SFB-MW-S09		SFB-MW-S10	
		Lab Sample ID:	480-159638-4		480-159638-5		480-159638-1		480-159817-3		480-159817-5		480-159638-3		480-159638-2		480-159817-6		480-159817-1		480-159817-2		480-159817-4	
		Sample Date:	09/23/2019		09/23/2019		09/23/2019		09/24/2019		09/24/2019		09/23/2019		09/23/2019		09/24/2019		09/24/2019		09/24/2019		09/24/2019	
PFAS	Unit	Class GA Value**	Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results	
Perfluorobutanoic acid (PFBA)	ng/L	100	NA		NA		**1.7**	**J+**	NA		NA		1.8	U	**5**	**J+**	NA		NA		NA		NA	
Perfluoropentanoic acid (PFPeA)	ng/L	100	NA		NA		**1.2**	**J**	NA		NA		1.8	U	**1.6**	**J**	NA		NA		NA		NA	
Perfluorohexanoic acid (PFHxA)	ng/L	100	NA		NA		**2.3**		NA		NA		1.8	U	**3.2**		NA		NA		NA		NA	
Perfluoroheptanoic acid (PFHpA)	ng/L	100	NA		NA		**1.5**	**J**	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorooctanoic acid (PFOA)	ng/L	10	NA		NA		**2.2**		NA		NA		1.8	U	**29**		NA		NA		NA		NA	
Perfluorononanoic acid (PFNA)	ng/L	100	NA		NA		**4.2**		NA		NA		1.8	U	**0.42**	**J**	NA		NA		NA		NA	
Perfluorodecanoic acid (PFDA)	ng/L	100	NA		NA		**0.75**	**J**	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluoroundecanoic acid (PFUnA)	ng/L	100	NA		NA		**0.98**	**J**	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorododecanoic acid (PFDoA)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorotridecanoic acid (PFTriA)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorotetradecanoic acid (PFTeA)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorobutanesulfonic acid (PFBS)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	**1**	**J**	NA		NA		NA		NA	
Perfluorohexanesulfonic acid (PFHxS)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluoroheptanesulfonic acid (PFHpS)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorooctanesulfonic acid (PFOS)	ng/L	10	NA		NA		**0.56**	**J**	NA		NA		1.8	U	**1.8**		NA		NA		NA		NA	
Perfluorodecanesulfonic acid (PFDS)	ng/L	100	NA		NA		1.7	U	NA		NA		1.8	U	1.8	U	NA		NA		NA		NA	
Perfluorooctane Sulfonamide (PFOSA)	ng/L	100	NA		NA		8.5	U	NA		NA		9.1	U	8.8	U	NA		NA		NA		NA	
2-(N-methyl perfluorooctanesulfonamido) acetic acid (N-MeFOSAA)	ng/L	100	NA		NA		17	U	NA		NA		18	U	18	U	NA		NA		NA		NA	
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine (N-EtFOSAA)	ng/L	100	NA		NA		17	U	NA		NA		18	U	18	U	NA		NA		NA		NA	
6:2 Perfluorooctane Sulfonate (6:2 FTS)	ng/L	100	NA		NA		**900**	**J**	NA		NA		18	U	**14**	**J**	NA		NA		NA		NA	
8:2 Perfluorodecane Sulfonate (8:2 FTS)	ng/L	100	NA		NA		17	U	NA		NA		18	U	18	U	NA		NA		NA		NA	
PFOA + PFOS	ng/L	10	*NA*		*NA*		***2.76***		*NA*		*NA*		*ND*		***30.8***		*NA*		*NA*		*NA*		*NA*	
Total PFAS	ng/L	500	*NA*		*NA*		***915.39***		*NA*		*NA*		*ND*		***56.02***		*NA*		*NA*		*NA*		*NA*	

Notes:

ng/L - nanograms per liter.

J - Estimated value.

J+ - Estimated value; biased high.

NA - Sample not analyzed for the listed analyte.

ND - Not detected.

U - Analyte was not detected at specified quantitation limit.

Values in **bold** indicate the analyte was detected.

Values shown in bold and shaded type exceed the listed Guidance value.

PFAS - Per- and polyfluoroalkyl substances.

** - Recommended Guidance Values from the Guidelines for Sampling and Analysis of PFAS Under NYSDEC's Part 375 Remedial Programs, January 2020.

Table 5
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of VOC Results in Surface Water - September 2019

			Sample Location:		SFB-SW-1A		SFB-SW-1B		SFB-SW-2A		SFB-SW-2B		SFB-SW-3A		SFB-SW-3B	
			Sample Name:		SFB-SW-1A		SFB-SW-1B		SFB-SW-2A		SFB-SW-2B		SFB-SW-3A		SFB-SW-3B	
			Lab Sample ID:		480-160007-1		480-160007-2		480-160007-3		480-160007-4		480-160007-5		480-160007-6	
			Sample Date:		09/25/2019		09/25/2019		09/25/2019		09/25/2019		09/25/2019		09/25/2019	
VOCs	Unit	Guidance Value*		Results		Results		Results		Results		Resuls		Results	
1,1,1-Trichloroethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,1,2,2-Tetrachloroethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,1,2-Trichloroethane	ug/L	1		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,1,2-Trichloro- 1,2,2-trifluoroethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,1-Dichloroethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,1-Dichloroethene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,2,4-Trichlorobenzene	ug/L	5		1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	4.0	UJ	2.0	UJ
1,2-Dibromo-3-chloropropane	ug/L	0.04		1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	4.0	UJ	2.0	UJ
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.0006		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,2-Dichlorobenzene	ug/L	3		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,2-Dichloroethane	ug/L	0.6		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,2-Dichloropropane	ug/L	1		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,3-Dichlorobenzene	ug/L	3		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
1,4-Dichlorobenzene	ug/L	3		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
2-Butanone (MEK)	ug/L	50		10	UJ	10	UJ	10	UJ	10	UJ	40	UJ	20	UJ
2-Hexanone	ug/L	50		5.0	U	5.0	U	5.0	U	5.0	U	20	U	10	U
4-Methyl-2-pentanone	ug/L	NC		5.0	U	5.0	U	5.0	U	5.0	U	20	U	10	U
Acetone	ug/L	50		**5.7**	**J**	10	U	**15**	**J+**	**37**		40	U	**22**	
Benzene	ug/L	1		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Bromodichloromethane	ug/L	50		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Bromoform	ug/L	50		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Bromomethane	ug/L	5		1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	4.0	UJ	2.0	UJ
Carbon disulfide	ug/L	60		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Carbon tetrachloride	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Chlorobenzene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Chloroethane	ug/L	5		1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	4.0	UJ	**13**	**J**
Chloroform	ug/L	7		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Chloromethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Cyclohexane	ug/L	NC		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Dibromochloromethane	ug/L	50		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Dichlorodifluoromethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Methylene chloride	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Ethylbenzene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Isopropylbenzene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Methyl acetate	ug/L	NC		2.5	UJ	2.5	UJ	2.5	UJ	2.5	UJ	10	UJ	5.0	UJ
Methyl tert-butyl ether	ug/L	10		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Methylcyclohexane	ug/L	NC		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Styrene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Tetrachloroethene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Toluene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Trichloroethene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Trichlorofluoromethane	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Vinyl chloride	ug/L	2		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
cis-1,2-Dichloroethene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
trans-1,3-Dichloropropene	ug/L	0.4		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
trans-1,2-Dichloroethene	ug/L	5		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
cis-1,3-Dichloropropene	ug/L	0.4		1.0	U	1.0	U	1.0	U	1.0	U	4.0	U	2.0	U
Xylenes, total	ug/L	5		2.0	U	2.0	U	2.0	U	2.0	U	8.0	U	4.0	U

Notes:

ug/L - micrograms per liter.

J - Estimated value.

J+ - Estimated value; biased high.

NC - No NYSDEC standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values shown in bold and shaded type exceed the listed Guidance value.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

Table 6
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of Metals and Total Suspended Solids in Surface Water - September 2019

		Sample Location:	SFB-SW-1A		SFB-SW-1B		SFB-SW-2A		SFB-SW-2B		SFB-SW-3A		SFB-SW-3B	
		Sample Name:	SFB-SW-1A		SFB-SW-1B		SFB-SW-2A		SFB-SW-2B		SFB-SW-3A		SFB-SW-3B	
		Lab Sample ID:	480-160007-1		480-160007-2		480-160007-3		480-160007-4		480-160007-5		480-160007-6	
		Sample Date:	09/25/2019		09/25/2019		09/25/2019		09/25/2019		09/25/2019		09/25/2019	
Metals, total	Unit	Guidance Value*	Results		Results		Results		Results		Resuls		Results	
Aluminum	ug/L	NC	**22,600**	**J**	**37,900**	**J**	**4,700**	**J**	**67,600**	**J**	**32,000**	**J**	**150**	**J**
Antimony	ug/L	3	20	U	20	U	20	U	20	UJ	20	UJ	20	U
Arsenic	ug/L	25	15	U	**7.3**	**J**	**8**	**J**	**61**		**38**		**6.4**	**J**
Barium	ug/L	1,000	**200**		**240**		**160**		**970**		**1,900**		**1,200**	
Beryllium	ug/L	3	**0.82**	**J**	**1.3**	**J**	2	U	**3.7**		**1.6**	**J**	2.0	U
Cadmium	ug/L	5	**8.2**		**1.5**	**J**	**2.4**		**28**		**14**		2.0	U
Calcium	ug/L	NC	**64,400**		**59,400**		**71,200**		**122,000**		**68,400**		**52,300**	
Chromium	ug/L	50	**24**		**33**		**10**		**150**		**78**		4.0	U
Cobalt	ug/L	NC	**16**		**14**		**6.5**		**75**		**42**		4.0	U
Copper	ug/L	200	**96**	**J**	**32**	**J**	**74**	**J**	**970**	**J**	**570**	**J**	**2.3**	**J**
Iron	ug/L	300	**22,200**	**J**	**28,000**	**J**	**24,600**	**J**	**174,000**	**J**	**152,000**	**J**	**31,000**	**J**
Lead	ug/L	25	**210**	**J**	**63**	**J**	**160**	**J**	**2,000**	**J**	**720**	**J**	**6.2**	**J**
Magnesium	ug/L	35,000	**15,900**		**17,700**		**13,700**		**31,300**		**21,300**		**12,100**	
Manganese	ug/L	300	**9,200**		**3,200**		**6,300**		**18,300**		**10,400**		**1,200**	
Mercury	ug/L	0.7	0.20	U	0.20	U	0.20	U	**1.1**		**0.72**		0.20	U
Nickel	ug/L	100	**58**		**34**		**17**		**220**		**120**		10	U
Potassium	ug/L	NC	**4,500**	**J**	**4,800**	**J**	**6,000**	**J**	**20,000**	**J**	**11,900**	**J**	**6,600**	**J**
Selenium	ug/L	10	25	U	25	U	25	U	**11**	**J**	25	U	25	U
Silver	ug/L	50	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U
Sodium	ug/L	20,000	**20,100**		**22,700**		**20,900**		**21,500**		**12,000**		**11,200**	
Thallium	ug/L	0.5	20	U	20	U	20	U	20	U	20	U	20	U
Vanadium	ug/L	NC	**31**		**46**		**8.6**		**110**		**56**		5.0	U
Zinc	ug/L	2,000	**290**	**J**	**150**	**J**	**140**	**J**	**1,900**	**J**	**1,000**	**J**	**14**	**J**
Total Suspended Solids	ug/L	NC	**20,000**		**21,600**		**136,000**		**182,000**		**686,000**		**164,000**	

Notes:

ug/L - micrograms per liter.

J - Estimated value.

NC - No NYSDEC standards exist for this analyte.

U - Analyte was not detected at specified quantitation limit.

Values shown in bold and shaded type exceed the listed Guidance value.

* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water, June 1998 with the April 2000 Addendum.

Table 7
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary PCB, Metals and Total Organic Carbon in Sediment - September 2019

				Sample Location:	SFB-SED-1A		SFB-SED-1B		SFB-SED-2A		SFB-SED-2B		SFB-SED-3A		SFB-SED-3B	
				Sample Name:	SFB-SED-1A		SFB-SED-1B		SFB-SED-2A		SFB-SED-2B		SFB-SED-3A		SFB-SED-3B	
				Lab Sample ID:	480-160006-1		480-160006-2		480-160006-3		480-160006-4		480-160006-5		480-160006-6	
				Sample Depth:	0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft		0-0.5 ft	
				Sample Date:	09/23/2019		09/23/2019		09/23/2019		09/23/2019		09/23/2019		09/23/2019	
PCB Aroclors	Unit	Class A*	Class B*	Class C*	Results		Results		Results		Results		Results		Results	
Aroclor-1016	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	0.30	U	0.24	U
Aroclor-1221	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	0.30	U	0.24	U
Aroclor-1232	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	0.30	U	0.24	U
Aroclor-1242	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	0.30	U	0.24	U
Aroclor-1248	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	0.30	U	0.24	U
Aroclor-1254	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	**0.78**		**1.1**	
Aroclor-1260	mg/kg	NC	NC	NC	0.47	U	0.53	U	0.92	UJ	0.42	U	0.30	U	0.24	U
PCBs, Total	mg/kg	< 0.1	0.1-1	> 1	0.47	U	0.53	U	0.92	UJ	0.42	U	**0.78**		**1.1**	
Metals, total	Unit	Class A*	Class B*	Class C*	Results		Results		Results		Results		Results		Results	
Aluminum	mg/kg	NC	NC	NC	**19,000**	**J**	**12,600**	**J**	**15,900**	**J**	**14,800**	**J**	**15,500**	**J**	**18,300**	**J**
Antimony	mg/kg	NC	NC	NC	34.6	U	35.5	U	62.9	UJ	26.1	U	19	U	19.1	U
Arsenic	mg/kg	< 10	10-33	> 33	**12.9**		**10.5**		**12.4**	**J**	**5.8**		**5.3**	**J+**	**4.6**	**J+**
Barium	mg/kg	NC	NC	NC	**80.6**	**J**	**114**	**J**	**158**	**J**	**80.6**	**J**	**68.2**	**J**	**121**	**J**
Beryllium	mg/kg	NC	NC	NC	**0.73**	**J+**	**0.64**	**J+**	**0.81**	**J**	**0.68**	**J+**	**0.73**		**0.69**	
Cadmium	mg/kg	< 1	1-5	> 5	0.46	U	**1**		**4.6**	**J**	**1.3**		**0.39**	**J+**	**0.35**	**J+**
Calcium	mg/kg	NC	NC	NC	**2,940**	**J**	**7,950**	**J**	**8,600**	**J**	**2,670**	**J**	**1,730**	**J**	**2,080**	**J**
Chromium	mg/kg	< 43	43-110	> 110	**16.8**		**18**		**31**	**J**	**28.5**		**41.9**		**22.4**	
Cobalt	mg/kg	NC	NC	NC	**17.1**		**9.3**		**18.1**	**J**	**14.1**		**13.6**		**14.6**	
Copper	mg/kg	< 32	32-150	> 150	**17.5**	**J**	**34.5**	**J**	**148**	**J**	**71.2**	**J**	**49.6**	**J**	**48.1**	**J**
Iron	mg/kg	NC	NC	NC	**41,300**		**28,700**		**42,100**	**J**	**24,200**		**31,400**		**31,500**	
Lead	mg/kg	< 36	36-130	> 130	**21.2**	**J**	**75.9**	**J**	**362**	**J**	**130**	**J**	**104**	**J**	**45.6**	**J**
Magnesium	mg/kg	NC	NC	NC	**3,920**		**3,370**		**4,900**	**J**	**5,740**		**6,910**		**7,590**	
Manganese	mg/kg	NC	NC	NC	**230**		**1,730**		**1,610**	**J**	**601**		**635**		**490**	
Mercury	mg/kg	< 0.2	0.2-1	>1	**0.065**		**0.18**		**0.21**	**J**	**0.11**		**0.13**		**0.064**	
Nickel	mg/kg	< 23	23-49	> 49	**22.7**		**21**		**43.7**	**J**	**30.5**		**33.7**		**31.4**	
Potassium	mg/kg	NC	NC	NC	**955**	**J**	**998**	**J**	**1,760**	**J**	**1,540**	**J**	**1,480**	**J**	**1630**	**J**
Selenium	mg/kg	NC	NC	NC	9.2	UJ	9.5	UJ	16.8	UJ	7.0	UJ	5.1	UJ	5.1	UJ
Silver	mg/kg	< 1	1-2.2	> 2.2	1.4	U	1.4	U	2.5	UJ	1.0	U	0.76	U	0.76	U
Sodium	mg/kg	NC	NC	NC	323	U	332	U	587	UJ	244	U	177	U	178	U
Thallium	mg/kg	NC	NC	NC	13.8	UJ	14.2	UJ	25.1	UJ	**0.71**	**J**	7.6	UJ	7.6	UJ
Vanadium	mg/kg	NC	NC	NC	**25.9**		**21.4**		**25.5**	**J**	**20.4**		**20.3**		**22.7**	
Zinc	mg/kg	< 120	120-460	> 460	**159**	**J**	**204**	**J**	**351**	**J**	**195**	**J**	**137**	**J**	**183**	**J**
General Chemistry	Unit	Class A*	Class B*	Class C*	Results		Results		Results		Results		Results		Results	
Total Organic Carbon	mg/kg	NC	NC	NC	**2,570**	**J**	**4,220**	**J**	**3,090**	**J**	**2,270**	**J**	**7,740**	**J**	**8,480**	**J**

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

J - Estimated value.

J+ - Estimated value; biased high.

NC - No NYSDEC standard exists for this analyte.

U - Analyte was not detected at specified quantitation limit.

UJ - Estimated non-detect.

Values in **bold** indicate the analyte was detected.

PCBs - Polychlorinated Biphenyls.

Shading indicates result above the corresponding listed values.

* - New York State Department of Environmental Conservation (NYSDEC), Freshwater Sediment Guidance Values from NYSDEC "Screening and Assessment of Contaminated Sediment", June 24, 2014.

Table 8
New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Summary of VOC Results in Groundwater – October 2000 to September 2019

Analyte		Vinyl Chloride	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane
Class GA Value*		2	5	5	5	5
B-1	Oct-00	U	U	U	U	U
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	U	U	U	U	U
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U
B-2	Oct-00	U	U	U	U	U
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	U	U	U	U	U
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U
B-3	Oct-00	**6**	**120D**	**330ED**	4	**40D**
	Mar-01	2	**65ED**	**83ED**	1	**7**
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	2	**60E**	**35E**	0.6J	U
	Dec-01	0.97J	**32**	**18**	U	U
	Apr-02	1	**49D**	**40D**	0.6J	1J
	Aug-02	2	**46E**	**38E**	0.6J	3
	Nov-02	**4**	**120D**	**130D**	3	**8**
	Mar-03	U	**63E**	**38E**	0.8J	4
	May-05	**10**	**160**	**94**	**6.9**	4.2J
	Nov-05	**2.1J**	**81**	**59**	3.1J	2.9J
	Oct-08	U	**47**	U	U	U
	Mar-10	U	3	2.3	U	U
	May-11	U	U	0.99J	U	U
	Sep-13	U	**10Z**	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	**18**	2J	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	0.73 J	1 U	1 U

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Analyte		Vinyl Chloride	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane
Class GA Value*		2	5	5	5	5
B-4	Oct-00	U	U	U	U	U
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	-	-	-	-	-
	Mar-10	U	U	U	U	U
	May-11	U	U	1.7	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U
B-5	Oct-00	U	U	U	U	U
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	U	U	0.56J	1.1	**52**
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U
S-1	Oct-00	U	U	U	U	U
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	-	-	-	-	-
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U

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Analyte		Vinyl Chloride	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane
Class GA Value*		2	5	5	5	5
S-2	Oct-00	-	-	-	-	-
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	-	-	-	-	-
	Dec-01	-	-	-	-	-
	Apr-02	U	U	U	U	U
	Aug-02	-	-	-	-	-
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	-	-	-	-	-
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	NS	NS	NS	NS	NS
S-3	Oct-00	2	**53D**	4	U	U
	Mar-01	1	**24D**	5	0.7J	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	2	**24D**	**11**	0.9J	2
	Dec-01	U	**25**	**13**	1.1	4.8
	Apr-02	2	**30D**	**11**	0.9J	5D
	Aug-02	U	**18**	**13**	0.9J	4
	Nov-02	U	**12**	**9**	U	2
	Mar-03	U	**13**	5	0.6J	0.5J
	May-05	U	U	U	U	U
	Nov-05	U	**15**	3.8J	U	U
	Oct-08	U	U	2	U	U
	Mar-10	U	U	1.3	U	U
	May-11	U	U	1.5	U	U
	Sep-13	U	1JZ	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1.1	1 U	1 U
	Sep-19	2 U	2 U	1.1 J	2 U	2 U
S-7	Oct-00	U	U	U	U	U
	Mar-01	2	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	1	U	U	U	U
	Aug-02	0.9J	U	U	U	U
	Nov-02	0.7J	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	2.8J
	Nov-05	1.0J	U	U	U	1.9J
	Oct-08	U	U	1.9	1.6	**81**
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U

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Analyte		Vinyl Chloride	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane
Class GA Value*		2	5	5	5	5
S-8	Oct-00	U	U	U	U	U
	Mar-01	-	-	-	-	-
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	-	-	-	-	-
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	U	U	U	U	**33**
	Mar-10	U	U	U	U	U
	May-11	U	U	U	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U
S-9	Oct-00	-	-	-	-	-
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	U	U	U	U	U
	Mar-10	U	U	U	U	U
	May-11	U	1.5	0.86J	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U
S-10	Oct-00	-	-	-	-	-
	Mar-01	U	U	U	U	U
	Jun-01	NA	NA	NA	NA	NA
	Sep-01	U	U	U	U	U
	Dec-01	U	U	U	U	U
	Apr-02	U	U	U	U	U
	Aug-02	U	U	U	U	U
	Nov-02	U	U	U	U	U
	Mar-03	U	U	U	U	U
	May-05	U	U	U	U	U
	Nov-05	U	U	U	U	U
	Oct-08	U	U	U	U	U
	Mar-10	U	U	U	U	U
	May-11	U	U	0.88J	U	U
	Sep-13	U	U	U	U	U
	Dec-14	10 U	10 U	10 U	10 U	10 U
	Mar-16	10 U	10 U	10 U	10 U	10 U
	Apr-18	1 U	1 U	1 U	1 U	1 U
	Sep-19	1 U	1 U	1 U	1 U	1 U

Notes:
Analyte concentrations and Class GA Values are presented in micrograms per Liter (ug/L).
J - Estimated value.
U - Analyte was not detected at a concentration greater than the quantitation limit.
D - Result from a dilution of the original sample.
E - Exceeds calibration range.
NA - Not available.
Bold and shaded values exceed the Class GA Values.
* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA Water, June 1998 with the April 2000 Addendum.

APPENDIX A

SITE HISTORY

SCHATZ FEDERAL BEARINGS SITE (NYSDEC SITE NO. 3-14-003)

Date	Description
1935 – 1973	Approximately 125,000 yards of mixed industrial and municipal waste was deposited into the landfill located on 223-247 Van Wagner Road in Poughkeepsie, New York.
1949 – 1973	Schatz Federal Bearings deposited considerable amounts of waste, including grinding sludge, metal filings, broken grinding wheels, metal washers, twine, burlap, solvents, coolants, and oil saturated sorbent material into the landfill.
1986	Prior to the remedial investigation, several waste materials were visible and able to be identified throughout the site, such as rusted drums in onsite ponds.
1986 – 1988	A Remedial Investigation/Feasibility Study (RI/FS) was completed for the New York State Department of Environmental Conservation (NYSDEC). Elevated levels of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals were detected in onsite soil and pond sediments. The overburden aquifer was found to be contaminated with VOCs, barium, chromium, and zinc. The bedrock aquifer was found to be contaminated with VOCs, PCBs, and metals. Contaminants were detected offsite in both upgradient and downgradient private wells.
March 1989	The NYSDEC issued a Record of Decision (ROD) requesting extensive treatment of contaminated groundwater, excavation of municipal waste, installation of a liner system, landfill cap, and cover system. Groundwater monitoring wells were additionally installed.
July 1992	Concentration of contaminants in groundwater samples were found to be significantly decreased from concentrations recorded in 1988.
March 1994	The NYSDEC amended the ROD to include solidification and stabilization of slag wastes. Waste containing high levels of PCBs was removed and disposed of offsite. Site access controls, institutional controls, and long-term environmental monitoring was established.
June 1997	Construction of the landfill cap was completed, and a site inspection and groundwater monitoring program were put in place.
April 2014	A SMP was prepared to initiate an updated groundwater monitoring and site inspection schedule
April 2019	The SMP was revised to include dissolved phase metals in the groundwater sampling program in addition to routine surface water and sediment sampling.

CUSTODIAL RECORD

PERTINENT SITE DOCUMENTS

SCHATZ FEDERAL BEARINGS (NYSDEC SITE NO. 3-14-003)

Metcalf & Eddy of New York, Inc., *Technical Proposal to Conduct a Remedial Investigation and Feasibility Study of the Schatz Federal Bearing Site in Dutchess County,* December 1985

Metcalf & Eddy of New York, Inc., *Contract Document for the Remedial Investigation and Feasibility Study of the Schatz Federal Bearing Site,* January 1986

Metcalf & Eddy of New York, Inc., *Cost Proposal Resubmittal to Conduct a Remedial Investigation and Feasibility Study of the Schatz Federal Bearing Site in Dutchess County,* March 1986

Metcalf & Eddy of New York, Inc., *Remedial Investigation Work Plan, Schatz Federal Bearing Site, Poughkeepsie, NY,* October 1986

Metcalf & Eddy of New York, Inc., *Remedial Investigation Report (Volume 1),* Schatz Federal Bearings Site, April 1988

Metcalf & Eddy of New York, Inc., *Remedial Investigation Report (Volume 2),* Schatz Federal Bearings Site, April 1988

Metcalf & Eddy of New York, Inc., *Feasibility Study Report, Schatz Federal Bearing Site, Poughkeepsie, New York,* September 1988

New York State Department of Environmental Conservation, *Schatz Federal Bearing Site Record of Decision,* March 1989

New York State Department of Environmental Conservation, *Proposed Amendment to the Record of Decision, Schatz Federal Bearings Site*, March 1994

AECOM Technical Services Northeast, Inc., *Site Management Plan,* Schatz Federal Bearings Site, April 2014

AECOM Technical Services Northeast, Inc., *Site Management Plan,* Schatz Federal Bearings Site, April 2019

New York State Department of Environmental Conservation
Schatz Federal Bearings (Site No. 3-14-003) - City of Poughkeepsie, NY
Monitoring Well Construction Summary

Well ID	Installation Date	Well Dia. (inches)	Well Material	Total Depth (feet bgs)	Screened Formation	*Screen*			*Elevation (feet AMSL)*				*Location*	
						Top (feet bgs)	Bottom (feet bgs)	Length (feet)	Casing Top	Ground Surface	Screen		Northing	Easting
											Top	Bottom		
B-1	4/21/1987	4	Stainless Steel	52.5	Bedrock	26.50	52.50	26.00	191.03	186.93	163.40	137.40	1048888.919	659261.090
B-2	4/22/1987	4	Stainless Steel	35.5	Bedrock	15.50	35.50	20.00	193.44	191.49	176.90	156.90	1049192.038	658787.357
B-3	4/21/1987	4	PVC	121.7	Bedrock	40.50	121.70	18.50	179.03	178.20	137.70	119.20	1048573.394	658797.73
B-4	6/23/1987	4	Stainless Steel	33.0	Bedrock	13.00	33.00	20.00	175.90	173.50	160.50	140.55	1048363.644	658912.171
B-5	6/17/1987	4	PVC	122.0	Bedrock	29.50	122.00	20.50	183.36	182.50	153.00	132.50	1048752.308	658488.727
S-1	4/12/1987	2	PVC	20.2	Overburden	10.00	20.00	10.00	190.46	190.00	180.00	170.00	1048884.311	659263.561
S-2*	N/A	2	PVC	11.6	Overburden	N/A	N/A	N/A	193.61	191.61	N/A	N/A	1049190.764	658792.338
S-3	4/12/1987	2	PVC	35.0	Overburden	23.50	35.50	10.00	182.41	178.30	154.80	144.80	1048572.431	658792.104
S-4	4/13/1987	2	PVC	30.0	Overburden	20.00	30.00	10.00	197.72	182.90	162.90	152.90	1048868.35	658613.024
S-5	4/23/1987	2	PVC	52.5	Overburden	47.00	52.00	5.00	194.05	155.30	138.30	133.30	1048808.217	658863.533
S-7	6/22/1987	2	PVC	22.0	Overburden	17.00	22.00	5.00	183.71	182.20	165.20	160.20	1048750.117	658482.627
S-8	6/20/1987	2	PVC	10.0	Overburden	5.50	9.50	4.00	185.96	184.30	178.80	174.80	1049011.991	658496.396
S-9	6/19/1987	2	PVC	32.0	Overburden	18.00	28.00	10.00	168.56	166.40	148.40	138.40	1048521.006	659169.014
S-10	6/18/1987	2	PVC	32.0	Overburden	20.00	30.00	10.00	168.22	166.30	146.30	136.30	1048597.241	659304.745

Notes

AMSL : above mean sea level
feet bgs : feet below ground surface
PVC : polyvinyl chloride
N/A : Not Available
ID : Identification
Dia. : Diameter
* : well log for S-2 could not be located

Coordinate System: New York State Plane - East 3101; Vertical Datum: NAD 1983 (conus) through GPS observations

APPENDIX B

TRC		**DATE: Wednesday, March 13, 2019**
		REPORT NO. 20190313
		PAGE NO. 1 OF 2
		PROJECT NO. 320919.0000.0000
		LOGBOOK NO. -- PAGES -- to --

DAILY FIELD ACTIVITY REPORT

PROJECT	Former Schatz Federal Bearings
LOCATION	Poughkeepsie, New York
ATTACHMENTS	Photo Log

WEATHER	TIME	TEMP.	PRECIP.	WIND (MPH)	WIND (DIR)
Cloudy	17:30	40°F	None	0-5	SSE
Cloudy	20:30	40°F	None	0-5	SSE

SITE CONDITIONS: Clear

WORK GOAL FOR DAY: Site inspection and gas vent monitoring

PERSONNEL ON SITE:

NAME	AFFILIATION	ARRIVAL TIME	DEPART TIME
Martin MacDonald	TRC Engineers, Inc.	17:30	20:30
Steve Nabozny	TRC Engineers, Inc.	17:30	20:30

EQUIPMENT ON SITE:

TYPE	MODEL	TYPE	MODEL
PID	MiniRAE 3000	Not Applicable	Not Applicable
Landfill Gas Meter	GEM 2000 Plus		
Oil/Water Interface Probe	Heron		

HEALTH & SAFETY:

PPE REQUIRED: ☒ LEVEL D ☐ LEVEL C ☐ LEVEL B ☐ LEVEL A **HASP?** YES

SITE SAFETY OFFICER: Ryan Jorrey

H & S NOTES: Site work performed in Level D PPE

TRC		**DATE: Thursday, March 21, 2019**
		REPORT NO. 20190321
		PAGE NO. 2 OF 2
		PROJECT NO. 320919.0000.0000

DAILY FIELD ACTIVITY REPORT

DESCRIPTION OF WORK PERFORMED AND OBSERVED

TRC Engineers, Inc. (TRC) conducted a quarterly site inspection and landfill gas monitoring event on Wednesday, March 13, 2019 at the Former Schatz Federal Bearings Site (Site) located on Van Wagner Road approximately two miles northeast of downtown Poughkeepsie, NY. The objective of the site inspection was to document conditions of the landfill cap, perimeter drainage channel, drainage swales, groundwater monitoring wells, landfill gas vents, access roads, and fence lines.

TRC conducted a site walk and initial inspection while conducting the groundwater gauging event. All Site wells were in good condition. The landfill inspection included walking the perimeter of the landfill, random areas of the landfill cap. The landfill cap was dry and the soil stable, meaning no visible erosion, cracks, settlement or seeps were observed. The landfill cap is intact and in good condition. One animal burrow was noted on the southern portion of the cap. No animals were observed at the time of the inspection.

The drainage swales, channels and culverts appear to be in good condition do not contain any obstructions which could potentially prohibit stormwater flow. Vegetation in the drainage channels is currently short and would not impede the flow of water. The swales and channels are stable with no noticeable areas of active erosion. Site access roads around the perimeter of the Site are in good condition, with no signs of erosion along the road. The perimeter fence is in good condition and the gates are secure. One short section of perimeter fencing had overgrowth on the north side of the site, however, the fence still appears to be in good condition.

The landfill gas venting system was inspected for signs of damage during the site inspection. The inspection was limited to visible portions of the system, and the ground surface over the gas collection lines. The passive landfill gas vents appeared in good condition, properly secured and functioning. The ground surface above the gas collection system lines and around the gas collection vents appeared to be in good condition without any evidence of settlement along lines or vent pipes. No animal borrows, or voids, were observed around the gas vents, and no gas odors or problems related to the gas venting system were observed during the site inspection. TRC conducted the gas monitoring event on all four gas vent stations (GVS).

PREPARED BY (OBSERVER):	**REVIEWED BY:**
PRINT NAME: Marty MacDonald	**PRINT NAME:** Nate Kranes

NYSDEC Former Schatz Federal Bearings Site
Photograph Log
Date: March 13, 2019

Photo 1: Looking northwest from the entry gate. View of the western side of the landfill and perimeter fence.

Photo 2: Monitoring wells S-3 and B-3 near the entrance gate on the south side of the landfill.

Photo 3: Looking southeast along the perimeter fence near monitoring well S-8.

Photo 4: Looking west at monitoring well S-8. View of the southeast slope of the landfill cap.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Marty MacDonald	1 of 3	NYSDEC	Former Schatz Federal Bearings Poughkeepsie, NY	TRC

NYSDEC Former Schatz Federal Bearings Site
Photograph Log
Date: March 13, 2019

Photo 5: Looking east from the west side of the landfill. View of drainage swales on the western side of the site.

Photo 6: Looking west at the bedrock outcrop on the northern side of the Site. View of drainage swale near north gate.

Photo 7: Looking north at north gate. View of monitoring wells S-2 and B-2.

Photo 8: Looking west near north gate on north portion of landfill. View of gas vent and western portion of landfill cap.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Marty MacDonald	2 of 3	NYSDEC	Former Schatz Federal Bearings Poughkeepsie, NY	TRC

NYSDEC Former Schatz Federal Bearings Site
Photograph Log
Date: March 13, 2019

Photo 9: Looking east near north gate on north portion of landfill. View of gas vent and eastern portion of landfill cap.

Photo 10: Monitoring wells S-1 and B-1.

Photo 11: Looking east towards monitoring wells S-1 and B-1. View of drainage swale and landfill cap with animal burrow.

Photo 12: Looking southwest towards site entrance gate. View of perimeter fence and access road.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Marty MacDonald	3 of 3	NYSDEC	Former Schatz Federal Bearings Poughkeepsie, NY	TRC

TRC		**DATE: Tuesday, September 24, 2019**
		REPORT NO. 20190924
		PAGE NO. 1 OF 3
		PROJECT NO. 320919.0000.0000
		LOGBOOK NO. -- PAGES -- to --

DAILY FIELD ACTIVITY REPORT

PROJECT	Former Schatz Federal Bearings
LOCATION	Poughkeepsie, New York
ATTACHMENTS	Photo Log

WEATHER	TIME	TEMP.	PRECIP.	WIND (MPH)	WIND (DIR)
Sunny	07:00	61°F	None	5	W
Sunny	13:00	71°F	None	8	NW

SITE CONDITIONS: Dry, clear

WORK GOAL FOR DAY: Site inspection, gas vent monitoring, groundwater, sediment and surface water sampling

PERSONNEL ON SITE:

NAME	AFFILIATION	ARRIVAL TIME	DEPART TIME
Sanjay Sharma	TRC Engineers, Inc.	07:30	14:30
Andrew Fishman	TRC Engineers, Inc.	08:00	14:30

EQUIPMENT ON SITE:

TYPE	MODEL	TYPE	MODEL
PID	RKI-GX-6000	Not Applicable	Not Applicable
Landfill Gas Meter	GEM 2000 Plus		
Oil/Water Interface Probe	Heron		
Water Quality meter	YSI		

HEALTH & SAFETY:

PPE REQUIRED: ☒ LEVEL D ☐ LEVEL C ☐ LEVEL B ☐ LEVEL A **HASP?** YES

SITE SAFETY OFFICER: Steve Johansson

H & S NOTES: Site work performed in Level D PPE

TRC		**DATE: Tuesday, September 24, 2019**
		REPORT NO. 20190924
		PAGE NO. 2 OF 3
		PROJECT NO. 320919.0000.0000

DAILY FIELD ACTIVITY REPORT

DESCRIPTION OF WORK PERFORMED AND OBSERVED

TRC Engineers, Inc. (TRC) conducted a semi-annual site inspection, landfill gas monitoring and annual groundwater, surface water and sediment sampling event on Tuesday, September 24, 2019 at the Former Schatz Federal Bearings Site (Site) located on Van Wagner Road approximately two miles northeast of downtown Poughkeepsie, NY. The objective of the site inspection was to document conditions of the landfill cap, perimeter drainage channel, drainage swales, groundwater monitoring wells, landfill gas vents, access roads, and fence lines.

TRC conducted a site walk and initial inspection while conducting the groundwater gauging event. All fourteen Site wells (B-1, B-2, B-3, B-4, B-5, S-1, S-2, S-3, S-4, S-5, S-7, S-8, S-9 and S-10) were in good condition. The landfill inspection included walking the perimeter of the landfill and random areas of the landfill cap. The landfill cap was dry and the soil stable, meaning no visible erosion, cracks, settlement or seeps were observed. The landfill cap was intact and in good condition.

The drainage swales, channels and culverts appeared to be in good condition and did not contain any obstructions which could potentially prohibit stormwater flow. Vegetation on the sides of the drainage channels was long but would not impede the flow of water. The swales and channels appeared stable with no noticeable areas of active erosion. Site access roads around the perimeter of the Site were in good condition. The perimeter fence was in good condition and the gates were secure. Many short sections of perimeter fencing had seasonal overgrowth on all the sides of the site; however, the fence still appeared to be in good condition.

The landfill gas venting system was inspected for signs of damage during the site inspection. The inspection was limited to visible portions of the system and the ground surface over the gas collection lines. The passive landfill gas vents appeared in good condition, properly secured and functioning. The ground surface above the gas collection system lines and around the gas collection vents appeared to be in good condition without any evidence of settlement along lines or vent pipes.

TRC collected groundwater samples from the 11 of the 14 Site monitoring wells (B-1, B-2, B-3, B-4, B-5, S-1, S-3, S-7, S-8, S-9 and S-10). Three monitoring wells (S-2, -S-4 and S-5) were dry at the time of the visit. Six sediment samples (SED-1A, SED-1B, SED-2A, SED-2B, SED-3A and SED-3B) and six surface water samples (SW-1A, SW-1B, SW-2A, SW-2B, SW-3A and SW 3B) were also collected from six locations (surface water and sediment locations are paired together). The six locations are located on the southwest side of the landfill and samples were collected from the stream and two ponded areas as per **Figure 3 – Approximate Surface Water and Sediment Sample Locations (March 2016)** in the Site Management Plan .

Groundwater samples were submitted to TestAmerica Laboratories, Inc. for analysis using EPA Method 8260 for total VOCs, EPA method 6010C for Metals for both total and dissolved fractions and EPA method 7470A for Mercury for both total and dissolved fractions (i.e., 1 unfiltered sample and 1 lab-filtered sample were analyzed individually via EPA 6010C/EPA 7470A). Of the 11 monitoring wells, three groundwater samples were also collected from monitoring well B-3, S-3, and S-1 for analysis for emerging contaminants (i.e. PFAS and 1-4-dioxane) and were submitted for analysis using EPA method 537 modified for PFAS, Standard list of 21 and EPA method 8270 SIM for 1,4-dioxane.

TRC		**DATE: Tuesday, September 24, 2019**
		REPORT NO. 20190924
		PAGE NO. 3 OF 3
		PROJECT NO. 320919.0000.0000

DAILY FIELD ACTIVITY REPORT

DESCRIPTION OF WORK PERFORMED AND OBSERVED

The surface water samples were submitted for analysis using EPA Method 8260 for total VOCs, EPA method 6010C for Metals, EPA method 7470A for Mercury, and EPA Method 160.2 for Total Suspended Solids. The sediment samples were submitted for analysis using EPA method 8082C for PCBs, EPA Method 6010C for Metals, EPA method 7471B for Mercury, and EPA Method 514.1 for Total Organic Carbon.

PRINT NAME: Sanjay Sharma and Andrew Fishman	**PRINT NAME:** Nate Kranes

NYSDEC Former Schatz Federal Bearings Site
Photograph Log
Date: September 24, 2019

Photo 1: View of the landfill cap area from the southwest near monitoring wells B-3/S-3.

Photo 2: Monitoring wells B-3 and S-3 near the entrance gate on the south side and the western perimeter area of the landfill.

Photo 3: Looking southeastern towards the perimeter area from monitoring well B-3/S-3.

Photo 4: Looking north towards monitoring well S-8.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Sanjay Sharma & Andrew Fishman	1 of 3	NYSDEC	Former Schatz Federal Bearings Poughkeepsie, NY	TRC

NYSDEC Former Schatz Federal Bearings Site
Photograph Log
Date: September 24, 2019

Photo 5: Looking northeast from the west side of the landfill near monitoring wells B-5/S-7.

Photo 6: Looking southwest from the west side of landfill near monitoring wells B-5/S-7.

Photo 7: View of the northeast area of the landfill with bedrock outcrop in the background.

Photo 8: Thick vegetation around southern portion of landfill near entry gate.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Sanjay Sharma & Andrew Fishman	2 of 3	NYSDEC	Former Schatz Federal Bearings Poughkeepsie, NY	TRC

NYSDEC Former Schatz Federal Bearings Site
Photograph Log
Date: September 24, 2019

Photo 9: Looking south near north gate on the north portion of landfill. View of gas vent and landfill cap.

Photo 10: Thick vegetation around monitoring well B-5.

Photo 11: View of the ponded area to the southwest of monitoring well B-3/S-3.

Photo 12: Thick vegetation around monitoring well S-10. Approachable from Van Wagner Road only.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
320919.0000 .0000	Sanjay Sharma & Andrew Fishman	3 of 3	NYSDEC	Former Schatz Federal Bearings Poughkeepsie, NY	TRC

APPENDIX C

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME		LOCATION ID	DATE
NYSDEC SMP A - Schatz Federal Bearings		B1	9/23/2019
PROJECT NUMBER		**START TIME**	**END TIME**
320919.0000.0000		11:45	13:20
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
SFB-MW-B1	13:10		OF

WELL DIAMETER (INCHES) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	11.15 FT	**FINAL DTW (BMP)**	13.07 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	41.5 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	30.35 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	1.25952 GAL	**PID WELL MOUTH**	1.7 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	19.9096 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	5.525 GAL	**DRAWDOWN/ TOTAL PURGED**	0.227967421	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1145	**BEGIN PURGING**									
1150	11.86	250	16.4	2.514	8.36	0.54	0	70.4		
1200	12.45	250	16.4	2.495	8.29	0.18	0	61.1		
1205	12.5	250	16.4	2.494	8.26	0.17	0	59.8		
1210	12.8	250	16	2.492	8.29	0.13	0	62.2		
1215	13.05	250	15.9	2.489	8.29	0.11	0	41		
1220	13.14	250	15.9	2.487	8.29	0.11	0	35.1		
1225	13.2	250	15.9	2.486	8.29	0.1	0	28.3		
1230	13.15	250	16.7	2.497	8.28	0.12	0	15		
1235	13.1	250	16.8	2.493	8.27	0.11	0	-0.5		
1240	13.08	250	16.7	2.497	8.27	0.11	0	-5.3		
1245	13.05	250	16.6	2.492	8.26	0.1	0	-21.3		
1250	13.05	250	16.5	2.499	8.26	0.09	0	-35.6		
1255	13.06	250	16.4	2.494	8.26	0.09	0	-41.4		
1300	13.06	250	16.7	2.511	8.26	0.13	0	-65.9		
1305	13.06	250	16.9	2.51	8.25	0.1	0	-69.2		
1310	13.07	250	16.6	2.501	8.25	0.09	0	-73.2		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

17	**2.5**	**8.3**	**0.1**	**0**	**-73**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER Solinist
[ ] SUBMERSIBLE	[X] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID MiniRAE 3000
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER YSI Pro DSS
	[ ] NITRIC ACID	[ ] HDPE TUBING	[ ] TEFLON BLADDER	[ ] TURB. METER
[ ] WATTERA	[ ] HEXANE	[X] LDPE TUBING	[ ] OTHER	[X] PUMP Geotech Peri pump
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER
[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 5.525

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/23/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-B2
SAMPLE TIME	14:45

LOCATION ID	B2
DATE	9/23/2019
START TIME	14:00
END TIME	14:55
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	9.25 FT	**FINAL DTW (BMP)**	9.56 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	37.4 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	28.15 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.20336 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	18.4664 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	2.925 GAL	**DRAWDOWN/ TOTAL PURGED**	0.069524786	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1400	**BEGIN PURGING**									
1405	9.4	250	15	1.103	7.38	4.31	2.55	39.9	35	
1410	10.06	250	14.9	1.106	7.27	3.28	2.44	46.3	35	
1415	10.48	250	14.6	1.097	7.2	2.36	0.2	53.9	35	
1420	9.48	250	14.5	1.088	7.13	2.32	1.31	65.1	35	
1425	9.5	250	13.8	1.082	7.11	2.31	3.03	71.1	35	
1430	9.55	250	13.7	1.083	7.08	2.3	0	78.6	35	
1435	9.53	250	13.9	1.083	7.04	2.29	0	83	35	
1440	9.56	250	13.6	1.084	7.01	2.27	0	88.3	35	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**14**	**1.08**	**7**	**2.3**	**0**	**88**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 2.925

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/23/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-B3
SAMPLE TIME	11:00

LOCATION ID	B3
DATE	9/23/2019
START TIME	10:10
END TIME	11:10
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	20.6 FT	**FINAL DTW (BMP)**	23.45 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	101.1 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	80.5 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	1.8696 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	52.808 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.25 GAL	**DRAWDOWN/ TOTAL PURGED**	0.575261538	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1010	**BEGIN PURGING**									
1020	20.49	250	14.6	1.878	8.93	6.47	0	17.2	98	
1030	21.73	250	14.3	1.863	8.98	6.44	0	30.3	98	
1035	22.15	250	13.9	1.86	8.95	6.45	0	36.7	98	
1040	22.79	250	14	1.861	8.95	6.49	0	40.1	98	
1045	23	250	14	1.861	8.95	6.5	0	44.5	98	
1050	23.45	250	13.8	1.859	8.94	6.53	0	47.4	98	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])										
			14	**1.86**	**8.9**	**6.5**	**0**	**47**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED — YES [ ] NO [X]

NUMBER OF GALLONS GENERATED: 3.25

NO-PURGE METHOD UTILIZED — YES [ ] NO [X]

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature:

Print Name: Andrew Fishman

Checked By: Steve Johansson

Date: 9/23/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-B4
SAMPLE TIME	10:40

LOCATION ID	B4
DATE	9/24/2019
START TIME	9:35
END TIME	10:45
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	12.15 FT	**FINAL DTW (BMP)**	13.82 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	36.71 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	24.56 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	1.09552 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	16.11136 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	4.225 GAL	**DRAWDOWN/ TOTAL PURGED**	0.259294675	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
935	**BEGIN PURGING**									
940	12.41	250	14	2.972	7.93	7.11	4.97	37.6	34	
950	12.51	250	13.9	3.091	7.33	6.52	2.57	46.1	34	
955	12.57	250	13.8	3.099	7.32	5.91	1.64	59.4	34	
1000	13.15	250	13.7	3.095	7.28	5.38	1.08	72.8	34	
1005	13.21	250	13.9	3.095	7.28	5.56	0.94	93.6	34	
1010	13.24	250	14.1	3.156	7.26	5.28	1.04	100.6	34	
1015	13.32	250	14	3.225	7.25	5.01	0.81	107.5	34	
1020	13.42	250	14.1	3.245	7.25	4.91	0.63	109.1	34	
1025	13.63	250	14	3.313	7.25	4.69	0.6	112.9	34	
1030	13.75	250	14.1	3.47	7.24	4.08	0.62	116.1	34	
1035	13.82	250	14	3.474	7.24	4.14	0.6	117.6	34	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

	14	**3.47**	**7.2**	**4.1**	**0.6**	**120**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED		X
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 4.225

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/24/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-B5
SAMPLE TIME	12:40

LOCATION ID	B5
DATE	9/24/2019
START TIME	11:40
END TIME	12:50
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	16.3 FT	**FINAL DTW (BMP)**	16.75 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	48.3 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	32 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.2952 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	20.992 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.575 GAL	**DRAWDOWN/ TOTAL PURGED**	0.082573427	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1140	**BEGIN PURGING**									
1150	16.45	250	13.5	2.357	8.14	1.27	9.45	98	46	
1200	16.57	250	13.5	2.376	8.13	0.87	4.79	97.6	46	
1205	16.59	250	13.2	2.391	8.13	0.54	0	96.5	46	
1210	16.62	250	13.3	2.399	8.14	0.42	0	95.6	46	
1215	16.67	250	13.6	2.432	8.14	0.24	0	93.7	46	
1220	16.69	250	13.8	2.43	8.14	0.21	0	92.4	46	
1225	16.7	250	13.9	2.439	8.15	0.17	0	91	46	
1230	16.72	250	13.8	2.447	8.17	0.13	0	90.4	46	
1235	16.75	250	13.6	2.447	8.17	0.17	0	90.1	46	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**14**	**2.45**	**8.2**	**0.2**	**0**	**90**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. ____ TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 3.575

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/24/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-S1
SAMPLE TIME	12:30

LOCATION ID	S1
DATE	9/23/2019
START TIME	11:45
END TIME	12:40
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	10.9 FT	**FINAL DTW (BMP)**	13.22 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	20.45 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	9.55 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.38048 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.5662 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	5.85 GAL	**DRAWDOWN/ TOTAL PURGED**	0.065039316	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1145	**BEGIN PURGING**									
1150	11.03	500	16.9	0.281	8	2.05	145.65	81.8	18	
1155	11.55	500	16.7	0.278	9.71	1.64	103.67	77	18	
1200	11.96	500	17.6	0.281	5.99	2.37	76.3	70.3	18	
1205	12.33	500	17.1	0.274	5.1	0.72	46.69	60.3	18	
1210	12.81	500	17	0.274	4.98	0.56	44.1	55.4	18	
1215	13.06	500	17.2	0.274	4.92	0.44	42.31	47.7	18	
1220	13.09	500	17.1	0.274	4.84	0.46	39.65	48.3	18	
1225	13.16	500	17.2	0.274	4.93	0.43	36.5	48.6	18	
1230	13.22	500	17.2	0.274	4.92	0.44	33.8	48.5	18	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**17**	**0.274**	**4.9**	**0.4**	**33.8**	**49**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 5.85

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/23/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	**SAMPLE TIME**

LOCATION ID S2	**DATE**
START TIME	**END TIME**
SITE NAME/NUMBER	**PAGE** OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	FT	**FINAL DTW (BMP)**	FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	0 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0 GAL	**PID WELL MOUTH**	PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	GAL	**DRAWDOWN/ TOTAL PURGED**	#DIV/0!	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	DRY, NO SAMPLE									
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])										

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER	Solinist
[ ] SUBMERSIBLE	[X] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID	MiniRAE 3000
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER	YSI Pro DSS
	[ ] NITRIC ACID	[ ] HDPE TUBING	[ ] TEFLON BLADDER	[ ] TURB. METER	
[ ] WATTERA	[ ] HEXANE	[X] LDPE TUBING	[ ] OTHER	[X] PUMP	Geotech Peri pump
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER	
[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] FILTERS	NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 0

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-S3
SAMPLE TIME	11:05

LOCATION ID	S3
DATE	9/23/2019
START TIME	10:10
END TIME	11:15
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	24.21 FT	**FINAL DTW (BMP)**	26.18 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	39.32 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	15.11 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.32308 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.47804 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	6.24 GAL	**DRAWDOWN/ TOTAL PURGED**	0.051775641	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1005	**BEGIN PURGING**									
1010	24.9	500	14.4	0.273	8.12	1.87	71.59	34.2	37	
1015	25.62	500	13.9	0.265	5.38	0.5	66.58	29.4	37	
1020	25.75	500	13.8	0.264	5.06	0.35	64.41	26.4	37	
1025	25.95	500	13.6	0.264	4.71	0.2	63.75	22	37	
1030	26	500	13.72	0.265	4.68	0.1	67.55	11.6	37	
1035	26.21	500	13.8	0.264	4.62	0.08	71.33	9.2	37	
1040	26.19	300	13.82	0.265	4.59	0.2	74.38	19	37	
1045	26.18	300	13.9	0.265	4.59	0.05	76.77	8.8	37	
1050	26.21	300	14	0.266	4.52	0.04	82.78	7.4	37	
1055	26.2	300	13.95	0.265	4.55	0.04	63.3	7.65	37	
1100	26.19	300	13.98	0.265	4.53	0.04	61.5	7.58	37	
1105	26.18	300	14	0.264	4.55	0.04	58.3	7.6	37	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**14**	**0.264**	**4.6**	**0**	**5**	**7.6**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER Solinist
[ ] SUBMERSIBLE	[X] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID MiniRAE 3000
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER YSI Pro DSS
	[ ] NITRIC ACID	[ ] HDPE TUBING	[ ] TEFLON BLADDER	[ ] TURB. METER
[ ] WATTERA	[ ] HEXANE	[X] LDPE TUBING	[ ] OTHER	[X] PUMP Geotech Peri pump
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER
[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 6.24

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/23/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	**SAMPLE TIME**

LOCATION ID S4	**DATE**
START TIME	**END TIME**
SITE NAME/NUMBER	**PAGE** OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	FT	**FINAL DTW (BMP)**	FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	0 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0 GAL	**PID WELL MOUTH**	PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	GAL	**DRAWDOWN/ TOTAL PURGED**	#DIV/0!	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	DRY, NO SAMPLE									
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])										

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER	Solinist
[ ] SUBMERSIBLE	[X] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID	MiniRAE 3000
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER	YSI Pro DSS
	[ ] NITRIC ACID	[ ] HDPE TUBING	[ ] TEFLON BLADDER	[ ] TURB. METER	
[ ] WATTERA	[ ] HEXANE	[X] LDPE TUBING	[ ] OTHER	[X] PUMP	Geotech Peri pump
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER	
[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] FILTERS	NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[X]	See Chain of Custody							
[ ]								
[ ]								
[ ]								
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 0

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	**SAMPLE TIME**

LOCATION ID S5	**DATE**
START TIME	**END TIME**
SITE NAME/NUMBER	**PAGE** OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	FT	**FINAL DTW (BMP)**	FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	0 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0 GAL	**PID WELL MOUTH**	PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	GAL	**DRAWDOWN/ TOTAL PURGED**	#DIV/0!	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	DRY, NO SAMPLE									
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])										

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER Solinist
[ ] SUBMERSIBLE	[X] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID MiniRAE 3000
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER YSI Pro DSS
	[ ] NITRIC ACID	[ ] HDPE TUBING	[ ] TEFLON BLADDER	[ ] TURB. METER
[ ] WATTERA	[ ] HEXANE	[X] LDPE TUBING	[ ] OTHER	[X] PUMP Geotech Peri pump
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER
[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] OTHER	[ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 0

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-S7
SAMPLE TIME	13:10

LOCATION ID	S7
DATE	9/24/2019
START TIME	12:25
END TIME	13:20
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	13.72 FT	**FINAL DTW (BMP)**	14.03 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	24.38 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	10.66 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.05084 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.74824 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	4.68 GAL	**DRAWDOWN/ TOTAL PURGED**	0.010863248	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1225	**BEGING PURGING**									
1230	13.89	500	14.8	0.337	13.14	1.95	6.55	148.5	22	
1235	14.12	500	13.8	0.339	9.46	1.12	13.4	144.6	22	
1240	14.38	500	13.3	0.338	6.6	0.33	13.64	102.1	22	
1245	14.33	500	13.3	0.337	6.21	0.24	15.38	85.1	22	
1250	14.21	300	13.2	0.332	5.91	0.13	16.55	64.7	22	
1255	14.18	300	13.5	0.333	5.59	0.09	15.35	46.7	22	
1300	14.21	300	13.5	0.338	5.58	0.06	9.92	48.3	22	
1305	14.16	300	13.4	0.338	5.59	0.07	10.77	47.8	22	
1310	14.03	300	13.5	0.338	5.58	0.06	9.72	48.3	22	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**14**	**0.338**	**5.6**	**0.1**	**9.7**	**48**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 4.68

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/24/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME		LOCATION ID	DATE
NYSDEC SMP A - Schatz Federal Bearings		S8	9/24/2019
PROJECT NUMBER		**START TIME**	**END TIME**
320919.0000.0000		9:00	9:50
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
SFB-MW-S8	9:40		OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	8.16 FT	**FINAL DTW (BMP)**	9.08 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	11.68 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	3.52 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.15088 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.57728 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	4.16 GAL	**DRAWDOWN/ TOTAL PURGED**	0.036269231	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
900	**BEGING PURGING**									
905	8.57	500	16.3	0.209	8.67	2.14	5.97	110.3	10	
910	8.81	500	16	0.2	6.28	0.89	4.84	126.2	10	
915	8.9	350	15.8	0.195	5.85	0.48	4.04	131.4	10	
920	8.96	350	15.8	0.194	5.63	0.44	3.88	131.4	10	
925	9	350	16.1	0.196	5.21	0.37	3.83	128.4	10	
930	9.16	300	16	0.192	5.28	0.42	3.83	129.3	10	
935	9.13	300	16.1	0.193	5.27	0.4	3.83	129	10	
940	9.08	300	16	0.191	5.29	0.39	3.81	128.9	10	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**16**	**0.191**	**5.3**	**0.4**	**3.8**	**130**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 4.16

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/24/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-S9
SAMPLE TIME	10:45

LOCATION ID	S9
DATE	9/24/2019
START TIME	10:00
END TIME	10:55
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	9.95 FT	**FINAL DTW (BMP)**	14.98 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	30.4 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	20.45 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.82492 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	3.3538 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	4.9725 GAL	**DRAWDOWN/ TOTAL PURGED**	0.16589643	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1000	**BEGING PURGING**									
1005	11.67	500	14.3	0.224	10.98	4.46	5.85	130.3	28	
1010	12.38	500	13.6	0.221	12.47	2.72	5.06	130.6	28	
1015	13.06	500	13.8	0.221	7.98	2.5	5.2	127.4	28	
1020	13.71	500	13.9	0.222	7.59	2.5	4.69	126.2	28	
1025	14.74	500	13.6	0.221	7.42	2.51	3.06	117.3	28	
1030	16.38	350	13.5	0.22	7.35	2.53	3.35	111.4	28	
1035	15.98	350	13.3	0.22	7.41	2.51	4	110.3	28	
1040	15.28	350	13.2	0.22	7.38	2.52	5.84	110.8	28	
1045	14.98	350	13.2	0.22	7.39	2.52	5.76	110.4	28	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**13**	**0.22**	**7.4**	**2.5**	**5.8**	**110**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. ____ TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 4.9725

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/24/2019

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC SMP A - Schatz Federal Bearings
PROJECT NUMBER	320919.0000.0000
SAMPLE ID	SFB-MW-S10
SAMPLE TIME	12:10

LOCATION ID	S10
DATE	9/24/2019
START TIME	11:25
END TIME	12:20
SITE NAME/NUMBER	
PAGE	OF

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR		X	

INITIAL DTW (BMP)	18 FT	**FINAL DTW (BMP)**	18.94 FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	- FT
WELL DEPTH (BMP)	32.14 FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	14.14 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.15416 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.31896 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	4.68 GAL	**DRAWDOWN/ TOTAL PURGED**	0.032940171	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1125	**BEGIN PURGING**									
1130	19.25	500	14.8	0.255	13.34	3.45	4.25	140.5	30	
1135	19.76	500	13.2	0.245	12.32	1.03	4.31	146.6	30	
1140	19.68	500	13.1	0.244	7.76	0.52	3.68	146.3	30	
1145	19.38	500	13.2	0.244	7.2	0.42	3.03	145.2	30	
1150	19.4	500	13.7	0.239	6.46	0.38	2.55	142.3	30	
1155	19.05	300	13.9	0.239	6.48	0.39	2.06	142.6	30	
1200	18.95	300	14.01	0.24	6.44	0.41	1.98	143	30	
1205	18.93	300	13.9	0.242	6.42	0.39	1.55	142.8	30	
1210	18.94	300	13.9	0.241	6.45	0.4	1.39	141.9	30	
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])			**14**	**0.241**	**6.5**	**0.4**	**1.4**	**140**		

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [X] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER Solinist
- [X] PID MiniRAE 3000
- [X] WQ METER YSI Pro DSS
- [ ] TURB. METER
- [X] PUMP Geotech Peri pump
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	See Chain of Custody							

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[X]

NUMBER OF GALLONS GENERATED: 4.68

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name: Andrew Fishman

Checked By: Steve Johansson Date: 9/24/2019

APPENDIX D

Data Usability Summary Report

Site: Schatz Federal Bearings
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY
SDG No.: 480-159638-1 and 480-159817-1
Parameters: Volatile Organic Compounds (VOCs); 1,4-Dioxane by Selective Ion Monitoring (SIM)
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 9, 2020

Samples Reviewed and Evaluation Summary

480-159638-1:

5 Groundwater Samples:	SFB-MW-B3*, SFB-MW-S3*, SFB-MW-S1*, SFB-MW-B1, SFB-MW-B2
1 Trip Blank:	SFB-TB-09232019

480-159817-1:

6 Groundwater Samples:	SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7
1 Trip Blank:	SFB-TB-09242019

* Analyzed for VOCs and 1,4-dioxane

The above-listed groundwater samples were collected on September 23-24, 2019, and were analyzed for one or more of the following parameters:

- VOCs by SW-846 Method 8260C
- 1,4-Dioxane by SW-846 Method 8270D SIM

The data validation was performed in accordance with *USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-017-002),* January 2017, modified for the SW-846 methodologies utilized.

The data were evaluated based on the following parameters:

	• Overall Evaluation of Data and Potential Usability Issues
	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	• Initial and Continuing Calibrations
*	• Blanks
*	• Surrogate Recoveries
*	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	• Internal Standards
*	• Laboratory Control Sample (LCS) Results
NA	• Field Duplicate Results
	• Sample Results and Reported Quantitation Limits (QLs)
*	• Target Compound Identification

* - All criteria were met.
NA - A field duplicate pair was not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. Qualifications applied to the data as a result of sampling error were not required. Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC results that were below the lowest calibration standard and QL. These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The nondetect results for select VOCs in all samples were qualified as estimated (UJ) due to continuing calibration nonconformances. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

- The positive results for 1,4-dioxane in samples SFB-MW-B3 and SFB-MW-S3 were qualified as estimated (J) due to a calibration range exceedance. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package with some exceptions, as described below.

- The laboratory did not report LCS and MS/MSD percent recoveries (%Rs), relative percent differences (RPDs), or laboratory acceptance criteria for total xylenes on the summary forms. The %Rs and RPDs were calculated during validation, and the laboratory acceptance limits were provided by the laboratory; no validation actions were taken on this basis.

- The laboratory did not report the results for the initial calibration verification (ICV) analyses. The run logs noted that ICV analyses were performed after each calibration sequence, but the ICV results were not provided. Since the ICV analyses are not used to qualify sample data, no further action was required.

- The Chain-of-Custody (CoC) form for the 480-159817-1 data set indicated only metals analysis (6010C and 7470A) for the trip blank (SFB-TB-09242019); however, the laboratory analyzed that sample for VOCs only. No communication records or relevant comments were included to indicate this was a requested revision from the client. This discrepancy is noted, but no validation actions were required on this basis.

Holding Times and Sample Preservation

All holding time and sample preservation method criteria were met.

GC/MS Tunes

All method acceptance criteria were met.

Initial and Continuing Calibrations

VOCs

All correlation coefficients, percent relative standard deviations (%RSDs), and relative response factors (RRFs) were within the method acceptance criteria in the initial calibrations (ICs) associated with the samples.

The following table summarizes the percent differences or percent drifts (%Ds) that did not meet the acceptance criteria in the continuing calibration (CC) standards associated with the samples in this data set, the associated samples, and the validation actions. All RRFs were within acceptance criteria in the CC standards.

CC	Compound	%D	Validation Actions
Data Group: 480-159638-1			
10/01/2019 @08:14 HP5973N	1,1,2-Trichloro-1,2,2-trifluoroethane	-20.5	The nondetect results for these VOCs were qualified as estimated (UJ) in the associated samples.
	Cyclohexane	-24.1	
	Methylcyclohexane	-26.8	
Associated samples: SFB-MW-B3, SFB-MW-S3, SFB-MW-S1, SFB-MW-B1, SFB-MW-B2, SFB-TB-09232019			
Data Group: 480-159817-1			
10/04/2019 @09:16 HP5973S	Dichlorodifluoromethane	-25.1	The nondetect results for these VOCs were qualified as estimated (UJ) in the associated samples.
	Methylene chloride	24.4	
	2-Butanone	30.9	
	Acetone	27.7	
	Methyl acetate	27.6	
Associated samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7, SFB-TB-09242019			

1,4-Dioxane

The %RSDs and RRFs were within the method acceptance criteria in the IC associated with the samples. All %Ds and RRFs were within the acceptance criteria in the associated CC standards.

Blanks

Target analytes were not detected in the laboratory method blanks for the VOC and 1,4-dioxane analyses. The trip blanks (SFB-TB-09232019 and SFB-TB-09242019) were analyzed for VOCs only; no analytes were detected.

Surrogate Recoveries

The surrogate %Rs met the laboratory acceptance criteria in the VOC and 1,4-dioxane analyses.

MS/MSD Results

MS/MSD analyses were performed on sample SFB-MW-S1 for VOCs and 1,4-dioxane. All criteria were met.

Note that the laboratory did not report MS/MSD %Rs and RPDs for total xylenes. The %Rs and RPDs were calculated during validation and were within the laboratory's acceptance criteria (%R within 76-122%, and RPD ≤16%).

Internal Standards

All internal standards met the method acceptance criteria in the VOC and 1,4-dioxane analyses.

LCS Results

An LCS was analyzed with each daily VOC batch and each 1,4 dioxane preparation batch. All LCS %Rs were within the laboratory acceptance criteria.

Note that the laboratory did not report LCS %R for total xylenes. The LCS %R was calculated during validation and was within the laboratory's acceptance criteria (76-122%).

Field Duplicate Results

No field duplicate pairs were submitted with this sample set.

Sample Results and Reported QLs

Sample calculations were spot-checked, and no errors were noted.

The following table summarizes the dilutions performed for the VOC and 1,4-dioxane analyses; QLs were elevated accordingly by the laboratory.

Parameter	Sample ID	Dilution	Reason for Dilution
Data Group: 480-159638-1			
VOCs	SFB-MW-S3	2-fold	Sample was diluted due to foaming in the initial analysis.
1,4-Dioxane	SFB-MW-B3	10-fold	Samples were diluted due to the concentration of 1,4-dioxane, which exceeded the calibration range in the diluted analyses.
	SFB-MW-S3	20-fold	

The 1,4-dioxane concentrations in samples SFB-MW-B3 and SFB-MW-S3 were both reported from diluted analyses; however, the results still exceeded the calibration range. No further dilution was performed to bring the results into the calibration range; the concentrations were reported by the laboratory qualified "E" to indicate the calibration range was exceeded. The 1,4-dioxane results in these samples were qualified as estimated (J) since the results exceeded the calibration range.

Select VOC results were reported below the lowest calibration standard level and QL. These results were qualified as estimated (J) in the associated samples by the laboratory.

Target Compound Identification

All criteria were met for the VOC and 1,4-dioxane analyses.

QUALIFIED FORM 1s

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B3 Lab Sample ID: 480-159638-1

Matrix: Water Lab File ID: N6716.D

Analysis Method: 8260C Date Collected: 09/23/2019 11:00

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 12:16

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	~~ND~~	UJ	1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	0.73	J	1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	~~ND~~	UJ	1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B3 Lab Sample ID: 480-159638-1

Matrix: Water Lab File ID: N6716.D

Analysis Method: 8260C Date Collected: 09/23/2019 11:00

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 12:16

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	~~ND~~	UJ	1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		77-120
460-00-4	4-Bromofluorobenzene (Surr)	109		73-120
1868-53-7	Dibromofluoromethane (Surr)	103		75-123
2037-26-5	Toluene-d8 (Surr)	103		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S3 Lab Sample ID: 480-159638-2

Matrix: Water Lab File ID: N6717.D

Analysis Method: 8260C Date Collected: 09/23/2019 11:05

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 12:41

Soil Aliquot Vol: Dilution Factor: 2

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		2.0	1.6
79-34-5	1,1,2,2-Tetrachloroethane	ND		2.0	0.42
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	~~ND~~	UJ	2.0	0.62
79-00-5	1,1,2-Trichloroethane	ND		2.0	0.46
75-34-3	1,1-Dichloroethane	1.1	J	2.0	0.76
75-35-4	1,1-Dichloroethene	ND		2.0	0.58
120-82-1	1,2,4-Trichlorobenzene	ND		2.0	0.82
96-12-8	1,2-Dibromo-3-Chloropropane	ND		2.0	0.78
106-93-4	1,2-Dibromoethane	ND		2.0	1.5
95-50-1	1,2-Dichlorobenzene	ND		2.0	1.6
107-06-2	1,2-Dichloroethane	ND		2.0	0.42
78-87-5	1,2-Dichloropropane	ND		2.0	1.4
541-73-1	1,3-Dichlorobenzene	ND		2.0	1.6
106-46-7	1,4-Dichlorobenzene	ND		2.0	1.7
78-93-3	2-Butanone (MEK)	ND		20	2.6
591-78-6	2-Hexanone	ND		10	2.5
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		10	4.2
67-64-1	Acetone	ND		20	6.0
71-43-2	Benzene	ND		2.0	0.82
75-27-4	Bromodichloromethane	ND		2.0	0.78
75-25-2	Bromoform	ND		2.0	0.52
74-83-9	Bromomethane	ND		2.0	1.4
75-15-0	Carbon disulfide	ND		2.0	0.38
56-23-5	Carbon tetrachloride	ND		2.0	0.54
108-90-7	Chlorobenzene	ND		2.0	1.5
75-00-3	Chloroethane	ND		2.0	0.64
67-66-3	Chloroform	ND		2.0	0.68
74-87-3	Chloromethane	ND		2.0	0.70
156-59-2	cis-1,2-Dichloroethene	ND		2.0	1.6
10061-01-5	cis-1,3-Dichloropropene	ND		2.0	0.72
110-82-7	Cyclohexane	~~ND~~	UJ	2.0	0.36
124-48-1	Dibromochloromethane	ND		2.0	0.64
75-71-8	Dichlorodifluoromethane	ND		2.0	1.4
100-41-4	Ethylbenzene	ND		2.0	1.5
98-82-8	Isopropylbenzene	ND		2.0	1.6

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S3 Lab Sample ID: 480-159638-2

Matrix: Water Lab File ID: N6717.D

Analysis Method: 8260C Date Collected: 09/23/2019 11:05

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 12:41

Soil Aliquot Vol: Dilution Factor: 2

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		5.0	2.6
1634-04-4	Methyl tert-butyl ether	ND		2.0	0.32
108-87-2	Methylcyclohexane	~~ND~~	UJ	2.0	0.32
75-09-2	Methylene Chloride	ND		2.0	0.88
100-42-5	Styrene	ND		2.0	1.5
127-18-4	Tetrachloroethene	ND		2.0	0.72
108-88-3	Toluene	ND		2.0	1.0
156-60-5	trans-1,2-Dichloroethene	ND		2.0	1.8
10061-02-6	trans-1,3-Dichloropropene	ND		2.0	0.74
79-01-6	Trichloroethene	ND		2.0	0.92
75-69-4	Trichlorofluoromethane	ND		2.0	1.8
75-01-4	Vinyl chloride	ND		2.0	1.8
1330-20-7	Xylenes, Total	ND		4.0	1.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		77-120
460-00-4	4-Bromofluorobenzene (Surr)	107		73-120
1868-53-7	Dibromofluoromethane (Surr)	98		75-123
2037-26-5	Toluene-d8 (Surr)	100		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S1 Lab Sample ID: 480-159638-3

Matrix: Water Lab File ID: N6718.D

Analysis Method: 8260C Date Collected: 09/23/2019 12:30

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 13:05

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	UJ	1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND	UJ	1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S1 Lab Sample ID: 480-159638-3

Matrix: Water Lab File ID: N6718.D

Analysis Method: 8260C Date Collected: 09/23/2019 12:30

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 13:05

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	~~ND~~	UJ	1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		77-120
460-00-4	4-Bromofluorobenzene (Surr)	105		73-120
1868-53-7	Dibromofluoromethane (Surr)	101		75-123
2037-26-5	Toluene-d8 (Surr)	100		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B1 Lab Sample ID: 480-159638-4

Matrix: Water Lab File ID: N6719.D

Analysis Method: 8260C Date Collected: 09/23/2019 13:10

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 13:29

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	~~ND~~	UJ	1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	~~ND~~	UJ	1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B1 Lab Sample ID: 480-159638-4

Matrix: Water Lab File ID: N6719.D

Analysis Method: 8260C Date Collected: 09/23/2019 13:10

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 13:29

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	~~ND~~	UJ	1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		77-120
460-00-4	4-Bromofluorobenzene (Surr)	107		73-120
1868-53-7	Dibromofluoromethane (Surr)	103		75-123
2037-26-5	Toluene-d8 (Surr)	99		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B2 Lab Sample ID: 480-159638-5

Matrix: Water Lab File ID: N6720.D

Analysis Method: 8260C Date Collected: 09/23/2019 14:45

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 13:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	~~ND~~	UJ	1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	~~ND~~	UJ	1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B2 Lab Sample ID: 480-159638-5

Matrix: Water Lab File ID: N6720.D

Analysis Method: 8260C Date Collected: 09/23/2019 14:45

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 13:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	~~ND~~	UJ	1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		77-120
460-00-4	4-Bromofluorobenzene (Surr)	109		73-120
1868-53-7	Dibromofluoromethane (Surr)	104		75-123
2037-26-5	Toluene-d8 (Surr)	103		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-TB-09232019 Lab Sample ID: 480-159638-6

Matrix: Water Lab File ID: N6721.D

Analysis Method: 8260C Date Collected: 09/23/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 14:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	~~ND~~	UJ	1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	ND		10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	~~ND~~	UJ	1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-TB-09232019 Lab Sample ID: 480-159638-6

Matrix: Water Lab File ID: N6721.D

Analysis Method: 8260C Date Collected: 09/23/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 10/01/2019 14:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495083 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	ND		2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	~~ND~~	UJ	1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		77-120
460-00-4	4-Bromofluorobenzene (Surr)	105		73-120
1868-53-7	Dibromofluoromethane (Surr)	103		75-123
2037-26-5	Toluene-d8 (Surr)	102		80-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B3 Lab Sample ID: 480-159638-1

Matrix: Water Lab File ID: U33153160.D

Analysis Method: 8270D SIM ID Date Collected: 09/23/2019 11:00

Extract. Method: 3510C Date Extracted: 09/26/2019 08:12

Sample wt/vol: 1020(mL) Date Analyzed: 10/04/2019 02:04

Con. Extract Vol.: 1(mL) Dilution Factor: 10

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 495533 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	21	~~E~~ J	2.0	0.98

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	29		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S3 Lab Sample ID: 480-159638-2

Matrix: Water Lab File ID: U33153161.D

Analysis Method: 8270D SIM ID Date Collected: 09/23/2019 11:05

Extract. Method: 3510C Date Extracted: 09/26/2019 08:12

Sample wt/vol: 1050(mL) Date Analyzed: 10/04/2019 02:27

Con. Extract Vol.: 1(mL) Dilution Factor: 20

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 495533 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	42	~~F~~ J	3.8	1.9

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	25		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S1 Lab Sample ID: 480-159638-3

Matrix: Water Lab File ID: U33153014.D

Analysis Method: 8270D SIM ID Date Collected: 09/23/2019 12:30

Extract. Method: 3510C Date Extracted: 09/26/2019 08:12

Sample wt/vol: 1050(mL) Date Analyzed: 09/30/2019 13:36

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 494350 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.19	0.095

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	30		15-110

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S8 Lab Sample ID: 480-159817-1

Matrix: Water Lab File ID: S0081.D

Analysis Method: 8260C Date Collected: 09/24/2019 09:40

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 12:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S8 Lab Sample ID: 480-159817-1

Matrix: Water Lab File ID: S0081.D

Analysis Method: 8260C Date Collected: 09/24/2019 09:40

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 12:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		77-120
460-00-4	4-Bromofluorobenzene (Surr)	103		73-120
1868-53-7	Dibromofluoromethane (Surr)	102		75-123
2037-26-5	Toluene-d8 (Surr)	103		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S9 Lab Sample ID: 480-159817-2

Matrix: Water Lab File ID: S0082.D

Analysis Method: 8260C Date Collected: 09/24/2019 10:45

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 12:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S9 Lab Sample ID: 480-159817-2

Matrix: Water Lab File ID: S0082.D

Analysis Method: 8260C Date Collected: 09/24/2019 10:45

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 12:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		77-120
460-00-4	4-Bromofluorobenzene (Surr)	112		73-120
1868-53-7	Dibromofluoromethane (Surr)	113		75-123
2037-26-5	Toluene-d8 (Surr)	112		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-B4 Lab Sample ID: 480-159817-3

Matrix: Water Lab File ID: S0083.D

Analysis Method: 8260C Date Collected: 09/24/2019 10:40

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 13:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-B4 Lab Sample ID: 480-159817-3

Matrix: Water Lab File ID: S0083.D

Analysis Method: 8260C Date Collected: 09/24/2019 10:40

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 13:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	114		77-120
460-00-4	4-Bromofluorobenzene (Surr)	111		73-120
1868-53-7	Dibromofluoromethane (Surr)	120		75-123
2037-26-5	Toluene-d8 (Surr)	110		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S10 Lab Sample ID: 480-159817-4

Matrix: Water Lab File ID: S0084.D

Analysis Method: 8260C Date Collected: 09/24/2019 12:10

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 13:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S10 Lab Sample ID: 480-159817-4

Matrix: Water Lab File ID: S0084.D

Analysis Method: 8260C Date Collected: 09/24/2019 12:10

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 13:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		77-120
460-00-4	4-Bromofluorobenzene (Surr)	112		73-120
1868-53-7	Dibromofluoromethane (Surr)	118		75-123
2037-26-5	Toluene-d8 (Surr)	113		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-B5 Lab Sample ID: 480-159817-5

Matrix: Water Lab File ID: S0085.D

Analysis Method: 8260C Date Collected: 09/24/2019 12:40

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 14:03

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-B5 Lab Sample ID: 480-159817-5

Matrix: Water Lab File ID: S0085.D

Analysis Method: 8260C Date Collected: 09/24/2019 12:40

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 14:03

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	114		77-120
460-00-4	4-Bromofluorobenzene (Surr)	110		73-120
1868-53-7	Dibromofluoromethane (Surr)	114		75-123
2037-26-5	Toluene-d8 (Surr)	112		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S7 Lab Sample ID: 480-159817-6

Matrix: Water Lab File ID: S0086.D

Analysis Method: 8260C Date Collected: 09/24/2019 13:10

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 14:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-MW-S7 Lab Sample ID: 480-159817-6

Matrix: Water Lab File ID: S0086.D

Analysis Method: 8260C Date Collected: 09/24/2019 13:10

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 14:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		77-120
460-00-4	4-Bromofluorobenzene (Surr)	114		73-120
1868-53-7	Dibromofluoromethane (Surr)	116		75-123
2037-26-5	Toluene-d8 (Surr)	114		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-TB-09242019 Lab Sample ID: 480-159817-7

Matrix: Water Lab File ID: S0087.D

Analysis Method: 8260C Date Collected: 09/24/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 14:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	ND		1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	ND		1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	~~ND~~	UJ	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	ND		1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	ND		1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	~~ND~~	UJ	1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Client Sample ID: SFB-TB-09242019 Lab Sample ID: 480-159817-7

Matrix: Water Lab File ID: S0087.D

Analysis Method: 8260C Date Collected: 09/24/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 10/04/2019 14:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 495892 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	~~ND~~	UJ	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	113		77-120
460-00-4	4-Bromofluorobenzene (Surr)	109		73-120
1868-53-7	Dibromofluoromethane (Surr)	112		75-123
2037-26-5	Toluene-d8 (Surr)	112		80-120

QC NONCONFORMANCE DOCUMENTATION

FORM VII

GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Lab Sample ID: CCVIS 480-495083/3 Calibration Date: 10/01/2019 08:14

Instrument ID: HP5973N Calib Start Date: 09/19/2019 14:50

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 09/19/2019 17:40

Lab File ID: N6707.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	1.375	1.210	0.1000	22.0	25.0	-12.0	50.0
Chloromethane	Ave	1.985	1.943	0.1000	24.5	25.0	-2.1	20.0
Butadiene	Ave	2.033	1.777		21.9	25.0	-12.6	20.0
Vinyl chloride	Ave	1.453	1.412	0.1000	24.3	25.0	-2.8	20.0
Bromomethane	Ave	0.9764	0.9712	0.1000	24.9	25.0	-0.5	50.0
Chloroethane	Ave	1.031	0.9299	0.1000	22.6	25.0	-9.8	50.0
Dichlorofluoromethane	Ave	2.147	2.124		24.7	25.0	-1.1	20.0
Trichlorofluoromethane	Ave	2.084	1.945	0.1000	23.3	25.0	-6.7	20.0
Ethyl ether	Ave	1.514	1.588		26.2	25.0	4.9	20.0
Acrolein	Ave	0.3027	0.3133		129	125	3.5	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	1.246	0.9908	0.1000	19.9	25.0	-20.5*	20.0
1,1-Dichloroethene	Ave	1.156	1.026	0.1000	22.2	25.0	-11.3	20.0
Acetone	Ave	0.6099	0.6656	0.1000	136	125	9.1	50.0
Iodomethane	Ave	2.395	2.485		25.9	25.0	3.7	20.0
Carbon disulfide	Ave	3.877	3.337	0.1000	21.5	25.0	-13.9	20.0
Allyl chloride	Ave	3.274	3.063		23.4	25.0	-6.4	20.0
Methyl acetate	Ave	1.832	1.787	0.1000	48.8	50.0	-2.5	50.0
Methylene Chloride	Lin1		1.477	0.1000	27.1	25.0	8.4	20.0
2-Methyl-2-propanol	Ave	0.1427	0.1479		259	250	3.7	50.0
Methyl tert-butyl ether	Ave	4.074	4.218	0.1000	25.9	25.0	3.5	20.0
trans-1,2-Dichloroethene	Ave	1.360	1.283	0.1000	23.6	25.0	-5.7	20.0
Acrylonitrile	Ave	0.8480	0.8960		264	250	5.7	20.0
Hexane	Ave	2.478	1.773		17.9	25.0	-28.5*	20.0
1,1-Dichloroethane	Ave	2.669	2.550	0.2000	23.9	25.0	-4.4	20.0
Vinyl acetate	Ave	4.181	3.759		45.0	50.0	-10.1	20.0
2,2-Dichloropropane	Ave	1.415	1.284		22.7	25.0	-9.3	20.0
cis-1,2-Dichloroethene	Ave	1.461	1.464	0.1000	25.0	25.0	0.2	20.0
2-Butanone (MEK)	Ave	0.9939	1.048	0.1000	132	125	5.4	20.0
Chlorobromomethane	Ave	0.8688	0.9017		25.9	25.0	3.8	20.0
Tetrahydrofuran	Ave	0.7302	0.7417		50.8	50.0	1.6	20.0
Chloroform	Ave	2.609	2.375	0.2000	22.8	25.0	-9.0	20.0
1,1,1-Trichloroethane	Ave	2.069	1.863	0.1000	22.5	25.0	-10.0	20.0
Cyclohexane	Ave	2.955	2.244	0.1000	19.0	25.0	-24.1*	20.0
Carbon tetrachloride	Ave	1.875	1.600	0.1000	21.3	25.0	-14.7	20.0
1,1-Dichloropropene	Ave	1.773	1.476		20.8	25.0	-16.8	20.0
Benzene	Ave	5.158	4.969	0.5000	24.1	25.0	-3.7	20.0
Isobutyl alcohol	Ave	0.0747	0.0687		575	625	-8.0	50.0
1,2-Dichloroethane	Ave	2.345	2.354	0.1000	25.1	25.0	0.4	20.0
n-Heptane	Ave	2.868	2.133		18.6	25.0	-25.6*	20.0
Trichloroethene	Ave	1.338	1.268	0.2000	23.7	25.0	-5.3	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Lab Sample ID: CCVIS 480-495083/3 Calibration Date: 10/01/2019 08:14

Instrument ID: HP5973N Calib Start Date: 09/19/2019 14:50

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 09/19/2019 17:40

Lab File ID: N6707.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	2.337	1.710	0.1000	18.3	25.0	-26.8*	20.0
1,2-Dichloropropane	Ave	1.365	1.387	0.1000	25.4	25.0	1.6	20.0
Dibromomethane	Ave	0.8751	0.8828	0.1000	25.2	25.0	0.9	20.0
1,4-Dioxane	Lin1		0.0026		505	500	1.0	50.0
Bromodichloromethane	Ave	1.691	1.683	0.2000	24.9	25.0	-0.5	20.0
2-Chloroethyl vinyl ether	Ave	0.8523	0.8919		26.2	25.0	4.6	20.0
cis-1,3-Dichloropropene	Ave	1.878	1.904	0.2000	25.3	25.0	1.4	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1801	0.1889	0.1000	131	125	4.9	20.0
Toluene	Ave	0.8294	0.7918	0.4000	23.9	25.0	-4.5	20.0
trans-1,3-Dichloropropene	Ave	0.4397	0.4358	0.1000	24.8	25.0	-0.9	20.0
Ethyl methacrylate	Ave	0.3896	0.3820		24.5	25.0	-1.9	20.0
1,1,2-Trichloroethane	Ave	0.2383	0.2419	0.1000	25.4	25.0	1.5	20.0
Tetrachloroethene	Ave	0.3856	0.3548	0.2000	23.0	25.0	-8.0	20.0
1,3-Dichloropropane	Ave	0.4689	0.4688		25.0	25.0	-0.0	20.0
2-Hexanone	Ave	0.3654	0.3635	0.1000	124	125	-0.5	20.0
Dibromochloromethane	Ave	0.3157	0.3343	0.1000	26.5	25.0	5.9	20.0
1,2-Dibromoethane	Ave	0.3065	0.3103		25.3	25.0	1.2	20.0
Chlorobenzene	Ave	0.9193	0.9508	0.5000	25.9	25.0	3.4	20.0
Ethylbenzene	Ave	1.442	1.421	0.1000	24.6	25.0	-1.4	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3463	0.3728		26.9	25.0	7.7	20.0
m,p-Xylene	Ave	0.6022	0.5997	0.1000	24.9	25.0	-0.4	20.0
o-Xylene	Ave	0.6149	0.6314	0.3000	25.7	25.0	2.7	20.0
Styrene	Ave	0.9710	1.009	0.3000	26.0	25.0	3.9	20.0
Bromoform	Ave	0.2067	0.2092	0.1000	25.3	25.0	1.2	50.0
Isopropylbenzene	Ave	2.958	2.748	0.1000	23.2	25.0	-7.1	20.0
Bromobenzene	Ave	0.7919	0.8055		25.4	25.0	1.7	20.0
1,1,2,2-Tetrachloroethane	Ave	0.7496	0.7216	0.3000	24.1	25.0	-3.7	20.0
N-Propylbenzene	Ave	3.281	2.961		22.6	25.0	-9.8	20.0
1,2,3-Trichloropropane	Ave	0.2410	0.2557		26.5	25.0	6.1	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2988	0.2881		24.1	25.0	-3.6	50.0
2-Chlorotoluene	Ave	0.7295	0.7395		25.3	25.0	1.4	20.0
1,3,5-Trimethylbenzene	Ave	2.424	2.294		23.7	25.0	-5.4	20.0
4-Chlorotoluene	Ave	1.977	1.980		25.0	25.0	0.1	20.0
tert-Butylbenzene	Ave	0.5755	0.5199		22.6	25.0	-9.7	20.0
1,2,4-Trimethylbenzene	Ave	2.420	2.403		24.8	25.0	-0.7	20.0
sec-Butylbenzene	Ave	3.092	2.725		22.0	25.0	-11.9	20.0
1,3-Dichlorobenzene	Ave	1.468	1.457	0.6000	24.8	25.0	-0.8	20.0
4-Isopropyltoluene	Ave	2.758	2.544		23.1	25.0	-7.8	20.0
1,4-Dichlorobenzene	Ave	1.518	1.475	0.5000	24.3	25.0	-2.8	20.0
n-Butylbenzene	Ave	2.248	1.958		21.8	25.0	-12.9	20.0
1,2-Dichlorobenzene	Ave	1.511	1.521	0.4000	25.2	25.0	0.7	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Lab Sample ID: CCVIS 480-495892/3 Calibration Date: 10/04/2019 09:16

Instrument ID: HP5973S Calib Start Date: 09/10/2019 14:39

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 09/10/2019 17:20

Lab File ID: S0074.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	1.766	1.322	0.1000	18.7	25.0	-25.1	50.0
Chloromethane	Ave	1.971	1.862	0.1000	23.6	25.0	-5.5	20.0
Butadiene	Ave	1.897	2.281		30.1	25.0	20.2*	20.0
Vinyl chloride	Ave	1.650	1.701	0.1000	25.8	25.0	3.1	20.0
Bromomethane	Ave	1.167	1.103	0.1000	23.6	25.0	-5.5	50.0
Chloroethane	Ave	1.105	1.138	0.1000	25.8	25.0	3.0	50.0
Trichlorofluoromethane	Ave	2.275	2.366	0.1000	26.0	25.0	4.0	20.0
Dichlorofluoromethane	Ave	2.390	2.354		24.6	25.0	-1.5	20.0
Ethyl ether	Ave	1.340	1.668		31.1	25.0	24.4*	20.0
Acrolein	Ave	0.2245	0.2574		143	125	14.7	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	1.255	1.449	0.1000	28.9	25.0	15.5	20.0
1,1-Dichloroethene	Ave	1.228	1.359	0.1000	27.7	25.0	10.7	20.0
Acetone	Ave	0.5189	0.6627	0.1000	160	125	27.7	50.0
Iodomethane	Ave	2.337	2.692		28.8	25.0	15.2	20.0
Carbon disulfide	Ave	4.017	4.519	0.1000	28.1	25.0	12.5	20.0
Allyl chloride	Ave	2.451	2.789		28.5	25.0	13.8	20.0
Methyl acetate	Ave	1.239	1.582	0.1000	63.8	50.0	27.6	50.0
Methylene Chloride	Lin1		1.723	0.1000	31.1	25.0	24.4*	20.0
2-Methyl-2-propanol	Ave	0.1059	0.1868		441	250	76.4*	50.0
Methyl tert-butyl ether	Ave	4.030	4.449	0.1000	27.6	25.0	10.4	20.0
trans-1,2-Dichloroethene	Ave	1.397	1.570	0.1000	28.1	25.0	12.3	20.0
Acrylonitrile	Ave	0.6239	0.7960		319	250	27.6*	20.0
Hexane	Ave	2.260	2.464		27.3	25.0	9.0	20.0
1,1-Dichloroethane	Ave	2.503	2.904	0.2000	29.0	25.0	16.0	20.0
Vinyl acetate	Ave	3.731	4.314		57.8	50.0	15.6	20.0
2,2-Dichloropropane	Ave	1.469	1.622		27.6	25.0	10.4	20.0
cis-1,2-Dichloroethene	Ave	1.539	1.717	0.1000	27.9	25.0	11.6	20.0
2-Butanone (MEK)	Ave	0.7507	0.9823	0.1000	164	125	30.9*	20.0
Chlorobromomethane	Ave	0.8090	0.9675		29.9	25.0	19.6	20.0
Tetrahydrofuran	Ave	0.5409	0.6659		61.6	50.0	23.1*	20.0
Chloroform	Ave	2.503	2.611	0.2000	26.1	25.0	4.3	20.0
1,1,1-Trichloroethane	Ave	2.110	2.225	0.1000	26.4	25.0	5.5	20.0
Cyclohexane	Ave	2.628	2.985	0.1000	28.4	25.0	13.6	20.0
Carbon tetrachloride	Ave	1.889	2.071	0.1000	27.4	25.0	9.6	20.0
1,1-Dichloropropene	Ave	1.900	2.055		27.0	25.0	8.1	20.0
Benzene	Ave	5.604	6.408	0.5000	28.6	25.0	14.4	20.0
Isobutyl alcohol	Ave	0.0613	0.0860		876	625	40.1	50.0
1,2-Dichloroethane	Ave	2.192	2.233	0.1000	25.5	25.0	1.9	20.0
n-Heptane	Ave	2.853	2.690		23.6	25.0	-5.7	20.0
Trichloroethene	Ave	1.447	1.619	0.2000	28.0	25.0	11.8	20.0

Data Usability Summary Report

Site: Schatz Federal Bearings
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY
SDG Nos.: 480-159638-1 and 480-159817-1
Parameters: Metals (6010C and 7470A)
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 2, 2020

Sample Reviewed and Evaluation Summary

480-159638-1:
5 Groundwater Samples: SFB-MW-B3, SFB-MW-S3, SFB-MW-S1, SFB-MW-B1, SFB-MW-B2

480-159817-1:
6 Groundwater Samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7

The above-listed groundwater samples were collected on September 23-24, 2019, and were analyzed for the following parameters:

- Total and Dissolved Metals by SW-846 Methods 6010C/7470A

The data validation was performed in accordance with *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001),* January 2017, modified for the SW-846 methodologies utilized.

The data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
	•	Data Completeness
*	•	Holding Times and Sample Preservation
	•	Initial and Continuing Calibrations
	•	Interference Check Sample (ICS) Results
	•	Blanks
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
NA	•	Laboratory Duplicate Results
*	•	Inductively Coupled Plasma (ICP) Serial Dilution Results
*	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Total and Dissolved Results
*	•	Sample Results and Reported Quantitation Limits (QLs)

* - All criteria were met.
NA - Field duplicates and laboratory duplicates were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for the project objectives. Qualifications applied to the data as a result of sampling error were not required. Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select metals results that were detected between the method detection limit (MDL) and QL. These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for total and dissolved zinc in samples SFB-MW-B3, SFB-MW-S3, SFB-MW-B1, SFB-MW-B2, SFB-MW-S9, SFB-MW-B4, SFB-MW-B5, and SFB-MW-S7 were qualified as nondetect (U) at the QL due to method blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

- The positive results for total and dissolved beryllium in samples SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, and SFB-MW-S7 were qualified as nondetect (U) at the QL due to method blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability

- The positive results for total zinc in sample SFB-MW-S10 and dissolved zinc in sample SFB-MW-S8 were qualified as nondetect (U) at the QL due to method blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

- The positive results for dissolved zinc in samples SFB-MW-S1 and SFB-MW-S10 were qualified as estimated (J+) with a potential high bias due to method blank contamination. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for total copper in samples SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, and SFB-MW-S7 were qualified as nondetect (U) at the QL due to calibration blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

- The positive result for total potassium in sample SFB-MW-B4 was qualified as estimated (J+) with a potential high bias due to calibration blank contamination. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

- The positive results for total aluminum were qualified as estimated (J+) with a potential high bias in samples SFB-MW-S1 and SFB-MW-B2 due to high MS/MSD recoveries. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package, with the following exceptions.

- In data group 480-159638-1, no post-digestion spike (PDS) analysis was performed for total metals (only for dissolved metals). MS/MSD recoveries for total aluminum were above the acceptance limits; therefore, analysis of a corresponding PDS sample was required. The validation action for the high MS/MSD recovery was made without consideration of PDS results since this analysis was not included.

- The 480-159817-1 Chain-of-Custody (CoC) indicated metals analysis (6010C and 7470A) for the trip blank included with these samples (SFB-TB-09242019). The sample was analyzed for VOCs only (and therefore is not included in the header for this memo). Trip blanks typically are analyzed only for VOCs (as was requested on the 480-159638-1 CoC); however, there were no communication records or comment included to indicate this discrepancy was based on client request. No validation action is required on this basis.

Holding Times and Sample Preservation

All holding time method criteria were met. The CoC forms indicated acid preservation was included with the samples for total metals, but no acid preservation was used with the samples designated to be lab filtered for dissolved metals analysis. Inquiry was made, and the laboratory responded that the dissolved samples from both data sets were acid preserved on 09/27/2019. Sample analyses for dissolved metals were performed more than 24 hours afterward (on 09/30/2019, 10/01/2019, and 10/02/2019); therefore, all sample preservation criteria were met.

Initial and Continuing Calibrations

All initial calibration correlation coefficients for the metals analyses were >0.995. The initial calibration verification percent recoveries (%Rs) for the metals analyses met the method acceptance limits (90-110%). The following table presents the continuing calibration verification (CCV) standards that exhibited %Rs outside the acceptance range, the associated samples, and the resulting validation actions.

CCV ID	Analyte	%R	Associated Samples	Validation Actions
Data Group: 480-159683-1				
CCV 480-495091/24	Selenium (dissolved)	111	SFB-MW-B3, SFB-MW-S3, SFB-MW-B1, SFB-MW-B2	Qualification was not required since dissolved selenium was nondetect in the associated samples.
CCV 480-495091/34	Selenium (dissolved)	112	SFB-MW-B1, SFB-MW-B2	

The following table summarizes the low-level continuing calibration (CCL) samples with %Rs outside the acceptance limits (70-130%), the associated samples, and the resulting validation actions.

CCL ID	Analyte	Standard Level	%R	Validation Actions
Data Group: 480-159817-1				
CCL 480-495330/19	Beryllium (dissolved)	0.00200 mg/L	142	Qualification was not required on the basis of the CCL nonconformances since the positive results for dissolved beryllium in the associated samples were qualified as nondetect (U) due to method blank contamination.
CCL 480-495330/27	Iron (dissolved)	0.0500 mg/L	132	Qualification was not required since dissolved iron was nondetect in the associated samples.
Associated Samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7				

ICS Results

All analytes recovered within the acceptance limits in the ICSAB sample analyses.

Several analytes (antimony, barium, chromium, cobalt, copper, manganese, nickel, selenium, silver, vanadium, and zinc) were detected as positive and/or negative interference in the ICSA analyses, at levels exceeding the MDL but below the QL. Interferents (aluminum, calcium, iron, and magnesium)

were detected in all samples at concentrations less than 50% of the concentrations spiked into the ICSA; thus, ICS interferences were not a concern, and further evaluation was not needed. No validation actions were required on this basis.

Blanks

The following table summarizes the metals detected in the associated laboratory method blanks, the concentrations detected, and the resulting validation actions.

Method Blank ID	Analyte	Blank Concentration (mg/L)	Validation Actions
480-159638-1: MB 480-494102/1-A	Zinc (total)	0.00236 J	The positive results for total zinc in samples SFB-MW-B3, SFB-MW-S3, SFB-MW-B1, and SFB-MW-B2 were qualified as nondetect (U) at the QL since these results were <10× the blank concentration and < the QL. Qualification was not required for sample SFB-MW-S1 since the total zinc concentration was >10× the blank concentration.
Associated samples: SFB-MW-B3, SFB-MW-S3, SFB-MW-S1, SFB-MW-B1, SFB-MW-B2			
480-159638-1: MB 480-494130/1-B	Zinc (dissolved)	0.00403 J	The positive results for dissolved zinc in samples SFB-MW-B3, SFB-MW-S3, SFB-MW-B1, and SFB-MW-B2 were qualified as nondetect (U) at the QL since these results were <10× the blank concentration and < the QL. The positive result for dissolved zinc in sample SFB-MW-S1 was qualified as estimated (J+) with a potential high bias since the concentration was > the QL and <10× the blank concentration.
Associated samples: SFB-MW-B3, SFB-MW-S3, SFB-MW-S1, SFB-MW-B1, SFB-MW-B2			
480-159817-1: MB 480-494469/1-A	Beryllium (total)	0.000420 J	The positive results for total beryllium in the associated samples were qualified as nondetect (U) at the QL since these results were <10× the blank concentration and < the QL.
	Manganese (total)	0.000550 J	Qualification was not required since the total manganese concentrations in the associated samples were >10× the blank concentration.
	Zinc (total)	0.00306 J	The positive results for total zinc in samples SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, and SFB-MW-S7 were qualified as nondetect (U) at the QL since these results were <10× the blank concentration and < the QL. Qualification was not required for sample SFB-MW-S8 since the total zinc concentration was >10× the blank concentration.
Associated samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7			
480-159817-1: MB 480-494536/1-B	Beryllium (dissolved)	0.000610 J	The positive results for dissolved beryllium in the associated samples were qualified as nondetect (U) at the QL since these results were <10× the blank concentration and < the QL.
	Chromium (dissolved)	0.00149 J	Qualification was not required since dissolved chromium was nondetect in samples SFB-MW-S8, SFB-MW-S9, SFB-MW-S10, SFB-MW-B5, and SFB-MW-S7; and the detected result in sample SFB-MW-B4 was >10× the blank concentration.
	Zinc (dissolved)	0.00662 J	The positive results for dissolved zinc in samples SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-B5, and SFB-MW-S7 were qualified as nondetect (U) at the QL since these results were <10× the blank concentration and < the QL. The positive result for dissolved zinc in sample SFB-MW-S10 was qualified as estimated (J+) with a potential high bias since the concentration was > the QL and <10× the blank concentration.
Associated samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7			

The following table lists the analytes that were detected in the calibration blanks that were not

already qualified based on the preparation (method) blank. The maximum initial or continuing calibration blank (ICB/CCB) concentration was used to qualify the results for all samples in this data set (bracketing approach was not used). The following table summarizes the metal contaminants in the relevant instrument calibration blanks by analysis batch, the maximum blank concentration, the associated samples, and the resulting validation actions.

Analyte	Maximum Blank Result (mg/L)	Validation Actions
480-159638-1 / Analysis Batch - Blanks: 495192 - CCB/25		
Beryllium (dissolved)	0.000350 J	Qualification was not required since dissolved beryllium was nondetect in the associated sample.
Associated sample: SFB-MW-S1		
480-159817-1 / Analysis Batch - Blanks: 495112 – CCB/55, CCB/60		
Copper (total)	0.000179 J	The positive results for total copper in samples SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, and SFB-MW-S7 were qualified as nondetect (U) at the QL since these results were < the QL. Qualification was not required for sample SFB-MW-B5 since total copper was nondetect in this sample.
Potassium (total)	0.106 J	The positive result for total potassium in sample SFB-MW-B4 was qualified as estimated (J+) with a potential high bias since the concentration was > the QL and <10× the blank concentration. Qualification was not required in the other associated samples since the total potassium concentrations in these samples were >10× the blank concentration
Associated samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7		
480-159817-1 / Analysis Batch - Blanks: 495330 – CCB/18		
Iron (dissolved)	0.0221 J	Qualification was not required since dissolved iron was nondetect in the associated samples.
Associated samples: SFB-MW-S8, SFB-MW-S9, SFB-MW-B4, SFB-MW-S10, SFB-MW-B5, SFB-MW-S7		

MS/MSD Results

MS/MSD analyses for metals (total and dissolved) and the post digestion spike (PDS) analysis (dissolved metals only) were performed on sample SFB-MW-S1. Qualification of the data is not required in the case of nonconformances when the sample concentration is >4x the spike concentration; thus, these results were not evaluated or summarized in this report. The following table summarizes the MS/MSD %Rs that were outside the acceptance limits, the associated samples, and the resulting validation actions.

MS/MSD Parent Sample ID	Analyte	MS %R	MSD %R	MS/MSD RPD	PDS %R	Validation Action
SFB-MW-S1	Aluminum (total)	144	144	-	**	The positive results for total aluminum in samples SFB-MW-S1 and SFB-MW-B2 were qualified as estimated (J+) with a potential high bias. Qualification of the data was not required in the remaining samples since total aluminum was not detected in these samples.
Associated samples: SFB-MW-B3, SFB-MW-S3, SFB-MW-S1, SFB-MW-B1, SFB-MW-B2						
-: Met criteria ** PDS analysis was performed only for the dissolved metals; not applicable for the total metals results.						

MS/MSD analyses for mercury (dissolved only) were performed on sample SFB-MW-B4, and MS/MSD analyses for the other metals (total only) were performed on sample SFB-MW-S7. All %Rs and RPDs for these MS/MSD analyses were within the laboratory acceptance limits. No PDS

analysis was required since the MS/MSD results were all within control limits, but a PDS analysis was performed on sample SFB-MW-S7 for total metals (other than mercury). The PDS %R for calcium was below the acceptance limits; however, qualification was not required since the corresponding MS/MSD results were within the control limits.

Laboratory Duplicate Results

Laboratory duplicate analyses were not performed on any samples in this data set.

ICP Serial Dilution Results

The ICP serial dilution analysis in data group 480-159638-1 was performed on sample SFB-MW-S1 for dissolved metals and for total and dissolved mercury; no analysis was performed for total metals. All percent differences (%Ds) for analytes reported at >25× the QL in sample SFB-MW-S1 were within the acceptance criteria (≤ 10%). No qualifications were required.

ICP serial dilution analysis in data group 480-159817-1 was performed on sample SFB-MW-S7 for total metals (no analysis for dissolved metals) and on sample SFB-MW-B4 for dissolved mercury (no analysis for total mercury). All %Ds for analytes reported at >25× the QL were within the acceptance criteria. No qualifications were required.

LCS Results

LCS analyses were included for all methods (total and dissolved). The LCS %Rs in both data groups met the laboratory-provided acceptance criteria.

Field Duplicate Results

No field duplicate pairs were submitted with this sample set.

Total and Dissolved Results

Total and dissolved results were reviewed to identify instances in which the dissolved metals concentration exceeded the corresponding total metals concentration by >20% when the results were >5× the QL. All criteria were met.

Sample Results and Reported Quantitation Limits

Select metal results were reported between the MDL and QL in the associated samples. These results were qualified as estimated (J) by the laboratory.

Sample calculations were spot-checked, and there were no errors noted.

No dilutions were performed in the metals analyses.

QUALIFIED FORM 1s

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-B3 | Lab Sample ID: 480-159638-1

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 11:00

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.10	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	12.2	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.025	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.0028	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	0.073	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	9.3	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.022	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	0.0033	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	3.9	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	19.7	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0051~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-B3 | Lab Sample ID: 480-159638-1

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 11:00

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.0063	0.015	0.0056	mg/L	J		1	6010C
7440-39-3	Barium	0.098	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	12.1	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.024	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.0016	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	9.5	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	ND	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	0.0015	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	4.1	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L		J	1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	20.8	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0063~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-S3 Lab Sample ID: 480-159638-2

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG ID.:

Matrix: Water Date Sampled: 09/23/2019 11:05

Reporting Basis: WET Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.080	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	56.4	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	2.6	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	11.5	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	1.5	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	1.6	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	11.4	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0026~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-S3 | Lab Sample ID: 480-159638-2

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 11:05

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.076	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	58.1	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	12.2	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	1.6	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	1.7	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L		^	1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	12.4	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0025~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-S1 Lab Sample ID: 480-159638-3

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG ID.:

Matrix: Water Date Sampled: 09/23/2019 12:30

Reporting Basis: WET Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7.8	0.20	0.060	mg/L	J+	F1	1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.016	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.14	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	0.00066	0.0020	0.00030	mg/L	J		1	6010C
7440-43-9	Cadmium	0.00050	0.0020	0.00050	mg/L	J		1	6010C
7440-70-2	Calcium	56.8	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.014	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.0038	0.0040	0.00063	mg/L	J		1	6010C
7440-50-8	Copper	0.015	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	12.4	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	0.030	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	16.7	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	4.1	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	0.0096	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	6.0	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	9.7	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.012	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.041	0.010	0.0015	mg/L		B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-S1 | Lab Sample ID: 480-159638-3

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 12:30

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.083	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	56.0	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	14.2	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	3.7	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	4.3	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	10	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.014	0.010	0.0015	mg/L	J+	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-B1 Lab Sample ID: 480-159638-4

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG ID.:

Matrix: Water Date Sampled: 09/23/2019 13:10

Reporting Basis: WET Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.13	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	14.1	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	0.037	0.050	0.019	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	2.6	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.052	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.4	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	47.0	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0031~~	0.010	0.0015	mg/L	J U	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-B1 | Lab Sample ID: 480-159638-4

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 13:10

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.13	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	14.1	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	2.6	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.036	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.6	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L		J	1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	49.9	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0093~~	0.010	0.0015	mg/L	J U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-B2 | Lab Sample ID: 480-159638-5

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 14:45

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	0.73	0.20	0.060	mg/L	J+		1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.018	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	0.00040	0.0020	0.00030	mg/L	J		1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	17.3	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.0032	0.0040	0.0010	mg/L	J		1	6010C
7440-48-4	Cobalt	0.00067	0.0040	0.00063	mg/L	J		1	6010C
7440-50-8	Copper	0.0032	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	1.1	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	5.1	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.19	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	0.0021	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	0.87	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	2.6	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.0016	0.0050	0.0015	mg/L	J		1	6010C
7440-66-6	Zinc	ND ~~0.0060~~	0.010	0.0015	mg/L	J U	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-B2 | Lab Sample ID: 480-159638-5

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159638-1

SDG ID.:

Matrix: Water | Date Sampled: 09/23/2019 14:45

Reporting Basis: WET | Date Received: 09/24/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.0089	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	16.8	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	0.0032	0.010	0.0030	mg/L	J		1	6010C
7439-95-4	Magnesium	4.6	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.0019	0.0030	0.00040	mg/L	J		1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	0.73	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	2.5	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0090~~	0.010	0.0015	mg/L	J U	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-S8 | Lab Sample ID: 480-159817-1

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 09:40

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	0.91	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.011	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00050~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	0.00098	0.0020	0.00050	mg/L	J		1	6010C
7440-70-2	Calcium	47.3	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.00065	0.0040	0.00063	mg/L	J		1	6010C
7440-50-8	Copper	ND ~~0.0069~~	0.010	0.0016	mg/L	~~J~~ U		1	6010C
7439-89-6	Iron	0.60	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	8.9	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.37	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	0.0032	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	2.2	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	2.1	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.049	0.010	0.0015	mg/L		~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-S8 | Lab Sample ID: 480-159817-1

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 09:40

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.0078	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00061~~	0.0020	0.00030	mg/L	J U	B	1	6010C
7440-43-9	Cadmium	0.00053	0.0020	0.00050	mg/L	J		1	6010C
7440-70-2	Calcium	47.5	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.0032	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L		J	1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	8.8	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.13	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	0.0032	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	2.2	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	2.0	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0099~~	0.010	0.0015	mg/L	J U	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-S9 Lab Sample ID: 480-159817-2

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG ID.:

Matrix: Water Date Sampled: 09/24/2019 10:45

Reporting Basis: WET Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	0.13	0.20	0.060	mg/L	J		1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.32	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00048~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	44.2	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND ~~0.0023~~	0.010	0.0016	mg/L	~~J~~ U		1	6010C
7439-89-6	Iron	0.21	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	8.0	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.089	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	3.1	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	21.0	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0062~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-S9 | Lab Sample ID: 480-159817-2

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 10:45

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.30	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00060~~	0.0020	0.00030	mg/L	J U	B	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	43.4	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	7.7	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.072	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.9	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	20.6	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0073~~	0.010	0.0015	mg/L	J U	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-B4 | Lab Sample ID: 480-159817-3

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 10:40

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	0.94	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.021	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00058~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	69.6	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.028	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND ~~0.0043~~	0.010	0.0016	mg/L	~~J~~ U		1	6010C
7439-89-6	Iron	0.91	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	13.3	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.044	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	0.0013	0.010	0.0013	mg/L	J		1	6010C
7440-09-7	Potassium	0.89	0.50	0.10	mg/L	J+		1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	2.6	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.0025	0.0050	0.0015	mg/L	J		1	6010C
7440-66-6	Zinc	ND ~~0.0077~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-B4 | Lab Sample ID: 480-159817-3

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 10:40

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.017	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00072~~	0.0020	0.00030	mg/L	J U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	68.0	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.025	0.0040	0.0010	mg/L		~~B~~	1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L		~~J~~	1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	12.6	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.00050	0.0030	0.00040	mg/L	J		1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	0.73	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	2.5	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0084~~	0.010	0.0015	mg/L	J U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-S10 | Lab Sample ID: 480-159817-4

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 12:10

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.085	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00044~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	0.00076	0.0020	0.00050	mg/L	J		1	6010C
7440-70-2	Calcium	52.6	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND ~~0.0020~~	0.010	0.0016	mg/L	~~J~~ U		1	6010C
7439-89-6	Iron	0.28	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	13.4	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.10	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.1	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	10.4	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0059~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-S10 | Lab Sample ID: 480-159817-4

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 12:10

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.080	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00056~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	54.1	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	13.6	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.11	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.0	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	9.7	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.012	0.010	0.0015	mg/L	J+	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-B5 | Lab Sample ID: 480-159817-5

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 12:40

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.13	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00052~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	23.6	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.0020	0.0040	0.0010	mg/L	J		1	6010C
7440-48-4	Cobalt	0.00079	0.0040	0.00063	mg/L	J		1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	0.24	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	11.4	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.11	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.9	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	22.5	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0043~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-B5 | Lab Sample ID: 480-159817-5

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 12:40

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.11	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00053~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	22.0	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	10.4	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	0.055	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	2.7	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	20.3	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0062~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-MW-S7 | Lab Sample ID: 480-159817-6

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 13:10

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	0.067	0.20	0.060	mg/L	J		1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.029	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.13	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00052~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	75.0	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND ~~0.0019~~	0.010	0.0016	mg/L	~~J~~ U		1	6010C
7439-89-6	Iron	4.4	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	13.7	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	11.5	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	1.9	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	18.9	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0062~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: SFB-MW-S7 | Lab Sample ID: 480-159817-6

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-159817-1

SDG ID.:

Matrix: Water | Date Sampled: 09/24/2019 13:10

Reporting Basis: WET | Date Received: 09/25/2019 09:30

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.060	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.010	0.015	0.0056	mg/L	J		1	6010C
7440-39-3	Barium	0.11	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND ~~0.00052~~	0.0020	0.00030	mg/L	~~J~~ U	~~B~~	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	71.6	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0016	mg/L			1	6010C
7439-89-6	Iron	ND	0.050	0.019	mg/L			1	6010C
7439-92-1	Lead	ND	0.010	0.0030	mg/L			1	6010C
7439-95-4	Magnesium	12.9	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	10.8	0.0030	0.00040	mg/L			1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	1.7	0.50	0.10	mg/L			1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	17.7	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	ND ~~0.0081~~	0.010	0.0015	mg/L	~~J~~ U	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

QC NONCONFORMANCE DOCUMENTATION

CALIBRATION VERIFICATIONS

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

ICV Source: MEI_MSS_ICV_00021 Concentration Units: mg/L

CCV Source: MEI_MSS_STD2_00043

Analyte	ICV 480-495091/5 09/30/2019 09:07				CCV 480-495091/17 09/30/2019 22:18				CCV 480-495091/24 09/30/2019 23:05			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	37.83		37.5	101	48.92		50.0	98	48.56		50.0	97
Antimony	0.797		0.750	106	1.05		1.00	105	1.06		1.00	106
Arsenic	0.745		0.750	99	1.08		1.00	108	1.09		1.00	109
Barium	0.757		0.750	101	0.984		1.00	98	0.977		1.00	98
Beryllium	0.753		0.750	100	1.01		1.00	101	1.01		1.00	101
Cadmium	0.754		0.750	101	1.05		1.00	105	1.06		1.00	106
Calcium	37.66		37.5	100	48.38		50.0	97	48.23		50.0	96
Chromium	0.758		0.750	101	0.967		1.00	97	0.960		1.00	96
Cobalt	0.740		0.750	99	0.975		1.00	98	0.978		1.00	98
Copper	0.718		0.750	96	0.968		1.00	97	0.965		1.00	97
Iron	38.28		37.5	102	50.63		50.0	101	50.81		50.0	102
Lead	0.738		0.750	98	0.985		1.00	99	0.984		1.00	98
Magnesium	37.47		37.5	100	48.69		50.0	97	48.64		50.0	97
Manganese	0.765		0.750	102	1.03		1.00	103	1.03		1.00	103
Nickel	0.749		0.750	100	1.00		1.00	100	1.00		1.00	100
Potassium	36.93		37.5	98	50.18		50.0	100	50.17		50.0	100
Selenium	0.739		0.750	99	1.10		1.00	110	1.11		1.00	111
Silver	0.742		0.750	99	0.957		1.00	96	0.954		1.00	95
Sodium	37.01		37.5	99	50.03		50.0	100	49.85		50.0	100
Thallium	0.753		0.750	100	1.02		1.00	102	1.02		1.00	102
Vanadium	0.751		0.750	100	1.02		1.00	102	1.01		1.00	101
Zinc	0.781		0.750	104	0.979		1.00	98	0.973		1.00	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

ICV Source: MEI_MSS_ICV_00021 Concentration Units: mg/L

CCV Source: MEI_MSS_STD2_00043

Analyte	CCV 480-495091/34 09/30/2019 23:50											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	48.93		50.0	98								
Antimony	1.06		1.00	106								
Arsenic	1.10		1.00	110								
Barium	0.985		1.00	98								
Beryllium	1.01		1.00	101								
Cadmium	1.07		1.00	107								
Calcium	48.16		50.0	96								
Chromium	0.966		1.00	97								
Cobalt	0.974		1.00	97								
Copper	0.964		1.00	96								
Iron	50.91		50.0	102								
Lead	0.980		1.00	98								
Magnesium	48.55		50.0	97								
Manganese	1.03		1.00	103								
Nickel	1.00		1.00	100								
Potassium	50.22		50.0	100								
Selenium	1.12		1.00	112								
Silver	0.955		1.00	96								
Sodium	50.27		50.0	101								
Thallium	1.02		1.00	102								
Vanadium	1.03		1.00	103								
Zinc	0.979		1.00	98								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

ICV Source: MEI_10_CCVL_00277 Concentration Units: mg/L

CCV Source: MEI_10_CCVL_00277

Analyte	ICVL 480-495330/7 10/01/2019 09:06				CCVL 480-495330/19 10/02/2019 00:15				CCVL 480-495330/27 10/02/2019 00:59			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	0.173	J	0.200	86	0.176	J	0.200	88	0.172	J	0.200	86
Antimony	0.0200		0.0200	100	0.0197	J	0.0200	99	0.0214		0.0200	107
Arsenic	0.0175		0.0150	116	0.0147	J	0.0150	98	0.0143	J	0.0150	95
Barium	0.00221		0.00200	111	0.00213		0.00200	107	0.00216		0.00200	108
Beryllium	0.00225		0.00200	113	0.00284		0.00200	142	0.00252		0.00200	126
Cadmium	0.00212		0.00200	106	0.00212		0.00200	106	0.00208		0.00200	104
Calcium	0.535		0.500	107	0.544		0.500	109	0.541		0.500	108
Chromium	0.00429		0.00400	107	0.00432		0.00400	108	0.00425		0.00400	106
Cobalt	0.00390	J	0.00400	98	0.00398	J	0.00400	100	0.00391	J	0.00400	98
Copper	0.00875	J	0.0100	88	0.00955	J	0.0100	96	0.0103		0.0100	103
Iron	0.0574		0.0500	115	0.0584		0.0500	117	0.0658		0.0500	132
Lead	0.00938	J	0.0100	94	0.0115		0.0100	115	0.0112		0.0100	112
Magnesium	0.214		0.200	107	0.214		0.200	107	0.209		0.200	105
Manganese	0.00288	J	0.00300	96	0.00297	J	0.00300	99	0.00288	J	0.00300	96
Nickel	0.0103		0.0100	103	0.0100		0.0100	100	0.0105		0.0100	105
Potassium	0.392	J	0.500	78	0.436	J	0.500	87	0.429	J	0.500	86
Selenium	0.0239	J	0.0250	96	0.0221	J	0.0250	88	0.0251		0.0250	100
Silver	0.00553	J	0.00600	92	0.00551	J	0.00600	92	0.00609		0.00600	102
Sodium	0.896	J	1.00	90	0.933	J	1.00	93	0.921	J	1.00	92
Thallium	0.0207		0.0200	103	0.0201		0.0200	101	0.0201		0.0200	101
Vanadium	0.00523		0.00500	105	0.00495	J	0.00500	99	0.00527		0.00500	105
Zinc	0.0116		0.0100	116	0.0126		0.0100	126	0.0127		0.0100	127

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

4A-IN

INTERFERENCE CHECK STANDARD

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Lab Sample ID: ICSA 480-495091/8 Instrument ID: ICAP1

Lab File ID: i1093019a-12.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**533**	**107**
Antimony		**-0.0121**	
Arsenic		**0.0008**	
Barium		**0.0017**	
Beryllium		**0.0001**	
Cadmium		**-0.0003**	
Calcium	**500**	**499**	**100**
Chromium		**0.0031**	
Cobalt		**-0.0007**	
Copper		**-0.0037**	
Iron	**200**	**198**	**99**
Lead		**0.0017**	
Magnesium	**500**	**525**	**105**
Manganese		**-0.0020**	
Nickel		**-0.0046**	
Potassium		**0.0009**	
Selenium		**0.0033**	
Silver		**0.0001**	
Sodium		**0.195**	
Thallium		**-0.0016**	
Vanadium		**-0.0024**	
Zinc		**0.0031**	
Boron		*0.0002*	
Lithium		*0.0039*	
Molybdenum		*-0.0003*	
Silicon		*0.0108*	
Strontium		*-0.0094*	
Sulfur		*-0.101*	
Tin		*0.0002*	
Titanium		*0.0004*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Lab Sample ID: ICSA 480-494676/8 Instrument ID: ICAP2

Lab File ID: I2092719A-5.asc ICS Source: MEI_MSS_ICSA_00007

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**511**	**102**
Antimony		**0.0050**	
Arsenic		**-0.0008**	
Barium		**0.0013**	
Beryllium		**-0.0003**	
Cadmium		**-0.0003**	
Calcium	**500**	**484**	**97**
Chromium		**-0.0005**	
Cobalt		**-0.0004**	
Copper		**-0.0012**	
Iron	**200**	**193**	**96**
Lead		**0.0025**	
Magnesium	**500**	**519**	**104**
Manganese		**0.0009**	
Nickel		**0.0000**	
Potassium		**-0.0476**	
Selenium		**0.0068**	
Silver		**-0.0020**	
Sodium		**0.201**	
Thallium		**-0.0047**	
Vanadium		**-0.0018**	
Zinc		**0.0028**	
Boron		*-0.0011*	
Lithium		*-0.0103*	
Molybdenum		*-0.0015*	
Silicon		*0.0264*	
Strontium		*-0.0087*	
Sulfur		*0.0005*	
Tin		*0.0047*	
Titanium		*0.0001*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Lab Sample ID: ICSA 480-495192/8 Instrument ID: ICAP2

Lab File ID: I2100119A-6.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**507**	**101**
Antimony		**0.0127**	
Arsenic		**-0.0032**	
Barium		**0.0017**	
Beryllium		**-0.0002**	
Cadmium		**0.0005**	
Calcium	**500**	**493**	**99**
Chromium		**-0.0010**	
Cobalt		**-0.0002**	
Copper		**0.0016**	
Iron	**200**	**194**	**97**
Lead		**-0.0016**	
Magnesium	**500**	**515**	**103**
Manganese		**-0.0019**	
Nickel		**-0.0003**	
Potassium		**-0.0570**	
Selenium		**0.0117**	
Silver		**-0.0016**	
Sodium		**0.199**	
Thallium		**-0.0035**	
Vanadium		**-0.0017**	
Zinc		**0.0034**	
Boron		*-0.0018*	
Lithium		*-0.0049*	
Molybdenum		*-0.0014*	
Silicon		*-0.0401*	
Strontium		*-0.0090*	
Sulfur		*-0.0098*	
Tin		*0.0046*	
Titanium		*-0.0001*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Lab Sample ID: ICSA 480-495112/13 Instrument ID: ICAP2

Lab File ID: I2093019A-6.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**503**	**101**
Antimony		**0.0109**	
Arsenic		**-0.0053**	
Barium		**0.0017**	
Beryllium		**-0.0002**	
Cadmium		**0.0005**	
Calcium	**500**	**488**	**98**
Chromium		**-0.0010**	
Cobalt		**-0.0004**	
Copper		**0.0010**	
Iron	**200**	**191**	**95**
Lead		**0.0014**	
Magnesium	**500**	**515**	**103**
Manganese		**-0.0016**	
Nickel		**-0.0011**	
Potassium		**0.0148**	
Selenium		**0.0048**	
Silver		**0.0005**	
Sodium		**0.207**	
Thallium		**-0.0029**	
Vanadium		**-0.0018**	
Zinc		**0.0033**	
Boron		*-0.0002*	
Lithium		*-0.0010*	
Molybdenum		*-0.0028*	
Silicon		*0.0140*	
Strontium		*-0.0089*	
Sulfur		*-0.0070*	
Tin		*0.0034*	
Titanium		*-0.0004*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Lab Sample ID: ICSA 480-495330/8 Instrument ID: ICAP2

Lab File ID: i2100119a-14.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**507**	**101**
Antimony		**0.0127**	
Arsenic		**-0.0032**	
Barium		**0.0017**	
Beryllium		**-0.0002**	
Cadmium		**0.0005**	
Calcium	**500**	**493**	**99**
Chromium		**-0.0010**	
Cobalt		**-0.0002**	
Copper		**0.0016**	
Iron	**200**	**194**	**97**
Lead		**-0.0016**	
Magnesium	**500**	**515**	**103**
Manganese		**-0.0019**	
Nickel		**-0.0003**	
Potassium		**-0.0570**	
Selenium		**0.0117**	
Silver		**-0.0016**	
Sodium		**0.199**	
Thallium		**-0.0035**	
Vanadium		**-0.0017**	
Zinc		**0.0034**	
Boron		*-0.0018*	
Lithium		*-0.0049*	
Molybdenum		*-0.0014*	
Silicon		*-0.0401*	
Strontium		*-0.0090*	
Sulfur		*-0.0098*	
Tin		*0.0046*	
Titanium		*-0.0001*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

3-IN

METHOD BLANK

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 480-494102/1-A

Instrument Code: ICAP2 Batch No.: 494676

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	ND			6010C
7440-02-0	Nickel	ND			6010C
7440-09-7	Potassium	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C
7440-23-5	Sodium	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00236	J		6010C

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 480-494130/1-B

Instrument Code: ICAP1 Batch No.: 495091

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	ND			6010C
7440-02-0	Nickel	ND			6010C
7440-09-7	Potassium	ND			6010C
7782-49-2	Selenium	ND		^	6010C
7440-22-4	Silver	ND			6010C
7440-23-5	Sodium	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00403	J		6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 480-494469/1-A

Instrument Code: ICAP2 Batch No.: 495112

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	0.000420	J		6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	0.000550	J		6010C
7440-02-0	Nickel	ND			6010C
7440-09-7	Potassium	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C
7440-23-5	Sodium	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00306	J		6010C

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 480-494536/1-B

Instrument Code: ICAP2 Batch No.: 495330

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	0.000610	J	^	6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	0.00149	J		6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND		^	6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	ND			6010C
7440-02-0	Nickel	ND			6010C
7440-09-7	Potassium	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C
7440-23-5	Sodium	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00662	J		6010C

3-IN

INSTRUMENT BLANKS

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159638-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 480-495192/6 10/01/2019 09:03		CCB 480-495192/19 10/01/2019 10:33		CCB 480-495192/25 10/01/2019 11:17		CCB 480-495192/31 10/01/2019 12:01	
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND		ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.015	ND		ND		ND		ND	
Barium	0.0020	ND		ND		ND		ND	
Beryllium	0.0020	ND		ND		0.000350	J	ND	
Cadmium	0.0020	ND		ND		ND		ND	
Calcium	0.50	ND		ND		ND		ND	
Chromium	0.0040	ND		ND		ND		ND	
Cobalt	0.0040	ND		ND		ND		ND	
Copper	0.010	ND		ND		ND		ND	
Iron	0.050	ND		ND		ND		ND	
Lead	0.010	ND		ND		ND		ND	
Magnesium	0.20	ND		ND		ND		ND	
Manganese	0.0030	ND		ND		ND		ND	
Nickel	0.010	ND		ND		ND		ND	
Potassium	0.50	ND		ND		ND		ND	
Selenium	0.025	ND		ND		ND		ND	
Silver	0.0060	ND		ND		ND		ND	
Sodium	1.0	ND		ND		ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	ND		ND		ND		ND	
Zinc	0.010	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 480-495112/11 09/30/2019 09:53		CCB 480-495112/23 09/30/2019 19:37		CCB 480-495112/31 09/30/2019 20:22		CCB 480-495112/43 09/30/2019 21:07	
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND		ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.015	ND		ND		ND		ND	
Barium	0.0020	ND		ND		ND		ND	
Beryllium	0.0020	ND		0.000440	J	0.000430	J	0.000500	J
Cadmium	0.0020	ND		ND		ND		ND	
Calcium	0.50	ND		ND		ND		ND	
Chromium	0.0040	ND		ND		ND		ND	
Cobalt	0.0040	ND		ND		ND		ND	
Copper	0.010	ND		ND		ND		ND	
Iron	0.050	ND		ND		ND		ND	
Lead	0.010	ND		ND		ND		ND	
Magnesium	0.20	ND		ND		ND		ND	
Manganese	0.0030	ND		ND		ND		ND	
Nickel	0.010	ND		ND		ND		ND	
Potassium	0.50	ND		ND		ND		ND	
Selenium	0.025	ND		ND		ND		ND	
Silver	0.0060	ND		ND		ND		ND	
Sodium	1.0	ND		ND		ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	ND		ND		ND		ND	
Zinc	0.010	0.00152	J	ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 480-495112/55 09/30/2019 21:51		CCB 480-495112/60 09/30/2019 22:35					
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND		ND					
Antimony	0.020	ND		ND					
Arsenic	0.015	ND		ND					
Barium	0.0020	ND		ND					
Beryllium	0.0020	0.000490	J	0.000450	J				
Cadmium	0.0020	ND		ND					
Calcium	0.50	ND		ND					
Chromium	0.0040	ND		ND					
Cobalt	0.0040	ND		ND					
Copper	0.010	ND		0.00179	J				
Iron	0.050	ND		ND					
Lead	0.010	ND		ND					
Magnesium	0.20	ND		ND					
Manganese	0.0030	ND		ND					
Nickel	0.010	ND		ND					
Potassium	0.50	0.106	J	ND					
Selenium	0.025	ND		ND					
Silver	0.0060	ND		ND					
Sodium	1.0	ND		ND					
Thallium	0.020	ND		ND					
Vanadium	0.0050	ND		ND					
Zinc	0.010	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 480-495330/6 10/01/2019 09:03		CCB 480-495330/18 10/02/2019 00:11		CCB 480-495330/26 10/02/2019 00:56		CCB 480-495330/38 10/02/2019 01:40	
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND		ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.015	ND		ND		ND		ND	
Barium	0.0020	ND		ND		ND		ND	
Beryllium	0.0020	ND		0.000530	J	0.000420	J	0.000660	J
Cadmium	0.0020	ND		ND		ND		ND	
Calcium	0.50	ND		ND		ND		ND	
Chromium	0.0040	ND		ND		ND		ND	
Cobalt	0.0040	ND		ND		ND		ND	
Copper	0.010	ND		ND		ND		ND	
Iron	0.050	ND		0.0221	J	ND		ND	
Lead	0.010	ND		ND		ND		ND	
Magnesium	0.20	ND		ND		ND		ND	
Manganese	0.0030	ND		ND		ND		ND	
Nickel	0.010	ND		ND		ND		ND	
Potassium	0.50	ND		ND		ND		ND	
Selenium	0.025	ND		ND		ND		ND	
Silver	0.0060	ND		ND		ND		ND	
Sodium	1.0	ND		ND		ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	ND		ND		ND		ND	
Zinc	0.010	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-159817-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 480-495330/45 10/02/2019 02:06							
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND							
Antimony	0.020	ND							
Arsenic	0.015	ND							
Barium	0.0020	ND							
Beryllium	0.0020	0.000520	J						
Cadmium	0.0020	ND							
Calcium	0.50	ND							
Chromium	0.0040	ND							
Cobalt	0.0040	ND							
Copper	0.010	ND							
Iron	0.050	ND							
Lead	0.010	ND							
Magnesium	0.20	ND							
Manganese	0.0030	ND							
Nickel	0.010	ND							
Potassium	0.50	ND							
Selenium	0.025	ND							
Silver	0.0060	ND							
Sodium	1.0	ND							
Thallium	0.020	ND							
Vanadium	0.0050	ND							
Zinc	0.010	ND							

Italicized analytes were not requested for this sequence.

5A-IN

MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: SFB-MW-S1 MS

Lab ID: 480-159638-3 MS

Lab Name: Eurofins TestAmerica, Buffalo

Job No.: 480-159638-1

SDG No.:

Matrix: Water

Concentration Units: mg/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	22.24		7.8		10.0	144	75-125	F1	6010C
Antimony	0.222		ND		0.200	111	75-125		6010C
Arsenic	0.223		0.016		0.200	103	75-125		6010C
Barium	0.385		0.14		0.200	121	75-125		6010C
Beryllium	0.202		0.00066	J	0.200	101	75-125		6010C
Cadmium	0.205		0.00050	J	0.200	102	75-125		6010C
Calcium	70.93		56.8		10.0	141	75-125	4	6010C
Chromium	0.215		0.014		0.200	100	75-125		6010C
Cobalt	0.198		0.0038	J	0.200	97	75-125		6010C
Copper	0.222		0.015		0.200	103	75-125		6010C
Iron	24.05		12.4		10.0	117	75-125		6010C
Lead	0.228		0.030		0.200	99	75-125		6010C
Magnesium	28.31		16.7		10.0	116	75-125		6010C
Manganese	4.56		4.1		0.200	232	75-125	4	6010C
Nickel	0.213		0.0096	J	0.200	102	75-125		6010C
Potassium	17.57		6.0		10.0	116	75-125		6010C
Selenium	0.203		ND		0.200	102	75-125		6010C
Silver	0.0504		ND		0.0500	101	75-125		6010C
Sodium	19.64		9.7		10.0	99	75-125		6010C
Thallium	0.202		ND		0.200	101	75-125		6010C
Vanadium	0.225		0.012		0.200	107	75-125		6010C
Zinc	0.245		0.041		0.200	102	75-125		6010C
Mercury	0.00668		ND		0.00667	100	80-120		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: SFB-MW-S1 MSD
Lab ID: 480-159638-3 MSD
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-159638-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	22.26		10.0	144	75-125	0	20	F1	6010C
Antimony	0.218		0.200	109	75-125	2	20		6010C
Arsenic	0.217		0.200	100	75-125	3	20		6010C
Barium	0.375		0.200	115	75-125	3	20		6010C
Beryllium	0.197		0.200	98	75-125	3	20		6010C
Cadmium	0.200		0.200	100	75-125	2	20		6010C
Calcium	67.82		10.0	110	75-125	4	20	4	6010C
Chromium	0.208		0.200	97	75-125	3	20		6010C
Cobalt	0.193		0.200	95	75-125	2	20		6010C
Copper	0.215		0.200	100	75-125	3	20		6010C
Iron	23.73		10.0	114	75-125	1	20		6010C
Lead	0.223		0.200	96	75-125	2	20		6010C
Magnesium	27.50		10.0	108	75-125	3	20		6010C
Manganese	4.37		0.200	136	75-125	4	20	4	6010C
Nickel	0.208		0.200	99	75-125	2	20		6010C
Potassium	17.02		10.0	110	75-125	3	20		6010C
Selenium	0.196		0.200	98	75-125	4	20		6010C
Silver	0.0478		0.0500	96	75-125	5	20		6010C
Sodium	19.04		10.0	93	75-125	3	20		6010C
Thallium	0.196		0.200	98	75-125	3	20		6010C
Vanadium	0.220		0.200	104	75-125	2	20		6010C
Zinc	0.239		0.200	99	75-125	3	20		6010C
Mercury	0.00718		0.00667	108	80-120	7	20		7470A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

Data Usability Summary Report

Site: Schatz Federal Bearings Site
Laboratory: Eurofins TestAmerica Buffalo –Burlington, VT
SDG No.: 480-159638-1
Parameters: Per- and Poly-fluoroalkyl Substances
Data Reviewer: Kristen Morin/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 31, 2020

Samples Reviewed and Evaluation Summary

3 Groundwater Samples: SFB-MW-B3, SFB-MW-S1, SFB-MW-S3

The above-listed groundwater samples were collected on September 23, 2019 and were analyzed for Per- and Poly-fluoroalkyl substances (PFAS) (21 target analytes) based on EPA Method 537.1 (modified) using Test America – Burlington, VT standard operating procedure (SOP) BR-LC-009, revision 4.0, effective date 04/12/19.

The data validation was performed in accordance with the following USEPA guidance, modified for the methodologies utilized:

- USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA-542-B-16-001), April 2016
- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018
- New York State Department of Environmental Conservation Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids, January 2020

The data were evaluated based on the following parameters:

	• Overall Evaluation of Data and Potential Usability Issues
	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Initial and Continuing Calibrations
	• Blanks
*	• Isotopically Labeled Surrogate Results
NA	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	• Laboratory Control Sample (LCS) Results
	• Internal Standards
NA	• Field Duplicate Results
	• Sample Results and Reported Quantitation Limits (QLs)
	• Target Compound Identification

*	-	All criteria were met.
NA	-	Field duplicates and MS/MSD analyses were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. There were no qualifications applied to the data because of sampling error. Qualifications applied to the data because of analytical error are

discussed below.

- Potential uncertainty exists for select PFAS results that were below the lowest calibration standard and QL. These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for PFBA in samples SFB-MW-B3 and SFB-MW-S3 were qualified as estimated (J+) with a potential high bias due to method blank contamination. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive result for PFBA in sample SFB-MW-S1 was qualified as nondetect (U) at the QL due to method blank contamination. This result can be used as a nondetect result, which may have a minor impact on the data usability.

- The positive result for 6:2 FTS in sample SFB-MW-B3 was qualified as estimated (J) due to high internal standard recovery. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

- The positive result for PFBS in sample SFB-MW-S3 was qualified as estimated (J) due to the ratio between the two precursor/product ion transitions being outside the acceptance limits and detection below the QL. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable with one exception. The case narrative incorrectly stated that the internal standard recovery for the diluted analysis of sample SFB-MW-B3 was within the acceptance criteria. A revised case narrative was not requested during validation and this sample was qualified accordingly (refer to internal standard section below).

Holding Times and Sample Preservation

All holding time and sample preservation criteria were met.

Initial and Continuing Calibrations

The percent relative standard deviations and correlation coefficients in the initial calibration were within the method acceptance criteria. The percent differences met the acceptance criteria in the continuing calibration standards.

Blanks

The following table summarizes the PFAS compounds found in the laboratory method blank, the concentration detected, and the resulting validation actions.

Blank ID	Compound	Result (ng/L)	Validation Action
MB 200-147840/1-A	PFBA	1.07 J	The positive results for PFBA in samples SFB-MW-B3 and SFB-MW-S3 were qualified as estimated (J+) with a potential high bias. The positive result for PFBA in sample SFB-MW-S1 was qualified as nondetect (U) at the QL.
Associated samples: SFB-MW-B3, SFB-MW-S1, SFB-MW-S3			
Criteria: • If concentration in sample <QL, replace result with QL flagged with "U" • If concentration in sample ≥QL and <10x blank concentration, qualify result as estimated, biased high (J+)			

Isotopically Labeled Surrogate Results

Seventeen isotopically labeled surrogate were spiked into the samples prior to extraction for isotope dilution quantitation. The %Rs were within the acceptance limits (50-150%).

Due to a shortage in the marketplace for the isotopically labeled surrogate 13C3-PFBS, the target analyte PFBS could not be quantitated against 13C3-PFBS (its labeled variant) as listed in the SOP. PFBS was quantitated versus 18O2-PFHxS instead. The laboratory was contacted during validation and confirmed this. No validation actions were required on this basis.

MS/MSD Results

MS/MSD analyses were not performed on a sample in this data set.

LCS Results

The LCS %Rs were within the laboratory acceptance criteria.

Internal Standards

The isotopically labeled internal standard 13C2 PFOA was added to each sample prior to injection to monitor for ion suppression/enhancement at the instrument level. The %Rs were within the laboratory acceptance limits of 50-150% with one exception. The %R of 13C2 PFOA (156%) was above the laboratory acceptance limits in the 5-fold diluted analysis of sample SFB-MW-B3. Therefore, the positive result for 6:2 FTS was qualified as estimated (J) in sample SFB-MW-B3.

Field Duplicate Results

There were no field duplicates associated with this data set.

Sample Results and Reported Quantitation Limits

Sample calculations were spot-checked; there were no errors noted. Select PFAS results were below the lowest calibration standard level and QL. These results were qualified as estimated (J) by the laboratory.

The following table summarizes the PFAS dilution performed on one of the samples in this data set.

Sample ID	Dilution	Reason for Dilution
SFB-MW-B3	5-fold	A 5-fold dilution was performed due to the concentration of 6:2 FTS that exceeded the calibration range in the undiluted analysis. The laboratory combined results of the undiluted and diluted analyses in order to report all results within the calibration range and the lowest possible QLs.

Target Compound Identification

Extracted ion chromatograms were reviewed to verify the target compound identifications. The laboratory manually integrated several peaks to ensure the inclusion of linear and branched isomers for PFOA, PFOS, NEtFOSAA, NMeFOSAA, and/or PFHxS; and/or to ensure proper integration of all PFAS.

Two precursor/product ion transitions were used for identification for all compounds except for PFBA, PFPeA, PFOSA, NMeFOSAA, NEtFOSAA, 6:2 FTS, and 8:2 FTS which only used one precursor/product ion transition for identification.

The following table summarizes the ratio between the two precursor/product ion transitions that did not meet the laboratory acceptance criteria and the validation actions.

Sample ID	Compound	Ratio	Ratio QC Limits	Validation Actions
SFB-MW-S3	PFBS	3.06	1.02-3.05	The positive result for PFBS in sample SFB-MW-S3 was detected below the QL and the laboratory qualified the results as estimated (J); therefore, no further validation action was required.

QUALIFIED FORM 1s

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B3 Lab Sample ID: 480-159638-1

Matrix: Water Lab File ID: SC092819A018.d

Analysis Method: 537 (modified) Date Collected: 09/23/2019 11:00

Extraction Method: 3535 Date Extracted: 09/27/2019 12:17

Sample wt/vol: 294.7(mL) Date Analyzed: 09/28/2019 16:16

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 147869 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.7	J+	1.7	0.95
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.2	J	1.7	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	2.3		1.7	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.5	J	1.7	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	2.2		1.7	0.69
375-95-1	Perfluorononanoic acid (PFNA)	4.2		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	0.75	J	1.7	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.98	J	1.7	0.66
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.78
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.56	J	1.7	0.52
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND		8.5	8.5
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-B3 Lab Sample ID: 480-159638-1

Matrix: Water Lab File ID: SC100719A007.d

Analysis Method: 537 (modified) Date Collected: 09/23/2019 11:00

Extraction Method: 3535 Date Extracted: 09/27/2019 12:17

Sample wt/vol: 294.7(mL) Date Analyzed: 10/07/2019 17:27

Con. Extract Vol.: 10(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 148176 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	900	J ✓	85	23

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02279	M2-6:2 FTS	69		25-150

FORM I 537 (modified)

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S3 Lab Sample ID: 480-159638-2

Matrix: Water Lab File ID: SC092819A020.d

Analysis Method: 537 (modified) Date Collected: 09/23/2019 11:05

Extraction Method: 3535 Date Extracted: 09/27/2019 12:17

Sample wt/vol: 284(mL) Date Analyzed: 09/28/2019 16:32

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 147869 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	5.0	~~J~~ J+ ✓	1.8	0.88
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.6	J	1.8	0.55
307-24-4	Perfluorohexanoic acid (PFHxA)	3.2		1.8	0.67
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.80
335-67-1	Perfluorooctanoic acid (PFOA)	29		1.8	0.71
375-95-1	Perfluorononanoic acid (PFNA)	0.42	J	1.8	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.8	0.68
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.69
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.52
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.53
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.81
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.0	J	1.8	0.43
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.70
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.84
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.8		1.8	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.79
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND		8.8	8.8
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.3
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	14	J	18	4.8
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		18	2.6

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-159638-1

SDG No.:

Client Sample ID: SFB-MW-S1 Lab Sample ID: 480-159638-3

Matrix: Water Lab File ID: SC092819A021.d

Analysis Method: 537 (modified) Date Collected: 09/23/2019 12:30

Extraction Method: 3535 Date Extracted: 09/27/2019 12:17

Sample wt/vol: 274.5(mL) Date Analyzed: 09/28/2019 16:41

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 147869 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.4	J B	1.8U ✓ 1.8	0.91
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.8	0.57
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.8	0.69
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.83
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.8	0.74
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.8	0.25
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.8	0.70
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.71
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.54
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.8	0.55
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.84
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.73
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.87
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.56
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.82
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND		9.1	9.1
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.4
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		18	5.0
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		18	2.6

QC NONCONFORMANCE DOCUMENTATION

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-159638-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 200-147840/1-A

Matrix: Water Lab File ID: SC092819A007.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 09/27/2019 12:17

Sample wt/vol: 250(mL) Date Analyzed: 09/28/2019 14:46

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 147869 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.07	J	2.0	1.0
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91
335-67-1	Perfluorooctanoic acid (PFOA)	ND		2.0	0.81
375-95-1	Perfluorononanoic acid (PFNA)	ND		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	ND		2.0	0.77
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.78
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.49
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.61
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90
754-91-6	Perfluorooctanesulfonamide (PFOSA)	ND		10	10
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		20	5.5
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		20	2.9

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-159638-1

SDG No.:

Sample No.: CCVIS 200-148176/6 Date Analyzed: 10/07/2019 17:19

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): SC100719A006.d Heated Purge: (Y/N) N

Calibration ID: 42414

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		2767755	3.41				
UPPER LIMIT		4151633	3.61				
LOWER LIMIT		1383878	3.21				
LAB SAMPLE ID	CLIENT SAMPLE ID						
480-159638-1	SFB-MW-B3	864614*	3.41				
CCV 200-148176/20		2836892	3.40				

864,614*5=4,323,070

(4,323,070/2,767,755)*100 = 156%

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537 (MODIFIED)

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\ChromNA\Burlington\ChromData\LC812\20190928-37996.b\SC092819A020.d
Lims ID: 480-159638-E-2-A
Client ID: SFB-MW-S3
Sample Type: Client
Inject. Date: 28-Sep-2019 16:32:59 ALS Bottle#: 17 Worklist Smp#: 20
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 480-159638-E-2-A
Misc. Info.: 200-0037996-020 Plate: 1 Rack: 2
Operator ID: lc812tech Instrument ID: LC812

Method: \\ChromNA\Burlington\ChromData\LC812\20190928-37996.b\PFC_LC812.m
Limit Group: LC_PFC_ICAL
Last Update: 30-Sep-2019 14:21:10 Calib Date: 24-Sep-2019 18:56:37
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\ChromNA\Burlington\ChromData\LC812\20190924-37915.b\SC092419AA015.d

Column 1 : C-18 (4.60 mm) Det: EXP1
Process Host: CTX0331

First Level Reviewer: deannd Date: 30-Sep-2019 11:58:29
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.917	1.926	-0.009	0.565	2382084	1.59		63.7	10017	
2 Perfluorobutanoic acid										M
212.90 > 169.00	1.917	1.926	-0.009	1.000	119276	0.1410			5.4	M
D 3 13C5 PFPeA										
267.90 > 223.00	2.257	2.271	-0.014	0.665	2075052	1.75		70.1	1173	
4 Perfluoropentanoic acid										M
262.90 > 219.00	2.257	2.271	-0.014	1.000	43789	0.0452			0.4	M
5 Perfluorobutanesulfonic acid										RM
298.90 > 80.00	2.285	2.298	-0.013	0.756	27976	0.0297	Target=2.04		0.9	RM
298.90 > 99.00	2.298	2.298	0.0	0.761	9133		3.06(1.02-3.05)		1.0	M
D 7 13C2 PFHxA										
315.00 > 270.00	2.636	2.648	-0.012	0.776	2217498	1.76		70.5	2182	
6 Perfluorohexanoic acid										M
313.00 > 269.00	2.636	2.648	-0.012	1.000	78426	0.0897	Target=12.90		1.1	M
313.00 > 119.00	2.636	2.648	-0.012	1.000	8302		9.45(6.45-19.36)		3.3	M
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.021	3.021	0.0	1.000	11669	0.005436	Target=3.78		0.9	M
399.00 > 99.00	3.021	3.021	0.0	1.000	3471		3.36(1.89-5.67)		1.6	M
D 11 18O2 PFHxS										
403.00 > 84.00	3.021	3.021	0.0	0.890	1635263	1.74		73.6	5159	
D 9 13C4 PFHpA										
367.00 > 322.00	3.021	3.032	-0.011	0.890	2189241	1.80		71.9	3168	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
427.00 > 407.00	3.386	3.386	0.0	1.003	68699	0.4023			542	
D 12 M2-6:2 FTS										
429.00 > 81.00	3.376	3.386	-0.010	0.994	322009	2.11		88.9	84.6	

Data Usability Summary Report

Site: Schatz Federal Bearings
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY
SDG No.: 480-160007-1
Parameters: Volatile Organic Compounds (VOCs)
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 7, 2020

Samples Reviewed and Evaluation Summary

6 Surface Water Samples: SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, SFB-SW-3A, SFB-SW-3B

The above-listed surface water samples were collected on September 25, 2019, and were analyzed for the following parameter:

- VOCs by SW-846 Method 8260C

The data validation was performed in accordance with *USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-017-002),* January 2017, modified for the SW-846 methodology utilized.

The data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
*	•	Blanks
	•	Surrogate Recoveries
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
	•	Sample Results and Reported Quantitation Limits (QLs)
*	•	Target Compound Identification

*	-	All criteria were met.
NA	-	A field duplicate pair was not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. Qualifications applied to the data as a result of sampling error were not required. Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC results that were below the lowest calibration standard and QL. These results were qualified as estimated (J) by the laboratory. These

results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The nondetect results for select VOCs in all samples were qualified as estimated (UJ) due to continuing calibration nonconformances. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

- The positive result for chloroethane in sample SFB-SW-3B was qualified as estimated (J) due to a continuing calibration nonconformance and low recovery in the LCS analysis. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

- The positive result for acetone in sample SFB-SW-2A was qualified as estimated (J+) with a potential high bias due to high surrogate recoveries in this sample. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

- The nondetect results for chloroethane samples SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, and SFB-SW-3A were qualified as estimated (UJ) due to low recovery in the LCS analysis. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package with some exceptions, as described below.

- The laboratory did not report LCS and MS/MSD recoveries, relative percent differences (RPDs), or laboratory acceptance criteria for total xylenes on the summary forms. The recoveries and RPDs were calculated during validation, and the laboratory acceptance limits were provided by the laboratory; no validation actions were taken on this basis.

- The laboratory did not report the results for the initial calibration verification (ICV) analyses. The run logs noted that ICV analyses were performed after each calibration sequence, but the ICV results were not provided. Since the ICV analyses are not used to qualify sample data, no further action was required.

- The Chain-of-Custody (CoC) form for the 480-159817-1 data set indicated only metals analysis (6010C and 7470A) for the trip blank (SFB-TB-09242019); however, the laboratory analyzed that sample for VOCs only. No communication records or relevant comments were included to indicate this was a requested revision from the client. This discrepancy is noted, but no validation actions were required on this basis.

Holding Times and Sample Preservation

All holding time and sample preservation method criteria were met.

GC/MS Tunes

All method acceptance criteria were met.

Initial and Continuing Calibrations

All correlation coefficients, percent relative standard deviations, and relative response factors (RRFs) were within the method acceptance criteria in the initial calibrations associated with this data set.

The following table summarizes the percent differences or percent drifts (%Ds) that did not meet the acceptance criteria in the continuing calibration (CC) standards, the associated samples, and the validation actions. All RRFs were within the acceptance criteria in the CC standards.

CC	Compound	%D	Validation Actions
10/06/2019 @19:39 HP5973S	1,2-Dibromo-3-chloropropane	-22.7	The positive result for chloroethane in sample SFB-SW-3B was qualified as estimated (J). The nondetect results for these VOCs were qualified as estimated (UJ) in the associated samples.
	1,2,4-Trichlorobenzene	-41.4	
	2-Butanone	20.4	
	Bromomethane	-36.4	
	Chloroethane	-39.3	
	Methyl acetate	22.6	
Associated samples: SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, SFB-SW-3A, SFB-SW-3B			

Blanks

Target analytes were not detected in the laboratory method blank.

Surrogate Recoveries

The surrogate percent recoveries (%Rs) met the laboratory acceptance criteria in the sample analyses, with the exception of one sample. The following table summarizes surrogate recoveries outside the acceptance criteria in sample SFB-SW-2A and the resulting validation actions.

Sample ID	Surrogate	%R	%R QC Limits	Validation Action
SFB-SW-2A	Toluene-d8	135	80-120	The positive result for acetone in sample SFB-SW-2A was qualified as estimated (J+) with a potential high bias. Qualification was not required for the other analytes since they were nondetect.
	4-Bromofluorobenzene	135	73-120	

The laboratory narrative made no statement regarding reanalysis of this sample. However, surrogate recoveries were also outside the acceptance criteria in the related MS, MSD, and CC samples; no validation actions were taken on this basis.

MS/MSD Results

MS/MSD analyses were performed on sample SFB-SW-2A. The following table summarizes the MS/MSD results that did not meet the acceptance criteria, the associated sample, and the resulting validation actions.

MS/MSD Sample ID	Compound	MS %R	MSD %R	RPD	MS/MSD %R/RPD QC Limits	Validation Action
SFB-SW-2A	1,1-Dichloroethane	-	133	-	77-120 / 20	Qualification was not required

MS/MSD Sample ID	Compound	MS %R	MSD %R	RPD	MS/MSD %R/RPD QC Limits	Validation Action
	1,2-Dichloropropane	-	128	-	76-120 / 20	since the noted analytes were nondetect in sample SFB-MW-2A.
	Benzene	-	125	-	71-124 / 13	
	Chloromethane	-	132	18	68-124 / 15	
	cis-1,2-Dichloroethene	-	129	-	74-124 / 15	
	Methylene Chloride	-	134	-	75-124 / 15	
	trans-1,2-Dichloroethene	-	133	-	73-127 / 20	
	Trichloroethene	-	127	-	74-123 / 16	

Note that the laboratory did not report MS/MSD %Rs and RPD for total xylenes. The %Rs and RPD were calculated during validation and were within the laboratory's acceptance criteria (%R within 76-122% and RPD ≤16%).

Internal Standards

All internal standards met the method acceptance criteria.

LCS Results

An LCS was analyzed with the VOC analysis batch. The following table summarizes the LCS %R that was outside the acceptance criteria, the associated samples, and the resulting validation actions.

Analyte	LCS %R	LCS %R QC Limits	Validation Actions
Chloroethane	54	69-136	The positive and nondetect results for chloroethane in the associated samples were qualified as estimated (J/UJ). Low bias was not applied to the positive result in sample SFB-SW-3B since this result was also qualified as estimated (J) due to a CC nonconformance; the overall qualification is estimated (J) with no bias for chloroethane in this sample.
Associated samples: SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, SFB-SW-3A, SFB-SW-3B			

Note that the laboratory did not report LCS %R for total xylenes. The LCS %R was calculated during validation and was within the laboratory's acceptance criteria (76-122%).

Field Duplicate Results

No field duplicate pairs were submitted with this sample set.

Sample Results and Reported QLs

Sample calculations were spot-checked, and no errors were noted.

The following table summarizes the dilutions performed for the VOC analyses. QLs were elevated accordingly by the laboratory.

Parameter	Sample ID	Dilution	Reason for Dilution
VOCs	SFB-SW-3A	4-fold	Samples were diluted due to foaming in the initial analysis.
	SFB-SW-3B	2-fold	

Select VOC results were reported below the lowest calibration standard level and QL. These results were qualified as estimated (J) by the laboratory.

Target Compound Identification

All criteria were met.

QUALIFIED FORM 1s

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-1A Lab Sample ID: 480-160007-1

Matrix: Water Lab File ID: S0229.D

Analysis Method: 8260C Date Collected: 09/25/2019 11:20

Sample wt/vol: 5(mL) Date Analyzed: 10/06/2019 23:29

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	~~ND~~	UJ	1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	~~ND~~	UJ	1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	5.7	J	10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	~~ND~~	UJ	1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	~~ND~~	~~*~~ UJ	1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-1A Lab Sample ID: 480-160007-1

Matrix: Water Lab File ID: S0229.D

Analysis Method: 8260C Date Collected: 09/25/2019 11:20

Sample wt/vol: 5(mL) Date Analyzed: 10/06/2019 23:29

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	113		77-120
460-00-4	4-Bromofluorobenzene (Surr)	114		73-120
1868-53-7	Dibromofluoromethane (Surr)	118		75-123
2037-26-5	Toluene-d8 (Surr)	111		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-1B Lab Sample ID: 480-160007-2

Matrix: Water Lab File ID: S0230.D

Analysis Method: 8260C Date Collected: 09/25/2019 11:30

Sample wt/vol: 5(mL) Date Analyzed: 10/06/2019 23:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	~~ND~~	UJ	1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	~~ND~~	UJ	1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	ND		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	~~ND~~	UJ	1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	~~ND~~	UJ	1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-1B Lab Sample ID: 480-160007-2

Matrix: Water Lab File ID: S0230.D

Analysis Method: 8260C Date Collected: 09/25/2019 11:30

Sample wt/vol: 5(mL) Date Analyzed: 10/06/2019 23:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	116		77-120
460-00-4	4-Bromofluorobenzene (Surr)	111		73-120
1868-53-7	Dibromofluoromethane (Surr)	114		75-123
2037-26-5	Toluene-d8 (Surr)	114		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-2A Lab Sample ID: 480-160007-3

Matrix: Water Lab File ID: S0231.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:45

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 00:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND	~~F1~~	1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	~~ND~~	UJ	1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	~~ND~~	UJ	1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND	~~F1~~	1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	15	J+	10	3.0
71-43-2	Benzene	ND	~~F1~~	1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	~~ND~~	UJ	1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	~~ND~~	UJ	1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND	~~F2 F1~~	1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND	~~F1~~	1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-2A Lab Sample ID: 480-160007-3

Matrix: Water Lab File ID: S0231.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:45

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 00:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND	~~F1~~	1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND	~~F1~~	1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND	~~F1~~	1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	114		77-120
460-00-4	4-Bromofluorobenzene (Surr)	135	X	73-120
1868-53-7	Dibromofluoromethane (Surr)	118		75-123
2037-26-5	Toluene-d8 (Surr)	135	X	80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-2B Lab Sample ID: 480-160007-4

Matrix: Water Lab File ID: S0232.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:30

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 00:38

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.82
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.21
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.23
75-34-3	1,1-Dichloroethane	ND		1.0	0.38
75-35-4	1,1-Dichloroethene	ND		1.0	0.29
120-82-1	1,2,4-Trichlorobenzene	~~ND~~	UJ	1.0	0.41
96-12-8	1,2-Dibromo-3-Chloropropane	~~ND~~	UJ	1.0	0.39
106-93-4	1,2-Dibromoethane	ND		1.0	0.73
95-50-1	1,2-Dichlorobenzene	ND		1.0	0.79
107-06-2	1,2-Dichloroethane	ND		1.0	0.21
78-87-5	1,2-Dichloropropane	ND		1.0	0.72
541-73-1	1,3-Dichlorobenzene	ND		1.0	0.78
106-46-7	1,4-Dichlorobenzene	ND		1.0	0.84
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	10	1.3
591-78-6	2-Hexanone	ND		5.0	1.2
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1
67-64-1	Acetone	37		10	3.0
71-43-2	Benzene	ND		1.0	0.41
75-27-4	Bromodichloromethane	ND		1.0	0.39
75-25-2	Bromoform	ND		1.0	0.26
74-83-9	Bromomethane	~~ND~~	UJ	1.0	0.69
75-15-0	Carbon disulfide	ND		1.0	0.19
56-23-5	Carbon tetrachloride	ND		1.0	0.27
108-90-7	Chlorobenzene	ND		1.0	0.75
75-00-3	Chloroethane	~~ND~~	* UJ	1.0	0.32
67-66-3	Chloroform	ND		1.0	0.34
74-87-3	Chloromethane	ND		1.0	0.35
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.81
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.36
110-82-7	Cyclohexane	ND		1.0	0.18
124-48-1	Dibromochloromethane	ND		1.0	0.32
75-71-8	Dichlorodifluoromethane	ND		1.0	0.68
100-41-4	Ethylbenzene	ND		1.0	0.74
98-82-8	Isopropylbenzene	ND		1.0	0.79

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-2B Lab Sample ID: 480-160007-4

Matrix: Water Lab File ID: S0232.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:30

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 00:38

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	2.5	1.3
1634-04-4	Methyl tert-butyl ether	ND		1.0	0.16
108-87-2	Methylcyclohexane	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		1.0	0.44
100-42-5	Styrene	ND		1.0	0.73
127-18-4	Tetrachloroethene	ND		1.0	0.36
108-88-3	Toluene	ND		1.0	0.51
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.90
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.37
79-01-6	Trichloroethene	ND		1.0	0.46
75-69-4	Trichlorofluoromethane	ND		1.0	0.88
75-01-4	Vinyl chloride	ND		1.0	0.90
1330-20-7	Xylenes, Total	ND		2.0	0.66

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		77-120
460-00-4	4-Bromofluorobenzene (Surr)	112		73-120
1868-53-7	Dibromofluoromethane (Surr)	114		75-123
2037-26-5	Toluene-d8 (Surr)	112		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-3A Lab Sample ID: 480-160007-5

Matrix: Water Lab File ID: S0233.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:10

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 01:01

Soil Aliquot Vol: Dilution Factor: 4

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		4.0	3.3
79-34-5	1,1,2,2-Tetrachloroethane	ND		4.0	0.84
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2
79-00-5	1,1,2-Trichloroethane	ND		4.0	0.92
75-34-3	1,1-Dichloroethane	ND		4.0	1.5
75-35-4	1,1-Dichloroethene	ND		4.0	1.2
120-82-1	1,2,4-Trichlorobenzene	~~ND~~	UJ	4.0	1.6
96-12-8	1,2-Dibromo-3-Chloropropane	~~ND~~	UJ	4.0	1.6
106-93-4	1,2-Dibromoethane	ND		4.0	2.9
95-50-1	1,2-Dichlorobenzene	ND		4.0	3.2
107-06-2	1,2-Dichloroethane	ND		4.0	0.84
78-87-5	1,2-Dichloropropane	ND		4.0	2.9
541-73-1	1,3-Dichlorobenzene	ND		4.0	3.1
106-46-7	1,4-Dichlorobenzene	ND		4.0	3.4
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	40	5.3
591-78-6	2-Hexanone	ND		20	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		20	8.4
67-64-1	Acetone	ND		40	12
71-43-2	Benzene	ND		4.0	1.6
75-27-4	Bromodichloromethane	ND		4.0	1.6
75-25-2	Bromoform	ND		4.0	1.0
74-83-9	Bromomethane	~~ND~~	UJ	4.0	2.8
75-15-0	Carbon disulfide	ND		4.0	0.76
56-23-5	Carbon tetrachloride	ND		4.0	1.1
108-90-7	Chlorobenzene	ND		4.0	3.0
75-00-3	Chloroethane	~~ND~~	* UJ	4.0	1.3
67-66-3	Chloroform	ND		4.0	1.4
74-87-3	Chloromethane	ND		4.0	1.4
156-59-2	cis-1,2-Dichloroethene	ND		4.0	3.2
10061-01-5	cis-1,3-Dichloropropene	ND		4.0	1.4
110-82-7	Cyclohexane	ND		4.0	0.72
124-48-1	Dibromochloromethane	ND		4.0	1.3
75-71-8	Dichlorodifluoromethane	ND		4.0	2.7
100-41-4	Ethylbenzene	ND		4.0	3.0
98-82-8	Isopropylbenzene	ND		4.0	3.2

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-3A Lab Sample ID: 480-160007-5

Matrix: Water Lab File ID: S0233.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:10

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 01:01

Soil Aliquot Vol: Dilution Factor: 4

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	10	5.2
1634-04-4	Methyl tert-butyl ether	ND		4.0	0.64
108-87-2	Methylcyclohexane	ND		4.0	0.64
75-09-2	Methylene Chloride	ND		4.0	1.8
100-42-5	Styrene	ND		4.0	2.9
127-18-4	Tetrachloroethene	ND		4.0	1.4
108-88-3	Toluene	ND		4.0	2.0
156-60-5	trans-1,2-Dichloroethene	ND		4.0	3.6
10061-02-6	trans-1,3-Dichloropropene	ND		4.0	1.5
79-01-6	Trichloroethene	ND		4.0	1.8
75-69-4	Trichlorofluoromethane	ND		4.0	3.5
75-01-4	Vinyl chloride	ND		4.0	3.6
1330-20-7	Xylenes, Total	ND		8.0	2.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		77-120
460-00-4	4-Bromofluorobenzene (Surr)	99		73-120
1868-53-7	Dibromofluoromethane (Surr)	118		75-123
2037-26-5	Toluene-d8 (Surr)	114		80-120

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-3B Lab Sample ID: 480-160007-6

Matrix: Water Lab File ID: S0234.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:00

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 01:24

Soil Aliquot Vol: Dilution Factor: 2

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		2.0	1.6
79-34-5	1,1,2,2-Tetrachloroethane	ND		2.0	0.42
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62
79-00-5	1,1,2-Trichloroethane	ND		2.0	0.46
75-34-3	1,1-Dichloroethane	ND		2.0	0.76
75-35-4	1,1-Dichloroethene	ND		2.0	0.58
120-82-1	1,2,4-Trichlorobenzene	~~ND~~	UJ	2.0	0.82
96-12-8	1,2-Dibromo-3-Chloropropane	~~ND~~	UJ	2.0	0.78
106-93-4	1,2-Dibromoethane	ND		2.0	1.5
95-50-1	1,2-Dichlorobenzene	ND		2.0	1.6
107-06-2	1,2-Dichloroethane	ND		2.0	0.42
78-87-5	1,2-Dichloropropane	ND		2.0	1.4
541-73-1	1,3-Dichlorobenzene	ND		2.0	1.6
106-46-7	1,4-Dichlorobenzene	ND		2.0	1.7
78-93-3	2-Butanone (MEK)	~~ND~~	UJ	20	2.6
591-78-6	2-Hexanone	ND		10	2.5
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		10	4.2
67-64-1	Acetone	22		20	6.0
71-43-2	Benzene	ND		2.0	0.82
75-27-4	Bromodichloromethane	ND		2.0	0.78
75-25-2	Bromoform	ND		2.0	0.52
74-83-9	Bromomethane	~~ND~~	UJ	2.0	1.4
75-15-0	Carbon disulfide	ND		2.0	0.38
56-23-5	Carbon tetrachloride	ND		2.0	0.54
108-90-7	Chlorobenzene	ND		2.0	1.5
75-00-3	Chloroethane	13	~~*~~ J	2.0	0.64
67-66-3	Chloroform	ND		2.0	0.68
74-87-3	Chloromethane	ND		2.0	0.70
156-59-2	cis-1,2-Dichloroethene	ND		2.0	1.6
10061-01-5	cis-1,3-Dichloropropene	ND		2.0	0.72
110-82-7	Cyclohexane	ND		2.0	0.36
124-48-1	Dibromochloromethane	ND		2.0	0.64
75-71-8	Dichlorodifluoromethane	ND		2.0	1.4
100-41-4	Ethylbenzene	ND		2.0	1.5
98-82-8	Isopropylbenzene	ND		2.0	1.6

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Client Sample ID: SFB-SW-3B Lab Sample ID: 480-160007-6

Matrix: Water Lab File ID: S0234.D

Analysis Method: 8260C Date Collected: 09/25/2019 12:00

Sample wt/vol: 5(mL) Date Analyzed: 10/07/2019 01:24

Soil Aliquot Vol: Dilution Factor: 2

Soil Extract Vol.: GC Column: ZB-624 (20) ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 496235 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-20-9	Methyl acetate	~~ND~~	UJ	5.0	2.6
1634-04-4	Methyl tert-butyl ether	ND		2.0	0.32
108-87-2	Methylcyclohexane	ND		2.0	0.32
75-09-2	Methylene Chloride	ND		2.0	0.88
100-42-5	Styrene	ND		2.0	1.5
127-18-4	Tetrachloroethene	ND		2.0	0.72
108-88-3	Toluene	ND		2.0	1.0
156-60-5	trans-1,2-Dichloroethene	ND		2.0	1.8
10061-02-6	trans-1,3-Dichloropropene	ND		2.0	0.74
79-01-6	Trichloroethene	ND		2.0	0.92
75-69-4	Trichlorofluoromethane	ND		2.0	1.8
75-01-4	Vinyl chloride	ND		2.0	1.8
1330-20-7	Xylenes, Total	ND		4.0	1.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	115		77-120
460-00-4	4-Bromofluorobenzene (Surr)	109		73-120
1868-53-7	Dibromofluoromethane (Surr)	113		75-123
2037-26-5	Toluene-d8 (Surr)	111		80-120

QC NONCONFORMANCE DOCUMENTATION

FORM VII

GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Lab Sample ID: CCVIS 480-496235/3 Calibration Date: 10/06/2019 19:39

Instrument ID: HP5973S Calib Start Date: 09/10/2019 14:39

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 09/10/2019 17:20

Lab File ID: S0219.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	1.766	1.445	0.1000	20.5	25.0	-18.1	50.0
Chloromethane	Ave	1.971	1.921	0.1000	24.4	25.0	-2.5	20.0
Butadiene	Ave	1.897	1.937		25.5	25.0	2.1	20.0
Vinyl chloride	Ave	1.650	1.412	0.1000	21.4	25.0	-14.4	20.0
Bromomethane	Ave	1.167	0.7429	0.1000	15.9	25.0	-36.4	50.0
Chloroethane	Ave	1.105	0.6701	0.1000	15.2	25.0	-39.3	50.0
Dichlorofluoromethane	Ave	2.390	1.623		17.0	25.0	-32.1*	20.0
Trichlorofluoromethane	Ave	2.275	1.839	0.1000	20.2	25.0	-19.2	20.0
Ethyl ether	Ave	1.340	1.067		19.9	25.0	-20.4*	20.0
Acrolein	Ave	0.2245	0.2038		113	125	-9.2	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	1.255	1.162	0.1000	23.1	25.0	-7.4	20.0
1,1-Dichloroethene	Ave	1.228	1.100	0.1000	22.4	25.0	-10.4	20.0
Acetone	Ave	0.5189	0.5357	0.1000	129	125	3.2	50.0
Iodomethane	Ave	2.337	2.329		24.9	25.0	-0.3	20.0
Carbon disulfide	Ave	4.017	3.715	0.1000	23.1	25.0	-7.5	20.0
Allyl chloride	Ave	2.451	2.370		24.2	25.0	-3.3	20.0
Methyl acetate	Ave	1.239	1.520	0.1000	61.3	50.0	22.6	50.0
Methylene Chloride	Lin1		1.485	0.1000	26.7	25.0	6.7	20.0
2-Methyl-2-propanol	Ave	0.1059	0.1717		405	250	62.1*	50.0
Methyl tert-butyl ether	Ave	4.030	3.965	0.1000	24.6	25.0	-1.6	20.0
trans-1,2-Dichloroethene	Ave	1.397	1.454	0.1000	26.0	25.0	4.1	20.0
Acrylonitrile	Ave	0.6239	0.7382		296	250	18.3	20.0
Hexane	Ave	2.260	2.115		23.4	25.0	-6.4	20.0
1,1-Dichloroethane	Ave	2.503	2.594	0.2000	25.9	25.0	3.6	20.0
Vinyl acetate	Ave	3.731	3.559		47.7	50.0	-4.6	20.0
2,2-Dichloropropane	Ave	1.469	1.327		22.6	25.0	-9.7	20.0
cis-1,2-Dichloroethene	Ave	1.539	1.629	0.1000	26.5	25.0	5.9	20.0
2-Butanone (MEK)	Ave	0.7507	0.9039	0.1000	151	125	20.4*	20.0
Chlorobromomethane	Ave	0.8090	0.8830		27.3	25.0	9.1	20.0
Tetrahydrofuran	Ave	0.5409	0.5907		54.6	50.0	9.2	20.0
Chloroform	Ave	2.503	2.385	0.2000	23.8	25.0	-4.7	20.0
1,1,1-Trichloroethane	Ave	2.110	1.953	0.1000	23.1	25.0	-7.4	20.0
Cyclohexane	Ave	2.628	2.639	0.1000	25.1	25.0	0.4	20.0
Carbon tetrachloride	Ave	1.889	1.797	0.1000	23.8	25.0	-4.9	20.0
1,1-Dichloropropene	Ave	1.900	1.844		24.3	25.0	-3.0	20.0
Benzene	Ave	5.604	5.773	0.5000	25.8	25.0	3.0	20.0
Isobutyl alcohol	Ave	0.0613	0.0847		863	625	38.0	50.0
1,2-Dichloroethane	Ave	2.192	1.973	0.1000	22.5	25.0	-10.0	20.0
n-Heptane	Ave	2.853	2.334		20.4	25.0	-18.2	20.0
Trichloroethene	Ave	1.447	1.457	0.2000	25.2	25.0	0.7	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Lab Sample ID: CCVIS 480-496235/3 Calibration Date: 10/06/2019 19:39

Instrument ID: HP5973S Calib Start Date: 09/10/2019 14:39

GC Column: ZB-624 (20) ID: 0.18(mm) Calib End Date: 09/10/2019 17:20

Lab File ID: S0219.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.1612	0.1246	0.0500	19.3	25.0	-22.7	50.0
1,2,4-Trichlorobenzene	Ave	1.142	0.6690	0.2000	14.6	25.0	-41.4*	20.0
Hexachlorobutadiene	Ave	0.4956	0.2786		14.1	25.0	-43.8*	20.0
Naphthalene	Ave	2.984	1.548		13.0	25.0	-48.1*	20.0
1,2,3-Trichlorobenzene	Ave	1.033	0.5702		13.8	25.0	-44.8*	20.0
Dibromofluoromethane (Surr)	Ave	1.268	1.413		27.9	25.0	11.4	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.7981	0.8561		26.8	25.0	7.3	20.0
Toluene-d8 (Surr)	Ave	2.476	3.184		32.2	25.0	28.6*	20.0
4-Bromofluorobenzene (Surr)	Ave	0.8963	1.061		29.6	25.0	18.4	20.0

FORM II

GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): ZB-624 (20) ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM	#	DCA	#	TOL	#	BFB	#
SFB-SW-1A	480-160007-1	118		113		111		114	
SFB-SW-1B	480-160007-2	114		116		114		111	
SFB-SW-2A	480-160007-3	118		114		135	X	135	X
SFB-SW-2B	480-160007-4	114		107		112		112	
SFB-SW-3A	480-160007-5	118		112		114		99	
SFB-SW-3B	480-160007-6	113		115		111		109	
	MB 480-496235/7	100		94		115		115	
	LCS 480-496235/5	113		108		115		112	
SFB-SW-2A MS	480-160007-3 MS	117		108		121	X	114	
SFB-SW-2A MSD	480-160007-3 MSD	130	X	117		115		114	

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	75-123
DCA = 1,2-Dichloroethane-d4 (Surr)	77-120
TOL = Toluene-d8 (Surr)	80-120
BFB = 4-Bromofluorobenzene (Surr)	73-120

Column to be used to flag recovery values

FORM II 8260C

FORM III

GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S0243.D

Lab ID: 480-160007-3 MSD Client ID: SFB-SW-2A MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	25.0	31.2	125	12	15	73-126	
1,1,2,2-Tetrachloroethane	25.0	25.3	101	7	15	76-120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.4	114	11	20	61-148	
1,1,2-Trichloroethane	25.0	26.3	105	3	15	76-122	
1,1-Dichloroethane	25.0	33.1	133	10	20	77-120	F1
1,1-Dichloroethene	25.0	30.4	122	11	16	66-127	
1,2,4-Trichlorobenzene	25.0	22.1	89	1	20	79-122	
1,2-Dibromo-3-Chloropropane	25.0	19.0	76	2	15	56-134	
1,2-Dibromoethane	25.0	25.6	102	3	15	77-120	
1,2-Dichlorobenzene	25.0	26.7	107	1	20	80-124	
1,2-Dichloroethane	25.0	26.8	107	8	20	75-120	
1,2-Dichloropropane	25.0	32.0	128	7	20	76-120	F1
1,3-Dichlorobenzene	25.0	26.8	107	3	20	77-120	
1,4-Dichlorobenzene	25.0	26.0	104	1	20	78-124	
2-Butanone (MEK)	125	170	136	11	20	57-140	
2-Hexanone	125	121	97	1	15	65-127	
4-Methyl-2-pentanone (MIBK)	125	124	99	7	35	71-125	
Acetone	125	157	113	13	15	56-142	
Benzene	25.0	31.3	125	9	13	71-124	F1
Bromodichloromethane	25.0	29.1	116	9	15	80-122	
Bromoform	25.0	25.9	103	1	15	61-132	
Bromomethane	25.0	20.9	84	8	15	55-144	
Carbon disulfide	25.0	31.2	125	11	15	59-134	
Carbon tetrachloride	25.0	31.3	125	13	15	72-134	
Chlorobenzene	25.0	28.0	112	1	25	80-120	
Chloroethane	25.0	21.0	84	12	15	69-136	
Chloroform	25.0	30.1	120	12	20	73-127	
Chloromethane	25.0	33.0	132	18	15	68-124	F1 F2
cis-1,2-Dichloroethene	25.0	32.4	129	10	15	74-124	F1
cis-1,3-Dichloropropene	25.0	26.9	107	6	15	74-124	
Cyclohexane	25.0	29.8	119	10	20	59-135	
Dibromochloromethane	25.0	26.7	107	3	15	75-125	
Dichlorodifluoromethane	25.0	21.7	87	9	20	59-135	
Ethylbenzene	25.0	27.7	111	1	15	77-123	
Isopropylbenzene	25.0	27.1	108	11	20	77-122	
Methyl acetate	50.0	63.8	128	12	20	74-133	
Methyl tert-butyl ether	25.0	29.5	118	10	37	77-120	
Methylcyclohexane	25.0	25.7	103	7	20	68-134	
Methylene Chloride	25.0	33.6	134	13	15	75-124	F1
Styrene	25.0	25.7	103	2	20	80-120	
Tetrachloroethene	25.0	30.4	122	3	20	74-122	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S0243.D

Lab ID: 480-160007-3 MSD Client ID: SFB-SW-2A MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Toluene	25.0	28.1	113	4	15	80-122	
trans-1,2-Dichloroethene	25.0	33.3	133	12	20	73-127	F1
trans-1,3-Dichloropropene	25.0	25.1	101	3	15	80-120	
Trichloroethene	25.0	31.7	127	15	16	74-123	F1
Trichlorofluoromethane	25.0	25.5	102	19	20	62-150	
Vinyl chloride	25.0	29.9	120	11	15	65-133	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III

GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S0221.D

Lab ID: LCS 480-496235/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	25.0	21.8	87	73-126	
1,1,2,2-Tetrachloroethane	25.0	23.2	93	76-120	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.9	91	61-148	
1,1,2-Trichloroethane	25.0	23.2	93	76-122	
1,1-Dichloroethane	25.0	24.4	98	77-120	
1,1-Dichloroethene	25.0	22.7	91	66-127	
1,2,4-Trichlorobenzene	25.0	20.6	83	79-122	
1,2-Dibromo-3-Chloropropane	25.0	17.8	71	56-134	
1,2-Dibromoethane	25.0	23.1	92	77-120	
1,2-Dichlorobenzene	25.0	23.7	95	80-124	
1,2-Dichloroethane	25.0	22.0	88	75-120	
1,2-Dichloropropane	25.0	25.3	101	76-120	
1,3-Dichlorobenzene	25.0	23.6	94	77-120	
1,4-Dichlorobenzene	25.0	23.2	93	80-120	
2-Butanone (MEK)	125	147	118	57-140	
2-Hexanone	125	119	95	65-127	
4-Methyl-2-pentanone (MIBK)	125	121	97	71-125	
Acetone	125	133	106	56-142	
Benzene	25.0	24.3	97	71-124	
Bromodichloromethane	25.0	22.8	91	80-122	
Bromoform	25.0	22.2	89	61-132	
Bromomethane	25.0	16.7	67	55-144	
Carbon disulfide	25.0	23.0	92	59-134	
Carbon tetrachloride	25.0	22.2	89	72-134	
Chlorobenzene	25.0	23.8	95	80-120	
Chloroethane	25.0	13.6	54	69-136	*
Chloroform	25.0	22.5	90	73-127	
Chloromethane	25.0	22.5	90	68-124	
cis-1,2-Dichloroethene	25.0	24.5	98	74-124	
cis-1,3-Dichloropropene	25.0	22.1	88	74-124	
Cyclohexane	25.0	23.4	94	59-135	
Dibromochloromethane	25.0	23.4	94	75-125	
Dichlorodifluoromethane	25.0	19.8	79	59-135	
Ethylbenzene	25.0	23.6	95	77-123	
Isopropylbenzene	25.0	22.5	90	77-122	
Methyl acetate	50.0	54.1	108	74-133	
Methyl tert-butyl ether	25.0	23.4	94	77-120	
Methylcyclohexane	25.0	21.8	87	68-134	
Methylene Chloride	25.0	25.4	101	75-124	
Styrene	25.0	23.7	95	80-120	
Tetrachloroethene	25.0	24.1	97	74-122	

Column to be used to flag recovery and RPD values

FORM III 8260C

Data Usability Summary Report

Site: Schatz Federal Bearings
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY
SDG No.: 480-160007-1
Parameters: Metals and Total Suspended Solids
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 10, 2020

Sample Reviewed and Evaluation Summary

6 Surface Water Samples: SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, SFB-SW-3A, SFB-SW-3B

The above-listed surface water samples were collected on September 25, 2019, and were analyzed for the following parameters:

- Total Metals by SW-846 Methods 6010C/7470A
- Total Suspended Solids (TSS) by Standard Method 2540D

The data validation was performed in accordance with *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001),* January 2017, modified for the methodologies utilized.

The data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Initial and Continuing Calibrations
	•	Interference Check Sample (ICS) Results
	•	Blanks
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
NA	•	Laboratory Duplicate Results
*	•	Inductively Coupled Plasma (ICP) Serial Dilution Results
*	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Sample Results and Reported Quantitation Limits (QLs)

* - All criteria were met.
NA - Field duplicates and laboratory duplicates were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for the project objectives. Qualifications applied to the data as a result of sampling error were not required. Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select metals results that were detected between the method detection limit (MDL) and QL. These results were qualified as estimated (J) by the

laboratory. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The nondetect results for antimony in samples SFB-SW-2B and SFB-SW-3A were qualified as estimated (UJ) due to negative interference in the interference check sample. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

- The positive result for zinc in sample SFB-SW-3B was qualified as estimated (J) due to method blank contamination. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability

- The positive results for aluminum, copper, iron, lead, potassium and zinc were qualified as estimated (J) in al surface water samples due to MS/MSD nonconformances. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package.

Holding Times and Sample Preservation

All holding time and sample preservation criteria were met.

Initial and Continuing Calibrations

All initial calibration correlation coefficients for the metals analyses were >0.995. The initial calibration verification and continuing calibration verification percent recoveries (%Rs) for the metals analyses met the method acceptance limits (90-110%), and the low-level continuing calibration verification %Rs were within the method acceptance limits of 70-130%.

ICS Results

All analytes recovered within the acceptance limits in the ICSAB sample analyses.

Several analytes (antimony, barium, chromium, cobalt, copper, manganese, nickel, and vanadium) were detected as positive or negative interference in the ICSA analysis, at levels exceeding the MDL but below the QL. Interferents (aluminum, calcium, iron, and magnesium) were detected in samples SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, and SFB-SW-3B at concentrations less than 50% of the concentrations spiked into the ICSA; thus, ICS interferences were not evaluated for these samples. The interferent iron was detected in samples SFB-SW-2B and SFB-SW-3A at levels comparable to the ICSA spike concentration; therefore, the relevant analytes were evaluated for potential interference in these samples.

- The nondetect results for antimony in samples SFB-SW-2B and SFB-SW-3A were qualified as estimated (UJ) due to the negative interference.

- All other relevant analytes were detected in these samples at concentrations exceeding the estimated interference levels, or they were detected at concentrations greater than 10× the negative interference in the associated ICSA. No further validation actions were required.

Blanks

The following table summarizes the metals detected in the associated laboratory method blanks, the concentrations detected, and the resulting validation actions.

Method Blank ID	Analyte	Blank Concentration (mg/L)	Validation Actions
MB 480-495380/1-A	Manganese	0.00204 J	Qualification was not required since the positive results for manganese in the associated samples exceeded 10× the blank concentration.
	Zinc	0.00177 J	The positive result for zinc in sample SFB-SW-3B was qualified as estimated (J) since the result was > the QL and <10× the blank concentration. High bias was not applied since this result was also qualified as estimated (J) due to low MS recovery and MS/MSD variability; therefore, the overall qualifier is estimated (J) with no bias. Qualification was not required for the remaining zinc results since these results exceeded 10× the blank concentration.
Associated samples: SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, SFB-SW-3A, SFB-SW-3B			

No analytes were detected in the instrument calibration blanks for the metals analyses, and the TSS method blank was nondetect.

MS/MSD Results

MS/MSD analyses for metals and the post digestion spike (PDS) analysis were performed on sample SFB-SW-2A. Qualification of the data is not required in the case of nonconformances when the sample concentration is >4x the spike concentration; thus, these results were not evaluated or summarized in this report. The following table summarizes the MS/MSD %Rs and relative percent differences (RPDs) that were outside the acceptance limits (75-125% for %R; ≤20% for RPD), the associated samples, and the resulting validation actions. Acceptance limits are 80-120% for the PDS %R.

MS/MSD Parent Sample ID	Analyte	MS %R	MSD %R	MS/MSD RPD	PDS %R	Validation Action
SFB-SW-2A	Aluminum	-	136	35	-	The positive results for these analytes in the associated samples were qualified as estimated (J).
	Copper	-	-	21	-	
	Iron	-22	-	47	-	
	Lead	55	-	40	-	
	Potassium	-	131	-	-	
	Zinc	63	-	36	-	
Associated samples: SFB-SW-1A, SFB-SW-1B, SFB-SW-2A, SFB-SW-2B, SFB-SW-3A, SFB-SW-3B						
-: Met criteria						

The PDS %R for calcium was below the acceptance limits; however, qualification was not required since the corresponding MS/MSD and serial dilution results were within the acceptance limits.

Laboratory Duplicate Results

Laboratory duplicate analyses were not performed on any samples in this data set.

ICP Serial Dilution Results

The ICP serial dilution analysis was performed on sample SFB-SW-2A for metals (including mercury). All percent differences (%Ds) for analytes that were reported at >25× the QL in sample SFB-SW-2A were within the acceptance criteria (≤ 10%). No qualifications were required.

LCS Results

LCS analyses were included for the metals and TSS analyses. The LCS %Rs and RPDs met the laboratory-provided acceptance criteria.

Field Duplicate Results

No field duplicate pairs were submitted with this sample set.

Sample Results and Reported Quantitation Limits

Select metal results were reported between the MDL and QL in the associated samples. These results were qualified as estimated (J) by the laboratory.

Sample calculations were spot-checked and no errors were noted.

No dilutions were performed for the metals or TSS analyses.

QUALIFIED FORM 1s

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SW-1A
Lab Sample ID: 480-160007-1
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 11:20
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	22.6	0.20	0.060	mg/L	J		1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.20	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	0.00082	0.0020	0.00030	mg/L	J		1	6010C
7440-43-9	Cadmium	0.0082	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	64.4	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.024	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.016	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.096	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	22.2	0.050	0.019	mg/L	J		1	6010C
7439-92-1	Lead	0.21	0.010	0.0030	mg/L	J		1	6010C
7439-95-4	Magnesium	15.9	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	9.2	0.0030	0.00040	mg/L		B	1	6010C
7440-02-0	Nickel	0.058	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	4.5	0.50	0.10	mg/L	J		1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	20.1	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.031	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.29	0.010	0.0015	mg/L	J	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SW-1B
Lab Sample ID: 480-160007-2
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 11:30
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	37.9	0.20	0.060	mg/L	J		1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.0073	0.015	0.0056	mg/L	J		1	6010C
7440-39-3	Barium	0.24	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	0.0013	0.0020	0.00030	mg/L	J		1	6010C
7440-43-9	Cadmium	0.0015	0.0020	0.00050	mg/L	J		1	6010C
7440-70-2	Calcium	59.4	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.033	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.014	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.032	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	28.0	0.050	0.019	mg/L	J		1	6010C
7439-92-1	Lead	0.063	0.010	0.0030	mg/L	J		1	6010C
7439-95-4	Magnesium	17.7	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	3.2	0.0030	0.00040	mg/L		B	1	6010C
7440-02-0	Nickel	0.034	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	4.8	0.50	0.10	mg/L	J		1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	22.7	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.046	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.15	0.010	0.0015	mg/L	J	B	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SW-2A
Lab Sample ID: 480-160007-3
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:45
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	4.7	0.20	0.060	mg/L	J	~~F1 F2~~	1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.0080	0.015	0.0056	mg/L	J		1	6010C
7440-39-3	Barium	0.16	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	0.0024	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	71.2	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.010	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.0065	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.074	0.010	0.0016	mg/L	J	~~F2~~	1	6010C
7439-89-6	Iron	24.6	0.050	0.019	mg/L	J	~~F1 F2~~	1	6010C
7439-92-1	Lead	0.16	0.010	0.0030	mg/L	J	~~F1 F2~~	1	6010C
7439-95-4	Magnesium	13.7	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	6.3	0.0030	0.00040	mg/L		~~B F2~~	1	6010C
7440-02-0	Nickel	0.017	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	6.0	0.50	0.10	mg/L	J	~~F1~~	1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	20.9	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.0086	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.14	0.010	0.0015	mg/L	J	~~B F1 F2~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SW-2B
Lab Sample ID: 480-160007-4
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:30
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	67.6	0.20	0.060	mg/L	J		1	6010C
7440-36-0	Antimony	~~ND~~	0.020	0.0068	mg/L	UJ		1	6010C
7440-38-2	Arsenic	0.061	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	0.97	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	0.0037	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	0.028	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	122	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.15	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.075	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.97	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	174	0.050	0.019	mg/L	J		1	6010C
7439-92-1	Lead	2.0	0.010	0.0030	mg/L	J		1	6010C
7439-95-4	Magnesium	31.3	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	18.3	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	0.22	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	20.0	0.50	0.10	mg/L	J		1	6010C
7782-49-2	Selenium	0.011	0.025	0.0087	mg/L	J		1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	21.5	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.11	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	1.9	0.010	0.0015	mg/L	J	~~B~~	1	6010C
7439-97-6	Mercury	0.0011	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SW-3A
Lab Sample ID: 480-160007-5
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:10
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	32.0	0.20	0.060	mg/L	J		1	6010C
7440-36-0	Antimony	~~ND~~	0.020	0.0068	mg/L	UJ		1	6010C
7440-38-2	Arsenic	0.038	0.015	0.0056	mg/L			1	6010C
7440-39-3	Barium	1.9	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	0.0016	0.0020	0.00030	mg/L	J		1	6010C
7440-43-9	Cadmium	0.014	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	68.4	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	0.078	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	0.042	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.57	0.010	0.0016	mg/L	J		1	6010C
7439-89-6	Iron	152	0.050	0.019	mg/L	J		1	6010C
7439-92-1	Lead	0.72	0.010	0.0030	mg/L	J		1	6010C
7439-95-4	Magnesium	21.3	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	10.4	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	0.12	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	11.9	0.50	0.10	mg/L	J		1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	12.0	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	0.056	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	1.0	0.010	0.0015	mg/L	J	~~B~~	1	6010C
7439-97-6	Mercury	0.00072	0.00020	0.00012	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SW-3B
Lab Sample ID: 480-160007-6
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:00
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	0.15	0.20	0.060	mg/L	~~J~~ J		1	6010C
7440-36-0	Antimony	ND	0.020	0.0068	mg/L			1	6010C
7440-38-2	Arsenic	0.0064	0.015	0.0056	mg/L	J		1	6010C
7440-39-3	Barium	1.2	0.0020	0.00070	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	52.3	0.50	0.10	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0040	0.0010	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0040	0.00063	mg/L			1	6010C
7440-50-8	Copper	0.0023	0.010	0.0016	mg/L	~~J~~ J		1	6010C
7439-89-6	Iron	31.0	0.050	0.019	mg/L	J		1	6010C
7439-92-1	Lead	0.0062	0.010	0.0030	mg/L	~~J~~ J		1	6010C
7439-95-4	Magnesium	12.1	0.20	0.043	mg/L			1	6010C
7439-96-5	Manganese	1.2	0.0030	0.00040	mg/L		~~B~~	1	6010C
7440-02-0	Nickel	ND	0.010	0.0013	mg/L			1	6010C
7440-09-7	Potassium	6.6	0.50	0.10	mg/L	J		1	6010C
7782-49-2	Selenium	ND	0.025	0.0087	mg/L			1	6010C
7440-22-4	Silver	ND	0.0060	0.0017	mg/L			1	6010C
7440-23-5	Sodium	11.2	1.0	0.32	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.010	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0015	mg/L			1	6010C
7440-66-6	Zinc	0.014	0.010	0.0015	mg/L	J	~~B~~	1	6010C
7439-97-6	Mercury	ND	0.00020	0.00012	mg/L			1	7470A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SW-1A
Lab Sample ID: 480-160007-1
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 11:20
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Suspended Solids	20.0	4.0		mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SW-1B
Lab Sample ID: 480-160007-2
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 11:30
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Suspended Solids	21.6	4.0		mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SW-2A
Lab Sample ID: 480-160007-3
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:45
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Suspended Solids	136	4.0		mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SW-2B
Lab Sample ID: 480-160007-4
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:30
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Suspended Solids	182	4.0		mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SW-3A
Lab Sample ID: 480-160007-5
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:10
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Suspended Solids	686	4.0		mg/L			1	SM 2540D

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SW-3B
Lab Sample ID: 480-160007-6
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160007-1
SDG ID.:
Matrix: Water
Date Sampled: 09/25/2019 12:00
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Suspended Solids	164	4.0		mg/L			1	SM 2540D

QC NONCONFORMANCE DOCUMENTATION

4A-IN

INTERFERENCE CHECK STANDARD

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Lab Sample ID: ICSA 480-496414/8 Instrument ID: ICAP1

Lab File ID: I1100719A-1.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**499**	**100**
Antimony		**-0.0136**	
Arsenic		**-0.0038**	
Barium		**0.0016**	
Beryllium		**0.0000**	
Cadmium		**0.0001**	
Calcium	**500**	**475**	**95**
Chromium		**0.0032**	
Cobalt		**-0.0007**	
Copper		**-0.0031**	
Iron	**200**	**189**	**94**
Lead		**0.0001**	
Magnesium	**500**	**500**	**100**
Manganese		**0.0023**	
Nickel		**-0.0028**	
Potassium		**0.0132**	
Selenium		**-0.0007**	
Silver		**0.0003**	
Sodium		**0.184**	
Thallium		**0.0016**	
Vanadium		**-0.0016**	
Zinc		**0.0011**	
Boron		*-0.0004*	
Lithium		*0.0029*	
Molybdenum		*0.0010*	
Silicon		*0.0285*	
Strontium		*-0.0091*	
Sulfur		*-0.0923*	
Tin		*-0.0017*	
Titanium		*0.0008*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

3-IN

METHOD BLANK

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 480-495380/1-A

Instrument Code: ICAP1 Batch No.: 496414

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	0.00204	J		6010C
7440-02-0	Nickel	ND			6010C
7440-09-7	Potassium	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C
7440-23-5	Sodium	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00177	J		6010C

5A-IN

MATRIX SPIKE SAMPLE RECOVERY

METALS

Client ID: SFB-SW-2A MS | Lab ID: 480-160007-3 MS

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-160007-1

SDG No.:

Matrix: Water | Concentration Units: mg/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	12.78		4.7		10.0	81	75-125		6010C
Antimony	0.244		ND		0.200	122	75-125		6010C
Arsenic	0.234		0.0080	J	0.200	113	75-125		6010C
Barium	0.340		0.16		0.200	89	75-125		6010C
Beryllium	0.224		ND		0.200	112	75-125		6010C
Cadmium	0.228		0.0024		0.200	113	75-125		6010C
Calcium	80.07		71.2		10.0	88	75-125	4	6010C
Chromium	0.218		0.010		0.200	104	75-125		6010C
Cobalt	0.212		0.0065		0.200	103	75-125		6010C
Copper	0.236		0.074		0.200	81	75-125		6010C
Iron	22.31		24.6		10.0	-22	75-125	F1	6010C
Lead	0.273		0.16		0.200	55	75-125	F1	6010C
Magnesium	24.02		13.7		10.0	103	75-125		6010C
Manganese	5.85		6.3		0.200	-205	75-125	4	6010C
Nickel	0.226		0.017		0.200	105	75-125		6010C
Potassium	16.48		6.0		10.0	104	75-125		6010C
Selenium	0.217		ND		0.200	109	75-125		6010C
Silver	0.0538		ND		0.0500	108	75-125		6010C
Sodium	31.85		20.9		10.0	109	75-125		6010C
Thallium	0.215		ND		0.200	108	75-125		6010C
Vanadium	0.223		0.0086		0.200	107	75-125		6010C
Zinc	0.269		0.14		0.200	63	75-125	F1	6010C
Mercury	0.00720		ND		0.00667	108	80-120		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: SFB-SW-2A MSD | Lab ID: 480-160007-3 MSD

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-160007-1

SDG No.:

Matrix: Water | Concentration Units: mg/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	18.24		10.0	136	75-125	35	20	F1 F2	6010C
Antimony	0.230		0.200	115	75-125	6	20		6010C
Arsenic	0.234		0.200	113	75-125	0	20		6010C
Barium	0.412		0.200	125	75-125	19	20		6010C
Beryllium	0.212		0.200	106	75-125	5	20		6010C
Cadmium	0.219		0.200	108	75-125	4	20		6010C
Calcium	79.31		10.0	81	75-125	1	20	4	6010C
Chromium	0.218		0.200	104	75-125	0	20		6010C
Cobalt	0.209		0.200	101	75-125	2	20		6010C
Copper	0.291		0.200	109	75-125	21	20	F2	6010C
Iron	36.19		10.0	116	75-125	47	20	F2	6010C
Lead	0.411		0.200	124	75-125	40	20	F2	6010C
Magnesium	24.23		10.0	105	75-125	1	20		6010C
Manganese	7.26		0.200	501	75-125	22	20	4 F2	6010C
Nickel	0.230		0.200	107	75-125	2	20		6010C
Potassium	19.11		10.0	131	75-125	15	20	F1	6010C
Selenium	0.218		0.200	109	75-125	0	20		6010C
Silver	0.0515		0.0500	103	75-125	4	20		6010C
Sodium	30.18		10.0	93	75-125	5	20		6010C
Thallium	0.205		0.200	103	75-125	5	20		6010C
Vanadium	0.225		0.200	108	75-125	1	20		6010C
Zinc	0.387		0.200	122	75-125	36	20	F2	6010C
Mercury	0.00700		0.00667	105	80-120	3	20		7470A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN

POST DIGESTION SPIKE SAMPLE RECOVERY

METALS

Client ID: SFB-SW-2A PDS Lab ID: 480-160007-3 PDS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160007-1

SDG No.:

Matrix: Water Concentration Units: mg/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	14.78		4.7		10.0	101	80-120		6010C
Antimony	0.236		ND		0.200	118	80-120		6010C
Arsenic	0.232		0.0080	J	0.200	112	80-120		6010C
Barium	0.367		0.16		0.200	103	80-120		6010C
Beryllium	0.214		ND		0.200	107	80-120		6010C
Cadmium	0.220		0.0024		0.200	109	80-120		6010C
Calcium	76.75		71.2		10.0	55	80-120	W	6010C
Chromium	0.215		0.010		0.200	102	80-120		6010C
Cobalt	0.208		0.0065		0.200	101	80-120		6010C
Copper	0.274		0.074		0.200	100	80-120		6010C
Iron	33.37		24.6		10.0	88	80-120		6010C
Lead	0.362		0.16		0.200	99	80-120		6010C
Magnesium	23.41		13.7		10.0	97	80-120		6010C
Manganese	6.11		6.3		0.200	NC	80-120		6010C
Nickel	0.227		0.017		0.200	105	80-120		6010C
Potassium	15.83		6.0		10.0	98	80-120		6010C
Selenium	0.222		ND		0.200	111	80-120		6010C
Silver	0.0527		ND		0.0500	105	80-120		6010C
Sodium	29.92		20.9		10.0	90	80-120		6010C
Thallium	0.208		ND		0.200	104	80-120		6010C
Vanadium	0.219		0.0086		0.200	105	80-120		6010C
Zinc	0.343		0.14		0.200	100	80-120		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

Data Usability Summary Report

Site: Schatz Federal Bearings
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY
SDG No's: 480-160006-1
Parameters: Polychlorinated Biphenyls (PCBs)
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 14, 2020

Samples Reviewed and Evaluation Summary

6 Sediment Samples: SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B, SFB-SED-3A, SFB-SED-3B

The above-listed sediment samples were collected on September 25, 2019, and were analyzed for the following parameter:

- PCB Aroclors by EPA SW-846 Method 8082A

The data validation was performed in accordance with *USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-017-002),* January 2017, modified for the SW-846 methodology utilized.

The data were evaluated based on the following parameters:

	• Overall Evaluation of Data and Potential Usability Issues
	• Data Completeness
*	• Holding Times and Sample Preservation
	• Initial and Continuing Calibrations
*	• Blanks
	• Surrogate Recoveries
*	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	• Internal Standards
*	• Laboratory Control Sample (LCS) Results
NA	• Field Duplicate Results
	• Percent Solids
	• Sample Results and Reported Quantitation Limits (QLs)
	• Target Compound Identification

* - All criteria were met.
NA - A field duplicate pair was not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. Qualifications applied to the data as a result of sampling error are discussed below.

- Nondetect results for the Aroclors in sample SFB-SED-2A were qualified as estimated (UJ) due to low percent solids. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error were not required.

Data Completeness

The data package was a complete Level IV data deliverable package with two exceptions.

- The laboratory did not report the results for the initial calibration verification (ICV) analyses. The run logs indicated ICV analyses were performed after each calibration sequence, but the results were not provided. Since ICV analyses are not used to qualify sample data, no further action was required.
- The laboratory logged the samples in using the wrong collection date (9/23/19 instead of 9/25/19). Upon request during validation, the laboratory submitted a revised report to reflect the correct date.

Holding Times and Sample Preservation

All holding time and sample preservation method criteria were met for the PCB analyses.

Initial and Continuing Calibrations

All percent relative standard deviations and correlation coefficients were within the method acceptance criteria in the initial calibrations associated with these samples.

The following table summarizes the percent differences or percent drifts (%Ds) that did not meet the acceptance criteria in the continuing calibration (CC) standards, the associated samples, and the validation actions.

CC	Compound	Column 1 %D**	Column 2 %D**	Associated Samples*	Validation Action
10/07/19 @14:19 HP6890-6	Aroclor 1221 Peak 1	30.6	-	SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B, SFB-SED-3A, SFB-SED-3B	Qualification was not required since the %Ds on column 2 were acceptable, and the affected Aroclors were not detected in the associated samples.
10/07/19 @14:32 HP6890-6	Aroclor 1232 Peak 1	34.4	-		
	Aroclor 1232 Peak 2	30.9	-		
	Aroclor 1232 Peak 4	26.5	-		
	Aroclor 1232 Peak 5	30.5	-		
10/07/19 @14:45 HP6890-6	Aroclor 1242 Peak 1	26.9	-		
	Aroclor 1242 Peak 2	23.1	-		
10/07/19 @14:58 HP6890-6	Aroclor 1248 Peak 2	24.1	-		
	Aroclor 1248 Peak 3	26.1	-		
	Aroclor 1248 Peak 4	23.8	-		
10/07/19 @20:16 HP6890-6	Aroclor 1260 Peak 1	-	-35.5	SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B	Qualification was not required since the %Ds on column 1 were acceptable and Aroclor 1260 was not detected in the associated samples.
	Aroclor 1260 Peak 2	-	-28.2		
	Aroclor 1260 Peak 3	-	-24.5		
	Aroclor 1260 Peak 5	-	-34.3		
10/08/19 @00:57 HP6890-6	Aroclor 1260 Peak 1	-	-31.0	SFB-SED-3A, SFB-SED-3B	Qualification was not required since Aroclor 1260 was nondetect and the average %D on column 1 was <20%.
	Aroclor 1260 Peak 2	-	-24.6		
	Aroclor 1260 Peak 3	-	-23.2		
	Aroclor 1260 Peak 4	22.9	-		

CC	Compound	Column 1 %D**	Column 2 %D**	Associated Samples*	Validation Action
	Aroclor 1260 Peak 5	-	-34.2		

-: Met criteria
* Bracketing CCVs were not used to qualify the samples since an internal standard was used for quantitation; thus, bracketing CCVs are not required.
**Column 1 = ZB-35; Column 2 = ZB-5.

Blanks

Target analytes were not detected in the laboratory method blank.

Surrogate Recoveries

The table below summarizes the surrogate percent recoveries (%Rs) that were outside of the laboratory acceptance limits, the associated samples, and the validation actions.

Sample ID	Dilution	Surrogate	Column 1 %R**	Column 2 %R**	Validation Action
SFB-SED-1A	None	DCBP	60	-	Qualification was not required since PCB Aroclors were not detected in these samples, and the surrogate recovery on column 2 was within the acceptance criteria.
SFB-SED-2A	None	DCBP	52	-	
SFB-SED-2B	None	DCBP	60	-	

DCBP: Decachlorobiphenyl; %R QC Limits = 65-174%
TCMX: Tetrachloro-m-xylene; %R QC Limits = 60-154%
-: Met criteria
**Column 1 = ZB-35; Column 2 = ZB-5.

MS/MSD Results

MS/MSD analyses were performed on sample SFB-SED-2A. The MS/MSD samples were spiked with Aroclor 1016 and Aroclor 1260 only. The MS/MSD %Rs and relative percent differences (RPDs) were within the laboratory acceptance criteria.

Internal Standards

All internal standards met the method acceptance criteria.

LCS Results

All laboratory acceptance criteria were met in the LCS analyses.

Field Duplicate Results

A field duplicate pair was not submitted with this sample set.

Percent Solids

Sample SFB-SED-2A contained <30% solids (22.5%). The nondetect results for all Aroclors in this sample were qualified as estimated (UJ).

Sample Results and Reported QLs

Sample calculations were spot-checked, and no errors were observed.

No dilutions were performed on samples in this data set. However, the laboratory used the medium/high concentration extraction procedure and thus used a 2-gram rather than a 30-gram aliquot which is typically used for a low concentration extraction procedure. The QLs were elevated accordingly, but there was no impact on meeting the project action limits.

Target Compound Identification

The dual column RPDs were within the acceptance limits (≤40%) in the PCB analyses.

The laboratory reported the lower result from the dual column analysis for PCB analyses with the exception of Aroclor 1254 in sample SFB-SED-3A. These results were changed on the Form I to reflect the lower result from the dual column analysis.

The laboratory reported a detection of Aroclor 1254 in sample SFB-SED-2B at a concentration below the QL. In this sample, Aroclor 1254 was only detected above the MDL on one of the columns and, therefore, was not confirmed. The result for Aroclor 1254 in this sample was changed during validation to a nondetect result. This revision is noted on the Form I.

QUALIFIED FORM 1s

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-1A Lab Sample ID: 480-160006-1

Matrix: Solid Lab File ID: 6_039-128.D

Analysis Method: 8082A Date Collected: 09/23/2019 11:15

Extraction Method: 3550C Date Extracted: 10/05/2019 06:06

Sample wt/vol: 2.43(g) Date Analyzed: 10/08/2019 00:19

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: ZB-35 ID: 0.53(mm)

% Moisture: 56.0 GPC Cleanup:(Y/N) N

Analysis Batch No.: 496358 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.47	0.091
11104-28-2	PCB-1221	ND		0.47	0.091
11141-16-5	PCB-1232	ND		0.47	0.091
53469-21-9	PCB-1242	ND		0.47	0.091
12672-29-6	PCB-1248	ND		0.47	0.091
11097-69-1	PCB-1254	ND		0.47	0.22
11096-82-5	PCB-1260	ND		0.47	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	90		60-154
2051-24-3	DCB Decachlorobiphenyl	60	X	65-174

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-1B Lab Sample ID: 480-160006-2

Matrix: Solid Lab File ID: 6_039-129.D

Analysis Method: 8082A Date Collected: 09/23/2019 11:20

Extraction Method: 3550C Date Extracted: 10/05/2019 06:06

Sample wt/vol: 2.24(g) Date Analyzed: 10/08/2019 00:32

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: ZB-35 ID: 0.53(mm)

% Moisture: 58.0 GPC Cleanup:(Y/N) N

Analysis Batch No.: 496358 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.53	0.10
11104-28-2	PCB-1221	ND		0.53	0.10
11141-16-5	PCB-1232	ND		0.53	0.10
53469-21-9	PCB-1242	ND		0.53	0.10
12672-29-6	PCB-1248	ND		0.53	0.10
11097-69-1	PCB-1254	ND		0.53	0.25
11096-82-5	PCB-1260	ND		0.53	0.25

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	94		60-154
2051-24-3	DCB Decachlorobiphenyl	68		65-174

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-2A Lab Sample ID: 480-160006-3

Matrix: Solid Lab File ID: 6_039-121.D

Analysis Method: 8082A Date Collected: 09/23/2019 12:45

Extraction Method: 3550C Date Extracted: 10/05/2019 06:06

Sample wt/vol: 2.41(g) Date Analyzed: 10/07/2019 22:49

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: ZB-35 ID: 0.53(mm)

% Moisture: 77.4 %Solids = 22.5% GPC Cleanup:(Y/N) N

Analysis Batch No.: 496358 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	~~ND~~	UJ	0.92	0.18
11104-28-2	PCB-1221	~~ND~~	UJ	0.92	0.18
11141-16-5	PCB-1232	~~ND~~	UJ	0.92	0.18
53469-21-9	PCB-1242	~~ND~~	UJ	0.92	0.18
12672-29-6	PCB-1248	~~ND~~	UJ	0.92	0.18
11097-69-1	PCB-1254	~~ND~~	UJ	0.92	0.43
11096-82-5	PCB-1260	~~ND~~	UJ	0.92	0.43

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	83		60-154
2051-24-3	DCB Decachlorobiphenyl	52	X	65-174

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-2B Lab Sample ID: 480-160006-4

Matrix: Solid Lab File ID: 6_039-130.D

Analysis Method: 8082A Date Collected: 09/23/2019 12:30

Extraction Method: 3550C Date Extracted: 10/05/2019 06:06

Sample wt/vol: 2.05(g) Date Analyzed: 10/08/2019 00:45

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: ZB-35 ID: 0.53(mm)

% Moisture: 41.6 GPC Cleanup:(Y/N) N

Analysis Batch No.: 496358 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.42	0.082
11104-28-2	PCB-1221	ND		0.42	0.082
11141-16-5	PCB-1232	ND		0.42	0.082
53469-21-9	PCB-1242	ND		0.42	0.082
12672-29-6	PCB-1248	ND		0.42	0.082
11097-69-1	PCB-1254	ND ~~0.28~~	~~J~~	0.42	0.20
11096-82-5	PCB-1260	ND		0.42	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	87		60-154
2051-24-3	DCB Decachlorobiphenyl	60	X	65-174

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-3A Lab Sample ID: 480-160006-5

Matrix: Solid Lab File ID: 6_039-133.D

Analysis Method: 8082A Date Collected: 09/23/2019 12:05

Extraction Method: 3550C Date Extracted: 10/05/2019 06:06

Sample wt/vol: 2.15(g) Date Analyzed: 10/08/2019 01:23

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: ZB-35 ID: 0.53(mm)

% Moisture: 21.4 GPC Cleanup:(Y/N) N

Analysis Batch No.: 496358 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.30	0.058
11104-28-2	PCB-1221	ND		0.30	0.058
11141-16-5	PCB-1232	ND		0.30	0.058
53469-21-9	PCB-1242	ND		0.30	0.058
12672-29-6	PCB-1248	ND		0.30	0.058
11097-69-1	PCB-1254	0.78 ~~0.83~~		0.30	0.14
11096-82-5	PCB-1260	ND		0.30	0.14

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	92		60-154
2051-24-3	DCB Decachlorobiphenyl	70		65-174

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-3B Lab Sample ID: 480-160006-6

Matrix: Solid Lab File ID: 6_039-134.D

Analysis Method: 8082A Date Collected: 09/23/2019 11:55

Extraction Method: 3550C Date Extracted: 10/05/2019 06:06

Sample wt/vol: 2.64(g) Date Analyzed: 10/08/2019 01:36

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: ZB-35 ID: 0.53(mm)

% Moisture: 20.4 GPC Cleanup:(Y/N) N

Analysis Batch No.: 496358 Units: mg/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.24	0.047
11104-28-2	PCB-1221	ND		0.24	0.047
11141-16-5	PCB-1232	ND		0.24	0.047
53469-21-9	PCB-1242	ND		0.24	0.047
12672-29-6	PCB-1248	ND		0.24	0.047
11097-69-1	PCB-1254	1.1		0.24	0.11
11096-82-5	PCB-1260	ND		0.24	0.11

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	93		60-154
2051-24-3	DCB Decachlorobiphenyl	74		65-174

QC NONCONFORMANCE DOCUMENTATION

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/4 Calibration Date: 10/07/2019 14:19

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 17:23

GC Column: ZB-35 ID: 0.53(mm) Calib End Date: 06/11/2019 17:49

Lab File ID: 6_039-084.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Lin1		0.0098		0.653	0.500	30.6*	20.0
PCB-1221 Peak 2	Lin1		0.0151		0.573	0.500	14.5	20.0
PCB-1221 Peak 3	Lin1		0.0095		0.584	0.500	16.8	20.0
PCB-1221 Peak 4	Lin1		0.0346		0.582	0.500	16.5	20.0
PCB-1254 Peak 1	Ave	0.0530	0.0554		0.523	0.500	4.5	20.0
PCB-1254 Peak 2	Ave	0.0888	0.0895		0.504	0.500	0.8	20.0
PCB-1254 Peak 3	Ave	0.0891	0.0975		0.547	0.500	9.4	20.0
PCB-1254 Peak 4	Ave	0.0483	0.0525		0.544	0.500	8.8	20.0
PCB-1254 Peak 5	Ave	0.0734	0.0800		0.544	0.500	8.9	20.0

1221 average = 19.6

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/5 Calibration Date: 10/07/2019 14:32

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 18:15

GC Column: ZB-35 ID: 0.53(mm) Calib End Date: 06/11/2019 18:40

Lab File ID: 6_039-085.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Lin1		0.0309		0.672	0.500	34.4*	20.0
PCB-1232 Peak 2	Lin1		0.0279		0.654	0.500	30.9*	20.0
PCB-1232 Peak 3	Ave	0.0456	0.0516		0.566	0.500	13.2	20.0
PCB-1232 Peak 4	Lin1		0.0136		0.633	0.500	26.5*	20.0
PCB-1232 Peak 5	Lin1		0.0238		0.653	0.500	30.5*	20.0
PCB-1262 Peak 1	Ave	0.0514	0.0678		0.659	0.500	31.8*	20.0
PCB-1262 Peak 2	Ave	0.0702	0.0970		0.691	0.500	38.2*	20.0
PCB-1262 Peak 3	Ave	0.0578	0.0759		0.657	0.500	31.4*	20.0
PCB-1262 Peak 4	Ave	0.1162	0.1578		0.679	0.500	35.8*	20.0
PCB-1262 Peak 5	Lin1		0.0429		0.642	0.500	28.4*	20.0

1232 average = 27.1

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/6 Calibration Date: 10/07/2019 14:45

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 19:06

GC Column: ZB-35 ID: 0.53(mm) Calib End Date: 06/11/2019 19:32

Lab File ID: 6_039-086.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Lin1		0.0202		0.635	0.500	26.9*	20.0
PCB-1242 Peak 2	Lin1		0.0413		0.615	0.500	23.1*	20.0
PCB-1242 Peak 3	Ave	0.0802	0.0839		0.523	0.500	4.7	20.0
PCB-1242 Peak 4	Lin1		0.0330		0.600	0.500	20.0	20.0
PCB-1242 Peak 5	Lin1		0.0220		0.592	0.500	18.4	20.0
PCB-1268 Peak 1	Ave	0.1197	0.1559		0.651	0.500	30.3*	20.0
PCB-1268 Peak 2	Ave	0.1112	0.1251		0.563	0.500	12.6	20.0
PCB-1268 Peak 3	Ave	0.0865	0.0893		0.516	0.500	3.2	20.0
PCB-1268 Peak 4	Ave	0.2981	0.2813		0.472	0.500	-5.7	20.0
PCB-1268 Peak 5	Lin1		0.0552		0.460	0.500	-7.9	20.0

1242 average = 18.6

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/7 Calibration Date: 10/07/2019 14:58

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 19:57

GC Column: ZB-35 ID: 0.53(mm) Calib End Date: 06/11/2019 20:23

Lab File ID: 6_039-087.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Lin1		0.0534		0.571	0.500	14.2	20.0
PCB-1248 Peak 2	Lin1		0.0384		0.621	0.500	24.1*	20.0
PCB-1248 Peak 3	Lin1		0.0516		0.630	0.500	26.1*	20.0
PCB-1248 Peak 4	Lin1		0.0404		0.619	0.500	23.8*	20.0
PCB-1248 Peak 5	Ave	0.0457	0.0541		0.592	0.500	18.4	20.0

1248 average = 21.3

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/29 Calibration Date: 10/07/2019 20:16

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 14:50

GC Column: ZB-5 ID: 0.53(mm) Calib End Date: 06/11/2019 16:07

Lab File ID: 6_039-109.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0933	0.0819		0.438	0.500	-12.3	20.0
PCB-1016 Peak 2	Lin1		0.0317		0.526	0.500	5.1	20.0
PCB-1016 Peak 3	Lin1		0.0223		0.524	0.500	4.8	20.0
PCB-1016 Peak 4	Lin1		0.0251		0.567	0.500	13.3	20.0
PCB-1016 Peak 5	Lin1		0.0246		0.454	0.500	-9.3	20.0
PCB-1260 Peak 1	Ave	0.0507	0.0327		0.322	0.500	-35.5*	20.0
PCB-1260 Peak 2	Ave	0.0545	0.0391		0.359	0.500	-28.2*	20.0
PCB-1260 Peak 3	Ave	0.0654	0.0493		0.377	0.500	-24.5*	20.0
PCB-1260 Peak 4	Ave	0.0798	0.0680		0.426	0.500	-14.8	20.0
PCB-1260 Peak 5	Ave	0.0404	0.0265		0.329	0.500	-34.3*	20.0
Tetrachloro-m-xylene	Ave	1.246	1.179		0.0118	0.0125	-5.4	20.0
DCB Decachlorobiphenyl	Ave	0.6177	0.4967		0.0101	0.0125	-19.6	20.0

1260 average = -27.5

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/51 Calibration Date: 10/08/2019 00:57

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 14:50

GC Column: ZB-5 ID: 0.53(mm) Calib End Date: 06/11/2019 16:07

Lab File ID: 6_039-131.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0933	0.0843		0.451	0.500	-9.7	20.0
PCB-1016 Peak 2	Lin1		0.0325		0.540	0.500	8.0	20.0
PCB-1016 Peak 3	Lin1		0.0229		0.540	0.500	7.9	20.0
PCB-1016 Peak 4	Lin1		0.0226		0.507	0.500	1.4	20.0
PCB-1016 Peak 5	Lin1		0.0255		0.471	0.500	-5.8	20.0
PCB-1260 Peak 1	Ave	0.0507	0.0350		0.345	0.500	-31.0*	20.0
PCB-1260 Peak 2	Ave	0.0545	0.0411		0.377	0.500	-24.6*	20.0
PCB-1260 Peak 3	Ave	0.0654	0.0502		0.384	0.500	-23.2*	20.0
PCB-1260 Peak 4	Ave	0.0798	0.0671		0.420	0.500	-15.9	20.0
PCB-1260 Peak 5	Ave	0.0404	0.0266		0.329	0.500	-34.2*	20.0
Tetrachloro-m-xylene	Ave	1.246	1.124		0.0113	0.0125	-9.8	20.0
DCB Decachlorobiphenyl	Ave	0.6177	0.4926		0.00997	0.0125	-20.3*	20.0

1260 average = -25.8

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: CCV 480-496358/51 Calibration Date: 10/08/2019 00:57

Instrument ID: HP6890-6 Calib Start Date: 06/11/2019 14:50

GC Column: ZB-35 ID: 0.53(mm) Calib End Date: 06/11/2019 16:07

Lab File ID: 6_039-131.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0981	0.1056		0.538	0.500	7.6	20.0
PCB-1016 Peak 2	Ave	0.0386	0.0412		0.533	0.500	6.6	20.0
PCB-1016 Peak 3	Ave	0.0261	0.0275		0.527	0.500	5.5	20.0
PCB-1016 Peak 4	Ave	0.0474	0.0461		0.486	0.500	-2.7	20.0
PCB-1016 Peak 5	Ave	0.0349	0.0327		0.468	0.500	-6.4	20.0
PCB-1260 Peak 1	Ave	0.0566	0.0605		0.534	0.500	6.9	20.0
PCB-1260 Peak 2	Ave	0.0655	0.0744		0.568	0.500	13.5	20.0
PCB-1260 Peak 3	Ave	0.0538	0.0578		0.537	0.500	7.4	20.0
PCB-1260 Peak 4	Ave	0.0983	0.1208		0.614	0.500	22.9*	20.0
PCB-1260 Peak 5	Ave	0.0594	0.0695		0.585	0.500	17.0	20.0
Tetrachloro-m-xylene	Ave	1.367	1.440		0.0132	0.0125	5.3	20.0
DCB Decachlorobiphenyl	Ave	0.9765	0.6652		0.00851	0.0125	-31.9*	20.0

1260 average = 13.5

FORM II
PCBS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): ZB-35 ID: 0.53(mm) GC Column (2): ZB-5 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCBP1 #	DCBP2 #
SFB-SED-1A	480-160006-1	90	108	60 X	83
SFB-SED-1B	480-160006-2	94	110	68	88
SFB-SED-2A	480-160006-3	83	102	52 X	65
SFB-SED-2B	480-160006-4	87	101	60 X	77
SFB-SED-3A	480-160006-5	92	109	70	104
SFB-SED-3B	480-160006-6	93	111	74	101
	MB 480-496089/1-A	90	83	64 X	70
	LCS 480-496089/2-A	122	144	76	96
SFB-SED-2A MS	480-160006-3 MS	103	127	73	94
SFB-SED-2A MSD	480-160006-3 MSD	101	136	75	103

	QC LIMITS
TCX = Tetrachloro-m-xylene	60-154
DCBP = DCB Decachlorobiphenyl	65-174

Column to be used to flag recovery values

FORM II 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Client Sample ID: SFB-SED-3A Lab Sample ID: 480-160006-5

Instrument ID (1): HP6890-6 Instrument ID (2): HP6890-6

Date Analyzed (1): 10/08/2019 01:23 Date Analyzed (2): 10/08/2019 01:23

GC Column (1): ZB-35 ID: 0.53(mm) GC Column (2): ZB-5 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1254	1	1	3.57	3.56	3.59	0.443	0.83	7.0
		2	3.95	3.93	3.96	0.820		
		3	4.10	4.07	4.10	0.662		
		4	4.40	4.37	4.40	0.697		
		5	4.52	4.50	4.53	1.55		
	2	1	3.89	3.88	3.91	0.591	0.78	
		2	4.07	4.05	4.08	0.371		
		3	4.37	4.36	4.39	0.775		
		4	4.56	4.56	4.59	0.657		
		5	4.98	4.96	4.99	1.49		

The laboratory-reported value is highlighted.
This result was revised to the lower value (circled).

The ID Summary page for sample SFB-SED-2B / 480-160006-4 was omitted.
"Col 1" (ZB-35) Result was 0.28 J mg/Kg (reported)
"Col 2" (ZB-5) Result was ND (0.18 mg/Kg < MDL [0.20 mg/Kg])
This result was revised to the lower result (ND).

Data Usability Summary Report

Site: Schatz Federal Bearings
Laboratory: Eurofins TestAmerica Buffalo – Amherst, NY, and Burlington, VT
SDG No.: 480-160006-1
Parameters: Metals, Total Organic Carbon (TOC)
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: January 15, 2020

Sample Reviewed and Evaluation Summary

6 Sediment Samples: SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B, SFB-SED-3A, SFB-SED-3B

The above-listed sediment samples were collected on September 25, 2019, and were analyzed for the following parameters:

- Metals by SW-846 Methods 6010C/7471B
- TOC by EPA Lloyd Kahn Method

The data validation was performed in accordance with *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA-540-R-2017-001),* January 2017, modified for the methodologies utilized.

The data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Initial and Continuing Calibrations
	•	Interference Check Sample (ICS) Results
	•	Blanks
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
NA	•	Laboratory Duplicate Results
	•	Inductively Coupled Plasma (ICP) Serial Dilution Results
*	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
	•	Percent Solids
*	•	Sample Results and Reported Quantitation Limits (QLs)

*	-	All criteria were met.
NA	-	Field duplicates and laboratory duplicates were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for the project objectives. Qualifications applied to the data as a result of sampling error are discussed below.

- The positive and nondetect results for metals were qualified as estimated (J/UJ), and the positive result for TOC was qualified as estimated (J) in sample SFB-SED-2A due to low

percent solids. These results can be used for project objectives as estimated values and nondetects with estimated QLs, which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select metals results that were detected between the method detection limit (MDL) and QL. These results were qualified as estimated (J) by the laboratory. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive result for thallium in sample SFB-SED-2B was qualified as estimated (J) due to negative interference in the ICSA analysis and detection below the QL. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

- The nondetect results for thallium in samples SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-3A, and SFB-SED-3B were qualified as estimated (UJ) due to negative interference in the ICSA analysis. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

- The positive results for antimony and sodium in all samples; cadmium in sample SFB-SED-1A; and selenium in samples SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-3A, and SFB-SED-3B were qualified as nondetect (U) at the QL due to positive interference in the ICS analysis. The positive results for sodium in all samples were also qualified as nondetect (U) at the QL due to method blank or instrument blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

- The positive results for arsenic and cadmium in samples SFB-SED-3A and SFB-SED-3B were qualified as estimated (J+) with a potential high bias due to positive interference in the ICS analysis. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability

- The positive results for beryllium in samples SFB-SED-1A, SFB-SED-1B, and SFB-SED-2B were qualified as estimated (J+) with a potential high bias, and the positive result for beryllium in sample SFB-SED-2A was qualified as estimated (J) due to instrument blank contamination. High bias was not applied to the qualification in sample SFB-SED-2A since that result was also qualified as estimated (J) due to low percent solids; the overall qualification is estimated (J) with no bias. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for TOC in all samples were qualified as estimated (J) due to low MS recovery and high MS/MSD variability. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for aluminum, barium, calcium, copper, lead, potassium, and zinc in all samples were qualified as estimated (J) due to MS/MSD recovery or precision outside the acceptance limit, with post digestion spike recovery within criteria. The positive results for zinc were also qualified as estimated (J) in all samples due to serial dilution nonconformances. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The nondetect results for selenium in all samples were qualified as estimated (UJ) due to low MS/MSD recovery. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package.

Holding Times and Sample Preservation

All holding time and sample preservation method criteria were met.

Initial and Continuing Calibrations

All initial calibration coefficients were >0.995 for the metals analyses. The initial calibration verification (ICV) and continuing calibration verification (CCV) percent recoveries (%Rs) met the method acceptance limits of 90-110%, and the low-level check standard %Rs met the QC acceptance limits of 70-130% for the metals analyses.

The initial calibration coefficient was >0.995 for the TOC analyses. The ICV and CCV %Rs met the method acceptance limits of 75-125% for the TOC analyses.

ICS Results

All analytes recovered within the acceptance limits in the ICSAB sample analyses.

Several analytes (antimony, arsenic, barium, cadmium, manganese, selenium, sodium, thallium, and vanadium) were detected as positive and/or negative interference in the ICSA analyses, at levels exceeding the MDL but below the QL. The interferent iron was detected in each of the samples at levels comparable to the ICSA solutions; therefore, the noted analytes were evaluated for potential interference in all samples.

- The nondetect results for thallium in samples SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-3A, and SFB-SED-3B were qualified as estimated (UJ) since the negative interferent concentration of thallium in the relevant ICSA analysis exceeded the MDL.

- The positive result for thallium in samples SFB-SED-2B was qualified as estimated (J) since the negative contaminant level for thallium in the associated ISCA analysis exceeded the MDL and the sample concentration was <10x the negative ICS concentration. Low bias was not applied since the result was also qualified as estimated (J) due to detection below the QL; the overall qualification is estimated (J) with no bias.

- The positive results for antimony and sodium in all samples; cadmium in sample SFB-SED-1A; and selenium in samples SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-3A, and SFB-SED-3B were qualified as nondetect (U) at the QL since the results were < the QL and the estimate of interference was >10% of the detected result.

- The positive results for arsenic and cadmium in samples SFB-SED-3A and SFB-SED-3B were qualified as estimated (J+) with a potential high bias since the results were >QL and the estimates of interference were >10% of the detected results for these analytes.

- All other relevant analytes were either nondetect, detected at concentrations exceeding the

estimated interference levels, or detected at concentrations greater than 10× the negative interference in the associated samples; no further validation actions were required.

Blanks

TOC was not detected in the method blank associated with this data set. The following table summarizes the reported metal contaminants in associated laboratory method blanks, the concentrations detected, and the resulting validation actions.

Method Blank ID	Analyte	Blank Concentration (mg/Kg)	Validation Actions
MB 480-495748/1-A	Calcium	3.87 J	Qualification was not required since the calcium and manganese results in the associated samples were >10× the blank concentrations.
	Manganese	0.0550 J	
Associated samples: SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B, SFB-SED-3A, SFB-SED-3B			
MB 480-495748/1-A	Potassium	28.74 J	Qualification was not required since the potassium results in the associated samples were >10× the blank concentration.
	Sodium	32.87 J	The positive results for sodium in the associated samples were qualified as nondetect (U) at the QL since these results were < the QL.
Associated samples: SFB-SED-1A, SFB-SED-1B, SFB-SED-2A			

The following table lists the analytes detected in the calibration blanks that were not already qualified based on the preparation (method) blank. The maximum ICB/CCB concentration was used to qualify the results for all samples in this data set when the metal was detected in all calibration blanks. The following table summarizes the metal contaminants in the relevant instrument calibration blanks by analysis batch, the maximum blank concentration, the associated samples, and the resulting validation actions.

Analyte	Maximum Blank Result (mg/L)	Validation Actions
Analysis Batch - Blanks: 496113 - CCB/18, 29, 50		
Beryllium	0.00051 J	The positive results for beryllium in samples SFB-SED-1A, SFB-SED-1B, and SFB-SED-2B were qualified as estimated (J+) with a potential high bias since these results were >QL and <10× the blank concentration. The positive result for beryllium in sample SFB-SED-2A was qualified as estimated (J) since the result was >QL and <10× the blank concentration; however, high bias was not applied since this result was also qualified as estimated (J) due to low percent solids, and the overall qualification is estimated (J) with no bias. Qualification of the beryllium results was not required for the remaining samples since the values were >10× the blank concentration.
Associated samples: SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B, SFB-SED-3A, SFB-SED-3B		
Potassium	0.357 J	Qualification was not required for potassium in the associated samples since these results were >10× the blank concentration.
Sodium	0.585 J	The positive results for sodium in the associated samples were qualified as nondetect (U) at the QL since these results were <QL.
Associated samples: SFB-SED-2B, SFB-SED-3A, SFB-SED-3B		

MS/MSD Results

MS/MSD and post digestion spike (PDS) analyses for metals and MS/MSD analyses for TOC were performed on sample SFB-SED-2A. The following table summarizes the %Rs and relative percent differences (RPDs) that did not meet acceptance criteria (75-125% for MS/MSD and PDS %R,

≤20% for RPD), and the resulting validation actions. Qualification of the data is not required in the case of nonconformances when the sample concentration is >4x the spike concentration; thus, these results were not evaluated or summarized in this report.

MS/MSD Parent Sample ID	Analyte	MS %R	MSD %R	MS/MSD RPD	PDS %R	Validation Action
SFB-SED-2A	Aluminum	277	208	-	-	The positive results for these metals were qualified as estimated (J) in all samples.
	Barium	160	-	-	-	
	Calcium	-	65	22	-	
	Copper	-	72	-	-	
	Lead	145	63	26	-	
	Potassium	163	138	-	-	
	Zinc	-	69	-	-	
	Selenium	61	49	-	-	The nondetect results for selenium in all samples were qualified as estimated (UJ).
	TOC	74	-	28	No PDS	The positive results for TOC in all samples were qualified as estimated (J).
-: Met criteria						

The PDS %R for manganese was below the acceptance limits; however, no qualification was required since the sample concentration was >4x the MS/MSD spike concentration.

Laboratory Duplicate Results

Laboratory duplicate analyses were not performed on any samples in this data set.

ICP Serial Dilution Results

The ICP serial dilution analysis was performed on sample SFB-SED-2A. The following table summarizes the percent differences (%Ds) that exceeded the acceptance criteria (≤ 10%), the resulting validation actions, and the associated samples.

Serial Dilution Sample ID	Analyte	%D	Validation Actions
SFB-SED-2A	Zinc	13	The positive results for zinc in the associated samples were qualified as estimated (J).
Associated samples: SFB-SED-1A, SFB-SED-1B, SFB-SED-2A, SFB-SED-2B, SFB-SED-3A, SFB-SED-3B			

LCS Results

The LCS/LCSD %Rs and RPDs for metals and the LCS %R for TOC met the laboratory acceptance criteria.

Field Duplicate Results

No field duplicate pairs were submitted with this sample set.

Percent Solids

The percent solids for the soil samples in this data set were >30%, with the exception of sample SFB-SED-2A (22.6%). The positive and nondetect results for metals were qualified as estimated

(J/UJ), and the positive result for TOC was qualified as estimated (J) in sample SFB-SED-2A due to the low percent solids.

Sample Results and Reported Quantitation Limits

Select metals results were reported between the MDL and QL. These results were qualified as estimated (J) by the laboratory.

Sample calculations were spot-checked, and there were no errors noted.

No dilutions were performed for metals or TOC analyses on samples in this data set.

QUALIFIED FORM 1s

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SED-1A
Lab Sample ID: 480-160006-1
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 11:15
Reporting Basis: DRY
Date Received: 09/27/2019 10:00
% Solids: 44.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	19000	23.1	10.2	mg/Kg	J		1	6010C
7440-36-0	Antimony	ND ~~3.1~~	34.6	0.92	mg/Kg	~~J~~		1	6010C
7440-38-2	Arsenic	12.9	4.6	0.92	mg/Kg			1	6010C
7440-39-3	Barium	80.6	1.2	0.25	mg/Kg	J		1	6010C
7440-41-7	Beryllium	0.73	0.46	0.065	mg/Kg	J+		1	6010C
7440-43-9	Cadmium	ND ~~0.22~~	0.46	0.069	mg/Kg	~~J~~		1	6010C
7440-70-2	Calcium	2940	115	7.6	mg/Kg	J	~~B~~	1	6010C
7440-47-3	Chromium	16.8	1.2	0.46	mg/Kg			1	6010C
7440-48-4	Cobalt	17.1	1.2	0.12	mg/Kg			1	6010C
7440-50-8	Copper	17.5	2.3	0.48	mg/Kg	J		1	6010C
7439-89-6	Iron	41300	23.1	8.1	mg/Kg			1	6010C
7439-92-1	Lead	21.2	2.3	0.55	mg/Kg	J		1	6010C
7439-95-4	Magnesium	3920	46.1	2.1	mg/Kg			1	6010C
7439-96-5	Manganese	230	0.46	0.074	mg/Kg		~~B~~	1	6010C
7440-02-0	Nickel	22.7	11.5	0.53	mg/Kg			1	6010C
7440-09-7	Potassium	955	69.2	46.1	mg/Kg	J	~~B~~	1	6010C
7782-49-2	Selenium	ND ~~1.5~~	9.2	0.92	mg/Kg	~~J~~ UJ		1	6010C
7440-22-4	Silver	ND	1.4	0.46	mg/Kg			1	6010C
7440-23-5	Sodium	ND ~~122~~	323	30.0	mg/Kg	~~J~~	~~B~~	1	6010C
7440-28-0	Thallium	~~ND~~	13.8	0.69	mg/Kg	UJ		1	6010C
7440-62-2	Vanadium	25.9	1.2	0.25	mg/Kg			1	6010C
7440-66-6	Zinc	159	4.6	1.5	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.065	0.046	0.019	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SED-1B
Lab Sample ID: 480-160006-2
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 11:20
Reporting Basis: DRY
Date Received: 09/27/2019 10:00
% Solids: 42.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	12600	23.7	10.4	mg/Kg	J		1	6010C
7440-36-0	Antimony	ND ~~2.8~~	35.5	0.95	mg/Kg	~~J~~		1	6010C
7440-38-2	Arsenic	10.5	4.7	0.95	mg/Kg			1	6010C
7440-39-3	Barium	114	1.2	0.26	mg/Kg	J		1	6010C
7440-41-7	Beryllium	0.64	0.47	0.066	mg/Kg	J+		1	6010C
7440-43-9	Cadmium	1.0	0.47	0.071	mg/Kg			1	6010C
7440-70-2	Calcium	7950	118	7.8	mg/Kg	J	~~B~~	1	6010C
7440-47-3	Chromium	18.0	1.2	0.47	mg/Kg			1	6010C
7440-48-4	Cobalt	9.3	1.2	0.12	mg/Kg			1	6010C
7440-50-8	Copper	34.5	2.4	0.50	mg/Kg	J		1	6010C
7439-89-6	Iron	28700	23.7	8.3	mg/Kg			1	6010C
7439-92-1	Lead	75.9	2.4	0.57	mg/Kg	J		1	6010C
7439-95-4	Magnesium	3370	47.4	2.2	mg/Kg			1	6010C
7439-96-5	Manganese	1730	0.47	0.076	mg/Kg		~~B~~	1	6010C
7440-02-0	Nickel	21.0	11.8	0.55	mg/Kg			1	6010C
7440-09-7	Potassium	998	71.1	47.4	mg/Kg	J	~~B~~	1	6010C
7782-49-2	Selenium	ND ~~4.0~~	9.5	0.95	mg/Kg	~~J~~ UJ		1	6010C
7440-22-4	Silver	ND	1.4	0.47	mg/Kg			1	6010C
7440-23-5	Sodium	ND ~~178~~	332	30.8	mg/Kg	~~J~~	~~B~~	1	6010C
7440-28-0	Thallium	~~ND~~	14.2	0.71	mg/Kg	UJ		1	6010C
7440-62-2	Vanadium	21.4	1.2	0.26	mg/Kg			1	6010C
7440-66-6	Zinc	204	4.7	1.5	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.18	0.047	0.019	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SED-2A
Lab Sample ID: 480-160006-3
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 12:45
Reporting Basis: DRY
Date Received: 09/27/2019 10:00
% Solids: 22.6 <30%

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15900	41.9	18.4	mg/Kg	J	~~F1~~	1	6010C
7440-36-0	Antimony	ND ~~4.8~~	62.9	1.7	mg/Kg	~~J~~ UJ		1	6010C
7440-38-2	Arsenic	12.4	8.4	1.7	mg/Kg	J		1	6010C
7440-39-3	Barium	158	2.1	0.46	mg/Kg	J	~~F1~~	1	6010C
7440-41-7	Beryllium	0.81	0.84	0.12	mg/Kg	~~J~~ J		1	6010C
7440-43-9	Cadmium	4.6	0.84	0.13	mg/Kg	J		1	6010C
7440-70-2	Calcium	8600	210	13.8	mg/Kg	J	~~B F1 F2~~	1	6010C
7440-47-3	Chromium	31.0	2.1	0.84	mg/Kg	J		1	6010C
7440-48-4	Cobalt	18.1	2.1	0.21	mg/Kg	J		1	6010C
7440-50-8	Copper	148	4.2	0.88	mg/Kg	J	~~F1~~	1	6010C
7439-89-6	Iron	42100	41.9	14.7	mg/Kg	J	~~F2~~	1	6010C
7439-92-1	Lead	362	4.2	1.0	mg/Kg	J	~~F1 F2~~	1	6010C
7439-95-4	Magnesium	4900	83.8	3.9	mg/Kg	J		1	6010C
7439-96-5	Manganese	1610	0.84	0.13	mg/Kg	J	~~B F2~~	1	6010C
7440-02-0	Nickel	43.7	21.0	0.96	mg/Kg	J		1	6010C
7440-09-7	Potassium	1760	126	83.8	mg/Kg	J	~~B F1~~	1	6010C
7782-49-2	Selenium	ND ~~1.8~~	16.8	1.7	mg/Kg	~~J~~ UJ	~~F1~~	1	6010C
7440-22-4	Silver	~~ND~~	2.5	0.84	mg/Kg	UJ		1	6010C
7440-23-5	Sodium	ND ~~91.2~~	587	54.5	mg/Kg	~~J~~ UJ	~~B~~	1	6010C
7440-28-0	Thallium	~~ND~~	25.1	1.3	mg/Kg	UJ		1	6010C
7440-62-2	Vanadium	25.5	2.1	0.46	mg/Kg	J		1	6010C
7440-66-6	Zinc	351	8.4	2.7	mg/Kg	J	~~F1~~	1	6010C
7439-97-6	Mercury	0.21	0.074	0.030	mg/Kg	J		1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SED-2B
Lab Sample ID: 480-160006-4
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 12:30
Reporting Basis: DRY
Date Received: 09/27/2019 10:00
% Solids: 58.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14800	17.4	7.7	mg/Kg	J		1	6010C
7440-36-0	Antimony	ND ~~2.4~~	26.1	0.70	mg/Kg	~~J~~		1	6010C
7440-38-2	Arsenic	5.8	3.5	0.70	mg/Kg			1	6010C
7440-39-3	Barium	80.6	0.87	0.19	mg/Kg	J		1	6010C
7440-41-7	Beryllium	0.68	0.35	0.049	mg/Kg	J+		1	6010C
7440-43-9	Cadmium	1.3	0.35	0.052	mg/Kg			1	6010C
7440-70-2	Calcium	2670	87.0	5.7	mg/Kg	J	~~B~~	1	6010C
7440-47-3	Chromium	28.5	0.87	0.35	mg/Kg			1	6010C
7440-48-4	Cobalt	14.1	0.87	0.087	mg/Kg			1	6010C
7440-50-8	Copper	71.2	1.7	0.37	mg/Kg	J		1	6010C
7439-89-6	Iron	24200	17.4	6.1	mg/Kg			1	6010C
7439-92-1	Lead	130	1.7	0.42	mg/Kg	J		1	6010C
7439-95-4	Magnesium	5740	34.8	1.6	mg/Kg			1	6010C
7439-96-5	Manganese	601	0.35	0.056	mg/Kg		~~B~~	1	6010C
7440-02-0	Nickel	30.5	8.7	0.40	mg/Kg			1	6010C
7440-09-7	Potassium	1540	52.2	34.8	mg/Kg	J		1	6010C
7782-49-2	Selenium	ND	7.0	0.70	mg/Kg	UJ		1	6010C
7440-22-4	Silver	ND	1.0	0.35	mg/Kg			1	6010C
7440-23-5	Sodium	ND ~~104~~	244	22.6	mg/Kg	~~J~~	~~B~~	1	6010C
7440-28-0	Thallium	0.71	10.4	0.52	mg/Kg	~~J~~ J		1	6010C
7440-62-2	Vanadium	20.4	0.87	0.19	mg/Kg			1	6010C
7440-66-6	Zinc	195	3.5	1.1	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.11	0.027	0.011	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SED-3A
Lab Sample ID: 480-160006-5
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 12:05
Reporting Basis: DRY
Date Received: 09/27/2019 10:00
% Solids: 78.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15500	12.7	5.6	mg/Kg	J		1	6010C
7440-36-0	Antimony	ND ~~2.4~~	19.0	0.51	mg/Kg	~~J~~		1	6010C
7440-38-2	Arsenic	5.3	2.5	0.51	mg/Kg	J+		1	6010C
7440-39-3	Barium	68.2	0.63	0.14	mg/Kg	J		1	6010C
7440-41-7	Beryllium	0.73	0.25	0.035	mg/Kg			1	6010C
7440-43-9	Cadmium	0.39	0.25	0.038	mg/Kg	J+		1	6010C
7440-70-2	Calcium	1730	63.3	4.2	mg/Kg	J	~~B~~	1	6010C
7440-47-3	Chromium	41.9	0.63	0.25	mg/Kg			1	6010C
7440-48-4	Cobalt	13.6	0.63	0.063	mg/Kg			1	6010C
7440-50-8	Copper	49.6	1.3	0.27	mg/Kg	J		1	6010C
7439-89-6	Iron	31400	12.7	4.4	mg/Kg			1	6010C
7439-92-1	Lead	104	1.3	0.30	mg/Kg	J		1	6010C
7439-95-4	Magnesium	6910	25.3	1.2	mg/Kg			1	6010C
7439-96-5	Manganese	635	0.25	0.041	mg/Kg		~~B~~	1	6010C
7440-02-0	Nickel	33.7	6.3	0.29	mg/Kg			1	6010C
7440-09-7	Potassium	1480	38.0	25.3	mg/Kg	J		1	6010C
7782-49-2	Selenium	ND ~~1.1~~	5.1	0.51	mg/Kg	~~J~~ UJ		1	6010C
7440-22-4	Silver	ND	0.76	0.25	mg/Kg			1	6010C
7440-23-5	Sodium	ND ~~70.9~~	177	16.5	mg/Kg	~~J~~	~~B~~	1	6010C
7440-28-0	Thallium	~~ND~~	7.6	0.38	mg/Kg	UJ		1	6010C
7440-62-2	Vanadium	20.3	0.63	0.14	mg/Kg			1	6010C
7440-66-6	Zinc	137	2.5	0.81	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.13	0.025	0.010	mg/Kg			1	7471B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: SFB-SED-3B
Lab Sample ID: 480-160006-6
Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 11:55
Reporting Basis: DRY
Date Received: 09/27/2019 10:00
% Solids: 79.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	18300	12.7	5.6	mg/Kg	J		1	6010C
7440-36-0	Antimony	ND ~~2.3~~	19.1	0.51	mg/Kg	~~J~~		1	6010C
7440-38-2	Arsenic	4.6	2.5	0.51	mg/Kg	J+		1	6010C
7440-39-3	Barium	121	0.64	0.14	mg/Kg	J		1	6010C
7440-41-7	Beryllium	0.69	0.25	0.036	mg/Kg			1	6010C
7440-43-9	Cadmium	0.35	0.25	0.038	mg/Kg	J+		1	6010C
7440-70-2	Calcium	2080	63.6	4.2	mg/Kg	J	~~B~~	1	6010C
7440-47-3	Chromium	22.4	0.64	0.25	mg/Kg			1	6010C
7440-48-4	Cobalt	14.6	0.64	0.064	mg/Kg			1	6010C
7440-50-8	Copper	48.1	1.3	0.27	mg/Kg	J		1	6010C
7439-89-6	Iron	31500	12.7	4.5	mg/Kg			1	6010C
7439-92-1	Lead	45.6	1.3	0.31	mg/Kg	J		1	6010C
7439-95-4	Magnesium	7590	25.5	1.2	mg/Kg			1	6010C
7439-96-5	Manganese	490	0.25	0.041	mg/Kg		~~B~~	1	6010C
7440-02-0	Nickel	31.4	6.4	0.29	mg/Kg			1	6010C
7440-09-7	Potassium	1630	38.2	25.5	mg/Kg	J		1	6010C
7782-49-2	Selenium	ND ~~1.1~~	5.1	0.51	mg/Kg	~~J~~ UJ		1	6010C
7440-22-4	Silver	ND	0.76	0.25	mg/Kg			1	6010C
7440-23-5	Sodium	ND ~~64.0~~	178	16.5	mg/Kg	~~J~~	~~B~~	1	6010C
7440-28-0	Thallium	~~ND~~	7.6	0.38	mg/Kg	UJ		1	6010C
7440-62-2	Vanadium	22.7	0.64	0.14	mg/Kg			1	6010C
7440-66-6	Zinc	183	2.5	0.81	mg/Kg	J		1	6010C
7439-97-6	Mercury	0.064	0.025	0.010	mg/Kg			1	7471B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SED-1A
Lab Sample ID: 480-160006-1
Lab Name: Eurofins TestAmerica, Burlington
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 11:15
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	2570	1000	684	mg/Kg	J		1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SED-1B
Lab Sample ID: 480-160006-2
Lab Name: Eurofins TestAmerica, Burlington
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 11:20
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	4220	1000	684	mg/Kg	J		1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SED-2A
Lab Sample ID: 480-160006-3
Lab Name: Eurofins TestAmerica, Burlington
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 12:45
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	3090	1000	684	mg/Kg	J	~~F2 F1~~	1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SED-2B
Lab Sample ID: 480-160006-4
Lab Name: Eurofins TestAmerica, Burlington
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 12:30
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	2270	1000	684	mg/Kg	J		1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SED-3A
Lab Sample ID: 480-160006-5
Lab Name: Eurofins TestAmerica, Burlington
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 12:05
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	7740	1000	684	mg/Kg	J		1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SFB-SED-3B
Lab Sample ID: 480-160006-6
Lab Name: Eurofins TestAmerica, Burlington
Job No.: 480-160006-1
SDG ID.:
Matrix: Solid
Date Sampled: 09/23/2019 11:55
Reporting Basis: WET
Date Received: 09/27/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	8480	1000	684	mg/Kg	J		1	Lloyd Kahn

QC NONCONFORMANCE DOCUMENTATION

4A-IN

INTERFERENCE CHECK STANDARD

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: ICSA 480-496499/8 Instrument ID: ICAP1

Lab File ID: i1100719a-12.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**499**	**100**
Potassium		**0.0132**	
Sodium		**0.184**	
Zinc		**0.0011**	
Antimony		*-0.0136*	
Arsenic		*-0.0038*	
Barium		*0.0016*	
Beryllium		*0.0000*	
Boron		*-0.0004*	
Cadmium		*0.0001*	
Calcium	*500*	*475*	*95*
Chromium		*0.0032*	
Cobalt		*-0.0007*	
Copper		*-0.0031*	
Iron	*200*	*189*	*94*
Lead		*0.0001*	
Lithium		*0.0029*	
Magnesium	*500*	*500*	*100*
Manganese		*0.0023*	
Molybdenum		*0.0010*	
Nickel		*-0.0028*	
Selenium		*-0.0007*	
Silver		*0.0003*	
Strontium		*-0.0091*	
Thallium		*0.0016*	
Tin		*-0.0017*	
Titanium		*0.0008*	
Vanadium		*-0.0016*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Lab Sample ID: ICSA 480-496113/8 Instrument ID: ICAP2

Lab File ID: i2100419a-16.asc ICS Source: MEI_MSS_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**513**	**103**
Antimony		**0.0095**	
Arsenic		**0.0045**	
Barium		**0.0016**	
Beryllium		**-0.0002**	
Cadmium		**0.0006**	
Calcium	**500**	**501**	**100**
Chromium		**-0.0004**	
Cobalt		**-0.0002**	
Copper		**0.0014**	
Iron	**200**	**196**	**98**
Lead		**0.0015**	
Magnesium	**500**	**524**	**105**
Manganese		**-0.0012**	
Nickel		**-0.0007**	
Potassium		**0.0183**	
Selenium		**0.0051**	
Silver		**-0.0013**	
Sodium		**0.211**	
Thallium		**-0.0031**	
Vanadium		**-0.0020**	
Zinc		**0.0032**	
Boron		*-0.0006*	
Lithium		*-0.0082*	
Molybdenum		*-0.0012*	
Strontium		*-0.0092*	
Tin		*0.0029*	
Titanium		*-0.0001*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

3-IN

METHOD BLANK

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Concentration Units: mg/Kg Lab Sample ID: MB 480-495748/1-A

Instrument Code: ICAP2 Batch No.: 496113

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	3.87	J		6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	0.0550	J		6010C
7440-02-0	Nickel	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Concentration Units: mg/Kg Lab Sample ID: MB 480-495748/1-A

Instrument Code: ICAP1 Batch No.: 496499

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-09-7	Potassium	28.74	J		6010C
7440-23-5	Sodium	32.87	J		6010C
7440-66-6	Zinc	ND			6010C

3-IN

INSTRUMENT BLANKS

METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 480-496113/6 10/04/2019 08:16		CCB 480-496113/18 10/04/2019 21:42		CCB 480-496113/29 10/04/2019 22:26		CCB 480-496113/41 10/04/2019 23:10	
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND		ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.015	ND		ND		ND		ND	
Barium	0.0020	ND		ND		ND		ND	
Beryllium	0.0020	ND		0.000510	J	0.000340	J	ND	
Cadmium	0.0020	ND		ND		ND		ND	
Calcium	0.50	ND		ND		ND		ND	
Chromium	0.0040	ND		ND		ND		ND	
Cobalt	0.0040	ND		ND		ND		ND	
Copper	0.010	ND		ND		ND		ND	
Iron	0.050	ND		ND		ND		ND	
Lead	0.010	ND		ND		ND		ND	
Magnesium	0.20	ND		ND		ND		ND	
Manganese	0.0030	ND		ND		ND		ND	
Nickel	0.010	ND		ND		ND		ND	
Potassium	0.50	ND		0.357	J	ND		ND	
Selenium	0.025	ND		ND		ND		ND	
Silver	0.0060	ND		ND		ND		ND	
Sodium	1.0	ND		0.585	J	ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	ND		ND		ND		ND	
Zinc	0.010	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-160006-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 480-496113/50 10/04/2019 23:54							
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND							
Antimony	0.020	ND							
Arsenic	0.015	ND							
Barium	0.0020	ND							
Beryllium	0.0020	0.000470	J						
Cadmium	0.0020	ND							
Calcium	0.50	ND							
Chromium	0.0040	ND							
Cobalt	0.0040	ND							
Copper	0.010	ND							
Iron	0.050	ND							
Lead	0.010	ND							
Magnesium	0.20	ND							
Manganese	0.0030	ND							
Nickel	0.010	ND							
Potassium	0.50	ND							
Selenium	0.025	ND							
Silver	0.0060	ND							
Sodium	1.0	ND							
Thallium	0.020	ND							
Vanadium	0.0050	ND							
Zinc	0.010	ND							

Italicized analytes were not requested for this sequence.

5A-IN

MATRIX SPIKE SAMPLE RECOVERY

METALS

Client ID: SFB-SED-2A MS | Lab ID: 480-160006-3 MS

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-160006-1

SDG No.:

Matrix: Solid | Concentration Units: mg/Kg

% Solids: 22.6

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	39570		15900		8540	277	75-125	F1	6010C
Antimony	161.1		4.8	J	171	91	75-125		6010C
Arsenic	174.7		12.4		171	95	75-125		6010C
Barium	430.8		158		171	160	75-125	F1	6010C
Beryllium	153.6		0.81	J	171	89	75-125		6010C
Cadmium	167.1		4.6		171	95	75-125		6010C
Calcium	17720		8600		8540	107	75-125		6010C
Chromium	208.5		31.0		171	104	75-125		6010C
Cobalt	188.6		18.1		171	100	75-125		6010C
Copper	326.6		148		171	105	75-125		6010C
Iron	55910		42100		8540	162	75-125	4	6010C
Lead	610.0		362		171	145	75-125	F1	6010C
Magnesium	14540		4900		8540	113	75-125		6010C
Manganese	1893		1610		171	167	75-125	4	6010C
Nickel	222.7		43.7		171	105	75-125		6010C
Potassium	15720		1760		8550	163	75-125	F1	6010C
Selenium	105.4		1.8	J	171	61	75-125	F1	6010C
Silver	39.45		ND		42.7	92	75-125		6010C
Sodium	8187		91.2	J	8550	95	75-125		6010C
Thallium	166.6		ND		171	98	75-125		6010C
Vanadium	215.3		25.5		171	111	75-125		6010C
Zinc	560.4		351		171	123	75-125		6010C
Mercury	1.77		0.21		1.48	105	80-120		7471B

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN

MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

METALS

Client ID: SFB-SED-2A MSD | Lab ID: 480-160006-3 MSD

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-160006-1

SDG No.:

Matrix: Solid | Concentration Units: mg/Kg

% Solids: 22.6

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	33840		8630	208	75-125	16	20	F1	6010C
Antimony	142.7		173	80	75-125	12	20		6010C
Arsenic	155.6		173	83	75-125	12	20		6010C
Barium	360.5		173	117	75-125	18	20		6010C
Beryllium	136.6		173	79	75-125	12	20		6010C
Cadmium	149.2		173	84	75-125	11	20		6010C
Calcium	14240		8630	65	75-125	22	20	F1 F2	6010C
Chromium	183.3		173	88	75-125	13	20		6010C
Cobalt	164.3		173	85	75-125	14	20		6010C
Copper	271.4		173	72	75-125	18	20	F1	6010C
Iron	45140		8630	36	75-125	21	20	4 F2	6010C
Lead	471.0		173	63	75-125	26	20	F1 F2	6010C
Magnesium	12760		8630	91	75-125	13	20		6010C
Manganese	1498		173	-64	75-125	23	20	4 F2	6010C
Nickel	193.9		173	87	75-125	14	20		6010C
Potassium	13680		8630	138	75-125	14	20	F1	6010C
Selenium	86.09		173	49	75-125	20	20	F1	6010C
Silver	35.80		43.1	83	75-125	10	20		6010C
Sodium	7314		8640	84	75-125	11	20		6010C
Thallium	148.4		173	86	75-125	12	20		6010C
Vanadium	188.1		173	94	75-125	13	20		6010C
Zinc	471.0		173	69	75-125	17	20	F1	6010C
Mercury	1.66		1.41	103	80-120	6	20		7471B

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5B-IN

POST DIGESTION SPIKE SAMPLE RECOVERY

METALS

Client ID: SFB-SED-2A PDS | Lab ID: 480-160006-3 PDS

Lab Name: Eurofins TestAmerica, Buffalo | Job No.: 480-160006-1

SDG No.:

Matrix: Solid | Concentration Units: mg/Kg

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	23940		15900		8380	96	80-120		6010C
Antimony	181.9		4.8	J	168	106	80-120		6010C
Arsenic	177.2		12.4		168	98	80-120		6010C
Barium	308.5		158		168	90	80-120		6010C
Beryllium	160.3		0.81	J	168	95	80-120		6010C
Cadmium	170.1		4.6		168	99	80-120		6010C
Calcium	16410		8600		8380	93	80-120		6010C
Chromium	195.9		31.0		168	98	80-120		6010C
Cobalt	186.8		18.1		168	101	80-120		6010C
Copper	305.3		148		168	94	80-120		6010C
Iron	48800		42100		8380	80	80-120		6010C
Lead	521.0		362		168	95	80-120		6010C
Magnesium	12910		4900		8380	96	80-120		6010C
Manganese	1705		1610		168	58	80-120	W	6010C
Nickel	217.3		43.7		168	104	80-120		6010C
Potassium	9767		1760		8380	96	80-120		6010C
Selenium	158.5		1.8	J	168	94	80-120		6010C
Silver	40.39		ND		41.9	96	80-120		6010C
Sodium	8030		91.2	J	8390	95	80-120		6010C
Thallium	167.0		ND		168	100	80-120		6010C
Vanadium	191.6		25.5		168	99	80-120		6010C
Zinc	517.8		351		168	99	80-120		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VB - IN

5-IN

MATRIX SPIKE SAMPLE RECOVERY

GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-160006-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 148226 Date: 10/08/2019 15:50											
Lloyd Kahn	480-160006-3	Total Organic Carbon	3090		mg/Kg						F2 F1
Lloyd Kahn	480-160006-3 MS	Total Organic Carbon	26640		mg/Kg	31800	74	75-125			F1

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN

MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 480-160006-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 148226 Date: 10/08/2019 15:54											
Lloyd Kahn	480-160006-3 MSD	Total Organic Carbon	35140		mg/Kg	32400	99	75-125	28	20	F2

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

8-IN

ICP-AES AND ICP-MS SERIAL DILUTIONS

METALS

Lab ID: 480-160006-3

SDG No:

Lab Name: Eurofins TestAmerica, Buffalo Job No: 480-160006-1

Matrix: Solid Concentration Units: mg/Kg

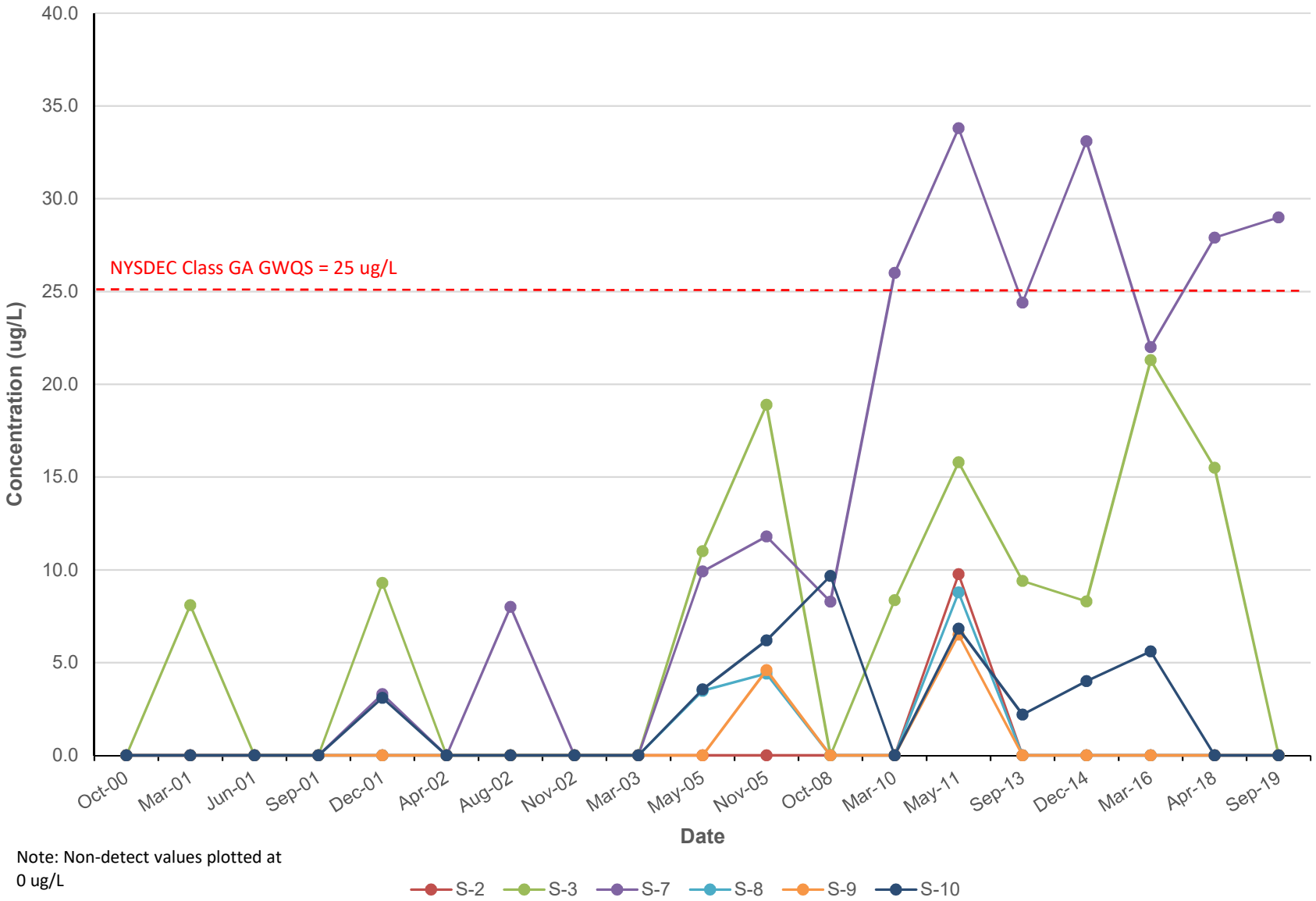
Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Aluminum	15900		17180		8.1		6010C
Antimony	4.8	J	ND		NC		6010C
Arsenic	12.4		9.37	J	NC		6010C
Barium	158		162.2		2.5		6010C
Beryllium	0.81	J	1.34	J	NC		6010C
Cadmium	4.6		4.27		6.7		6010C
Calcium	8600		8889		3.4		6010C
Chromium	31.0		32.37		4.3		6010C
Cobalt	18.1		17.89		1.1		6010C
Copper	148		148.8		0.81		6010C
Iron	42100		43030		2.3		6010C
Lead	362		361.3		0.33		6010C
Magnesium	4900		5242		7.0		6010C
Manganese	1610		1677		4.3		6010C
Nickel	43.7		42.70	J	2.4		6010C
Potassium	1760		1975		NC		6010C
Selenium	1.8	J	ND		NC		6010C
Silver	ND		ND		NC		6010C
Sodium	91.2	J	ND		NC		6010C
Thallium	ND		ND		NC		6010C
Vanadium	25.5		25.94		1.6		6010C
Zinc	351		395.3		13	V	6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

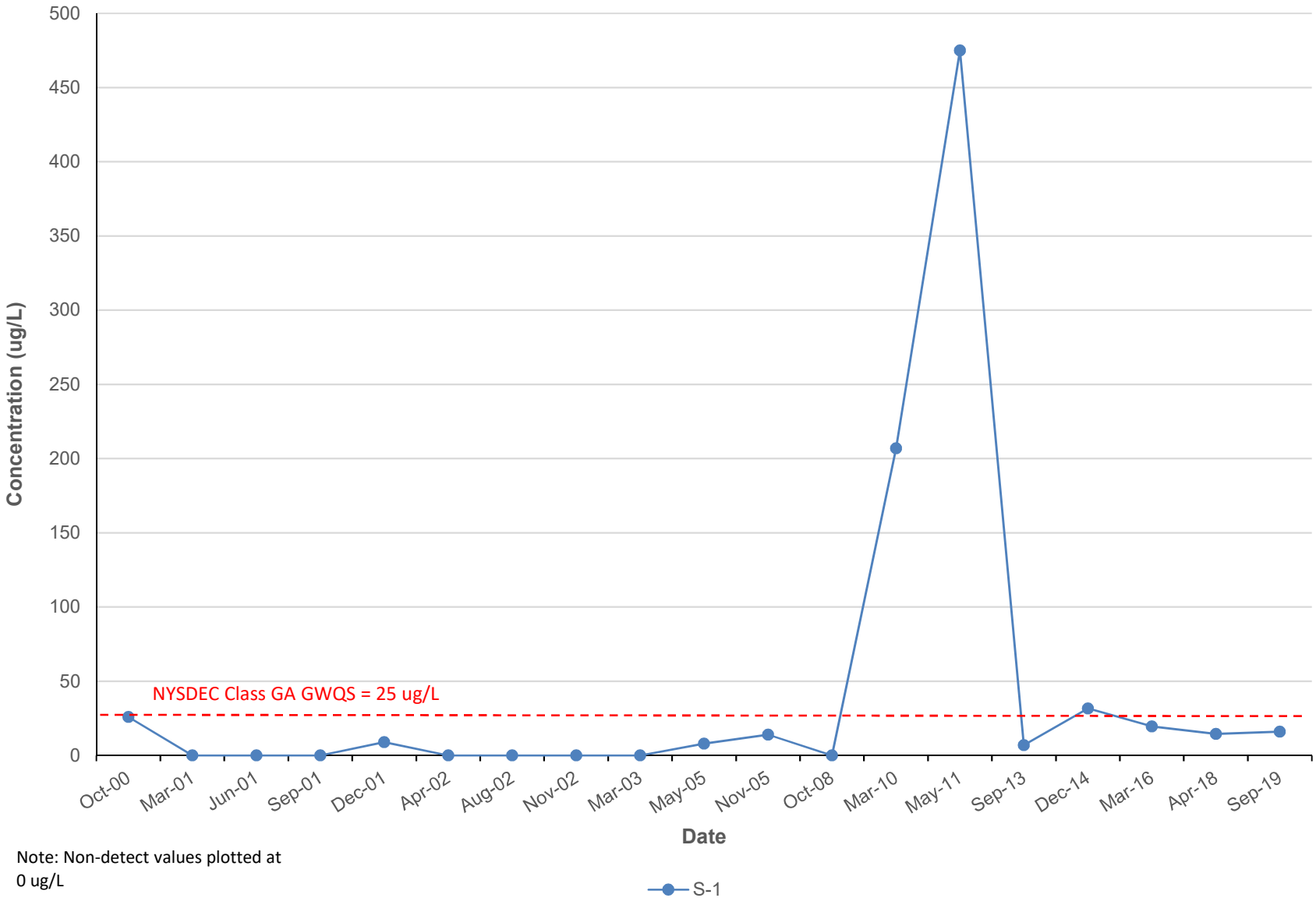
APPENDIX E

Figure E-1
Overburden Monitoring Wells Concentration Trends over Time: Arsenic
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



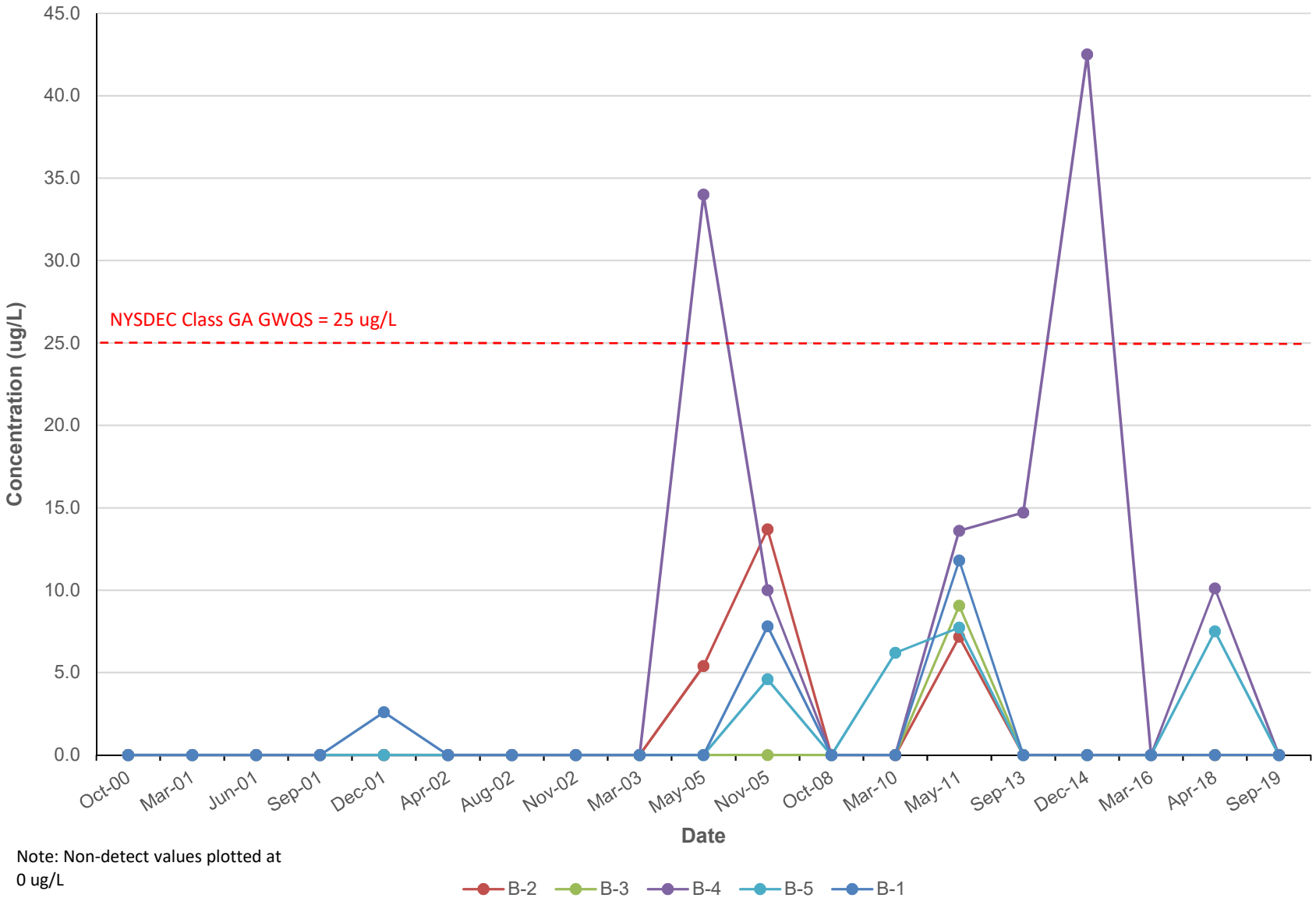
Note: Non-detect values plotted at 0 ug/L

Figure E-2
Overburden Monitoring Well S-1 Concentration Trends over Time: Arsenic
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



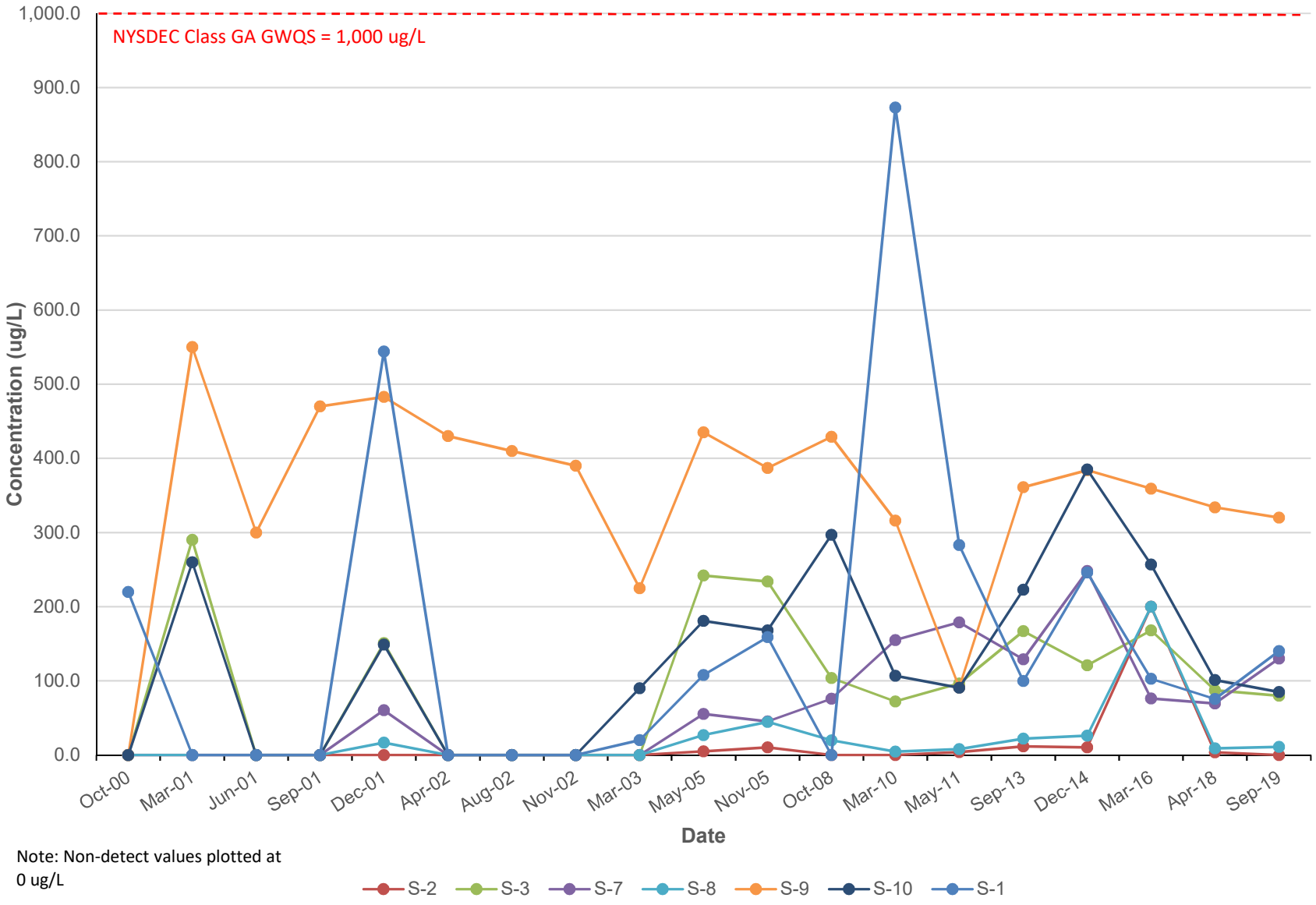
Note: Non-detect values plotted at 0 ug/L

Figure E-3
Bedrock Monitoring Wells Concentration Trends over Time: Arsenic
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



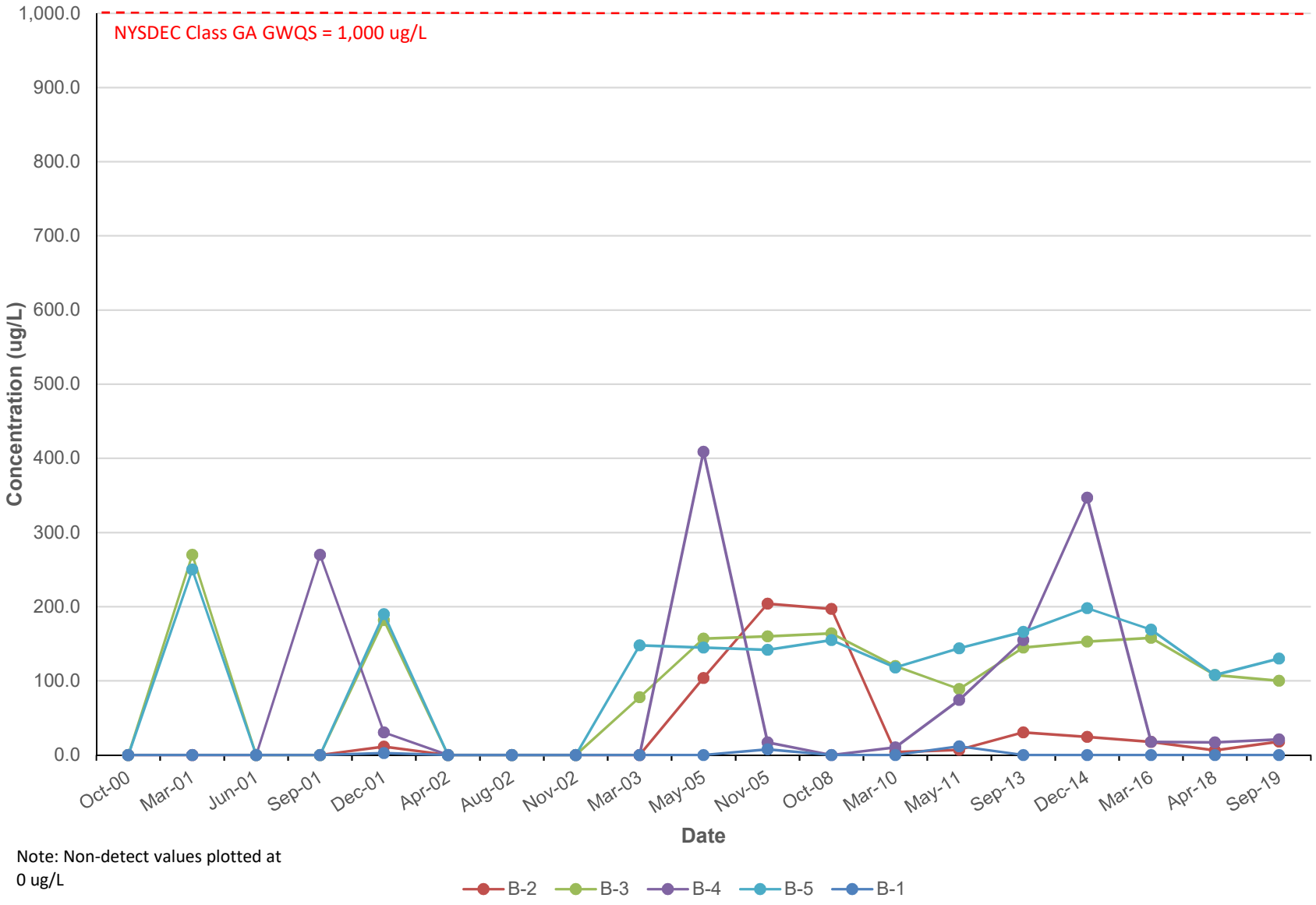
Note: Non-detect values plotted at 0 ug/L

Figure E-4
Overburden Monitoring Wells Concentration Trends over Time: Barium
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



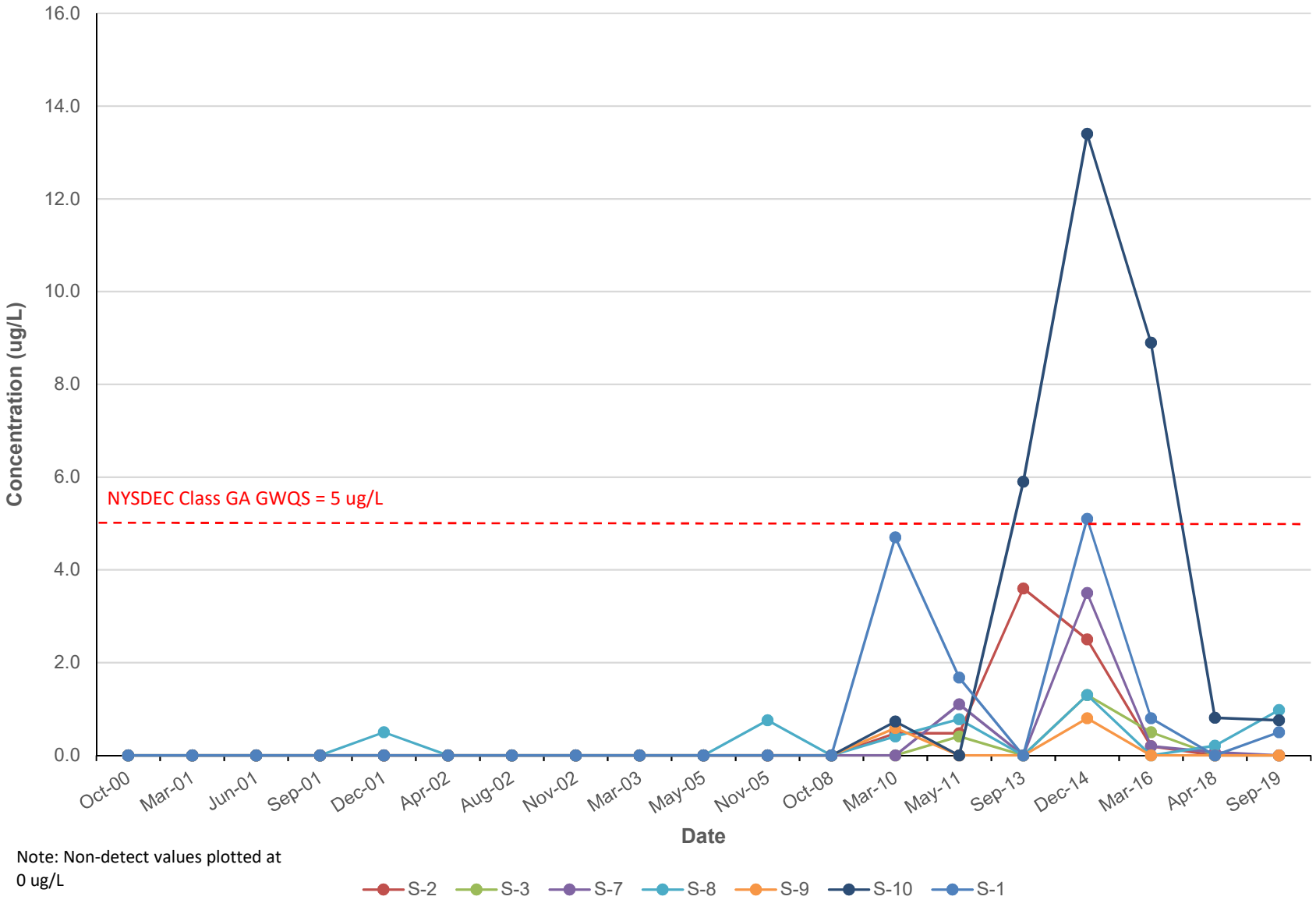
Note: Non-detect values plotted at 0 ug/L

Figure E-5
Bedrock Monitoring Wells Concentration Trends over Time: Barium
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



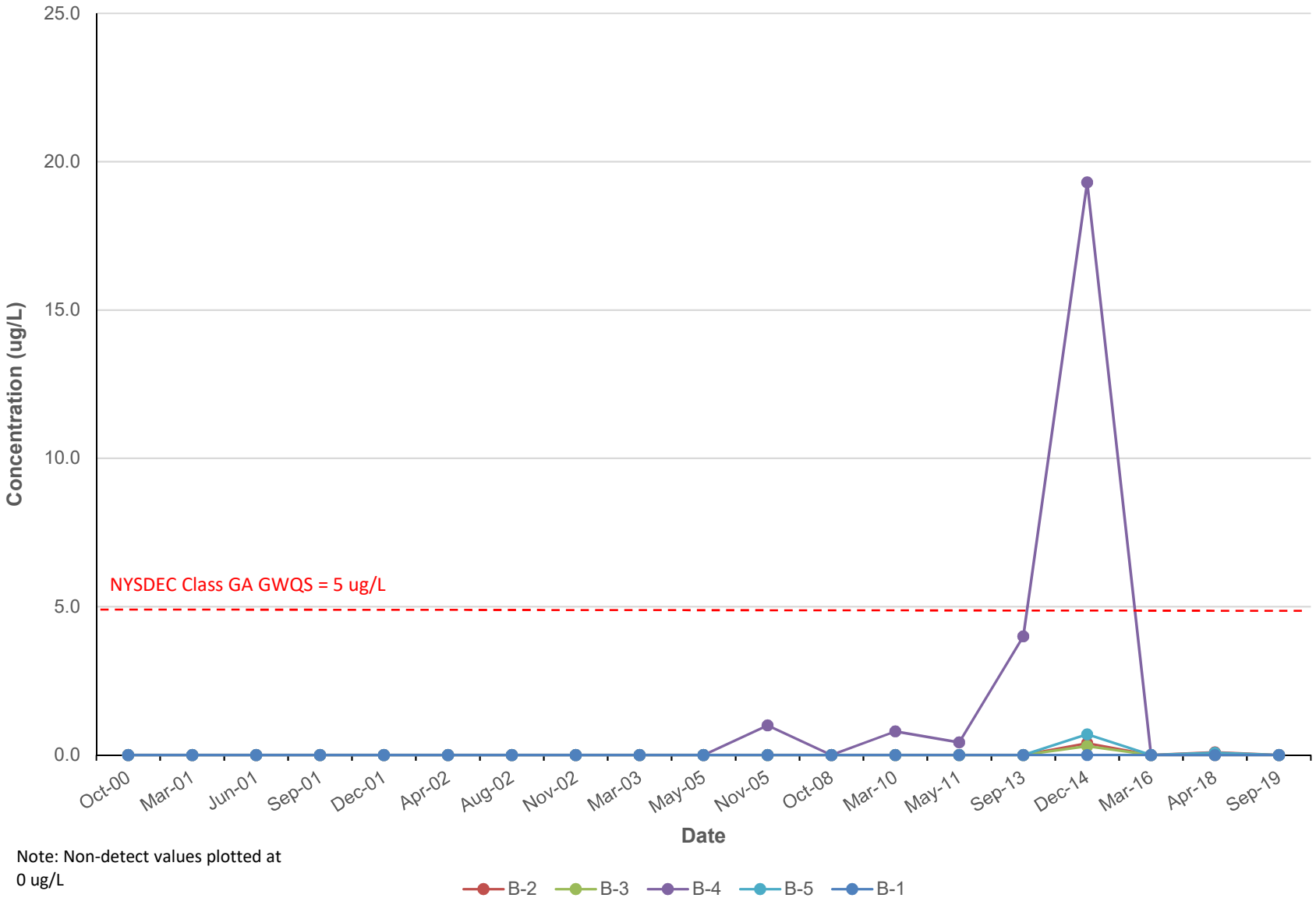
Note: Non-detect values plotted at 0 ug/L

Figure E-6
Overburden Monitoring Wells Concentration Trends over Time: Cadmium
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



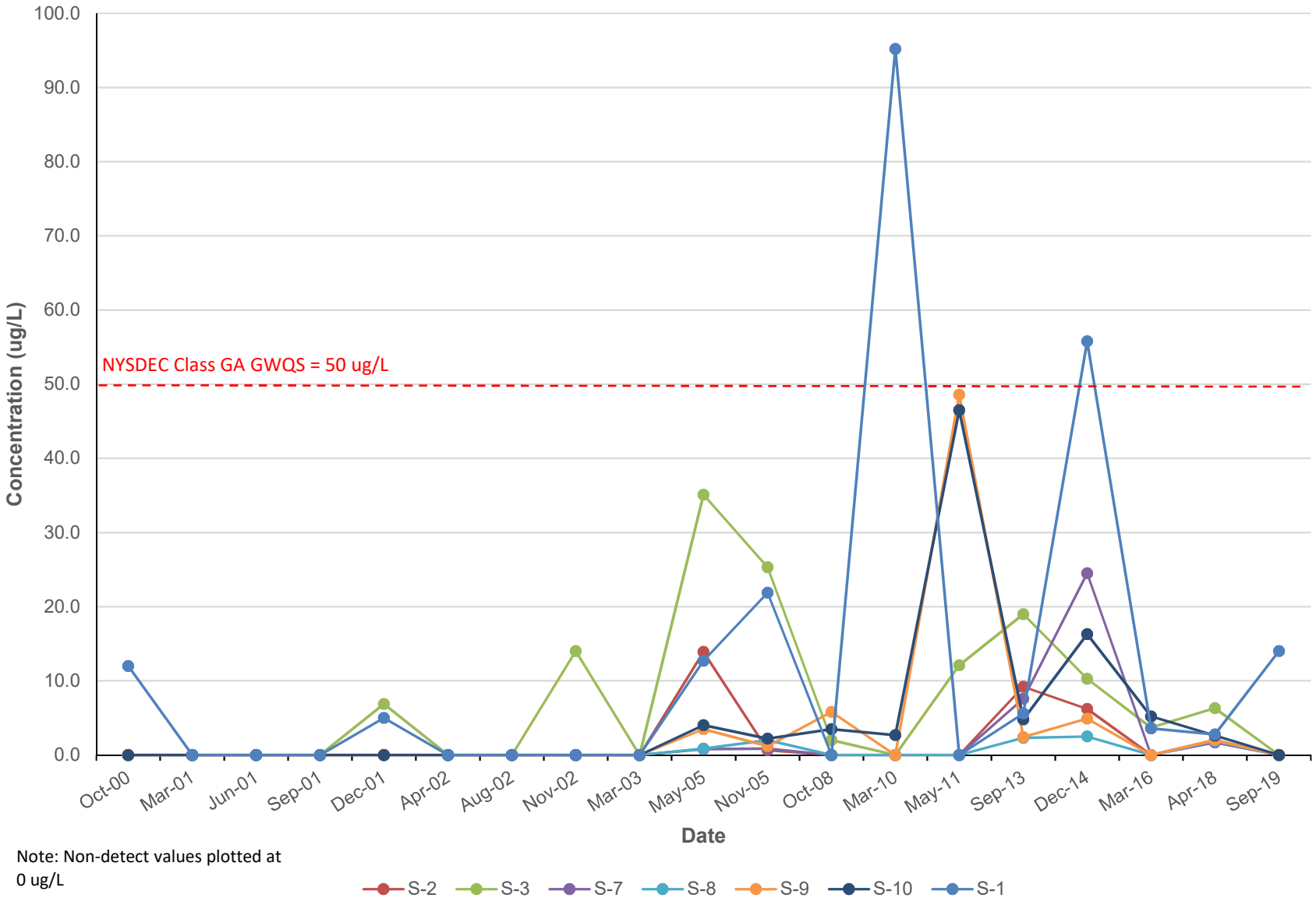
Note: Non-detect values plotted at 0 ug/L

Figure E-7
Bedrock Monitoring Wells Concentration Trends over Time: Cadmium
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



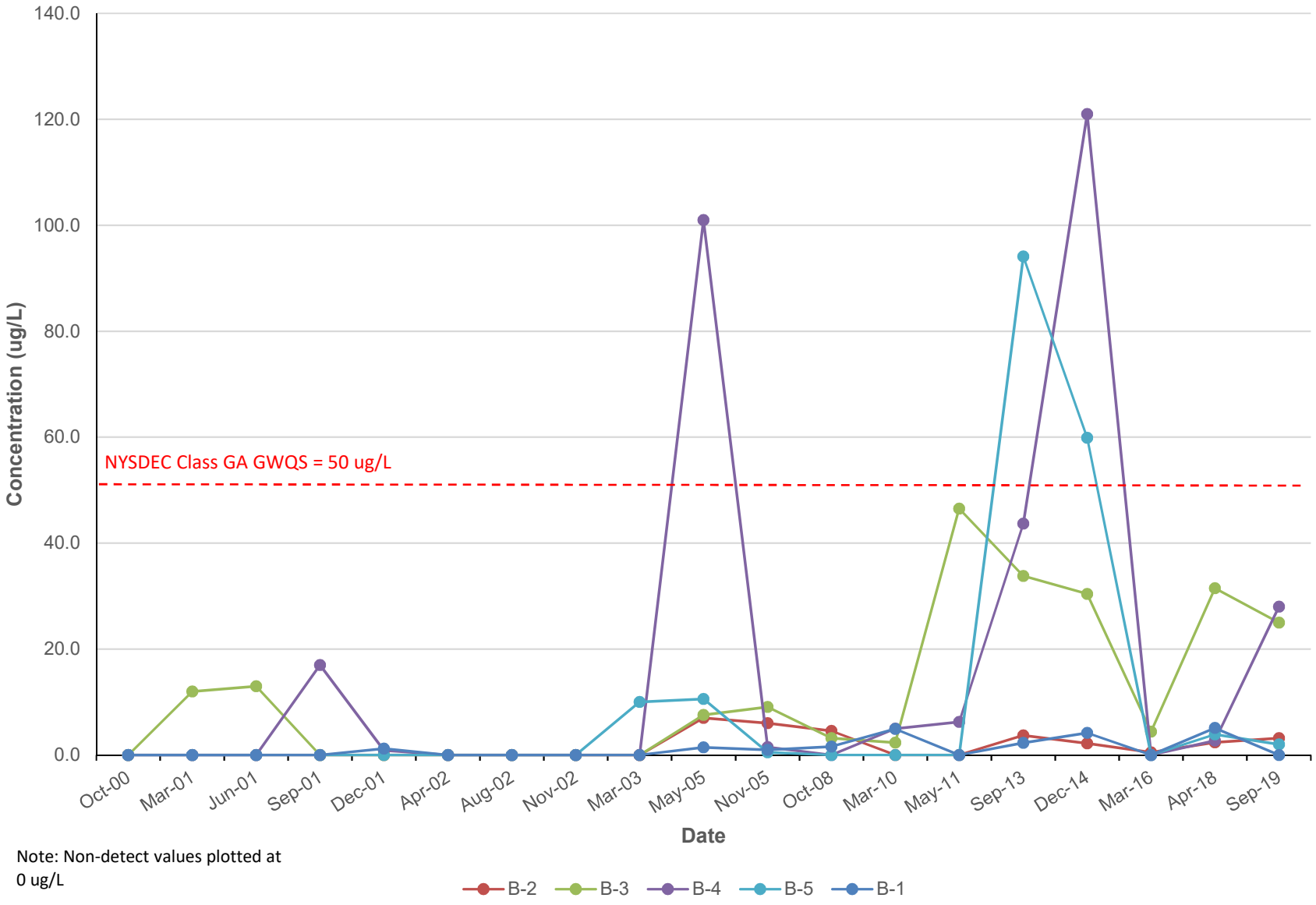
Note: Non-detect values plotted at 0 ug/L

Figure E-8
Overburden Monitoring Wells Concentration Trends over Time: Chromium
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



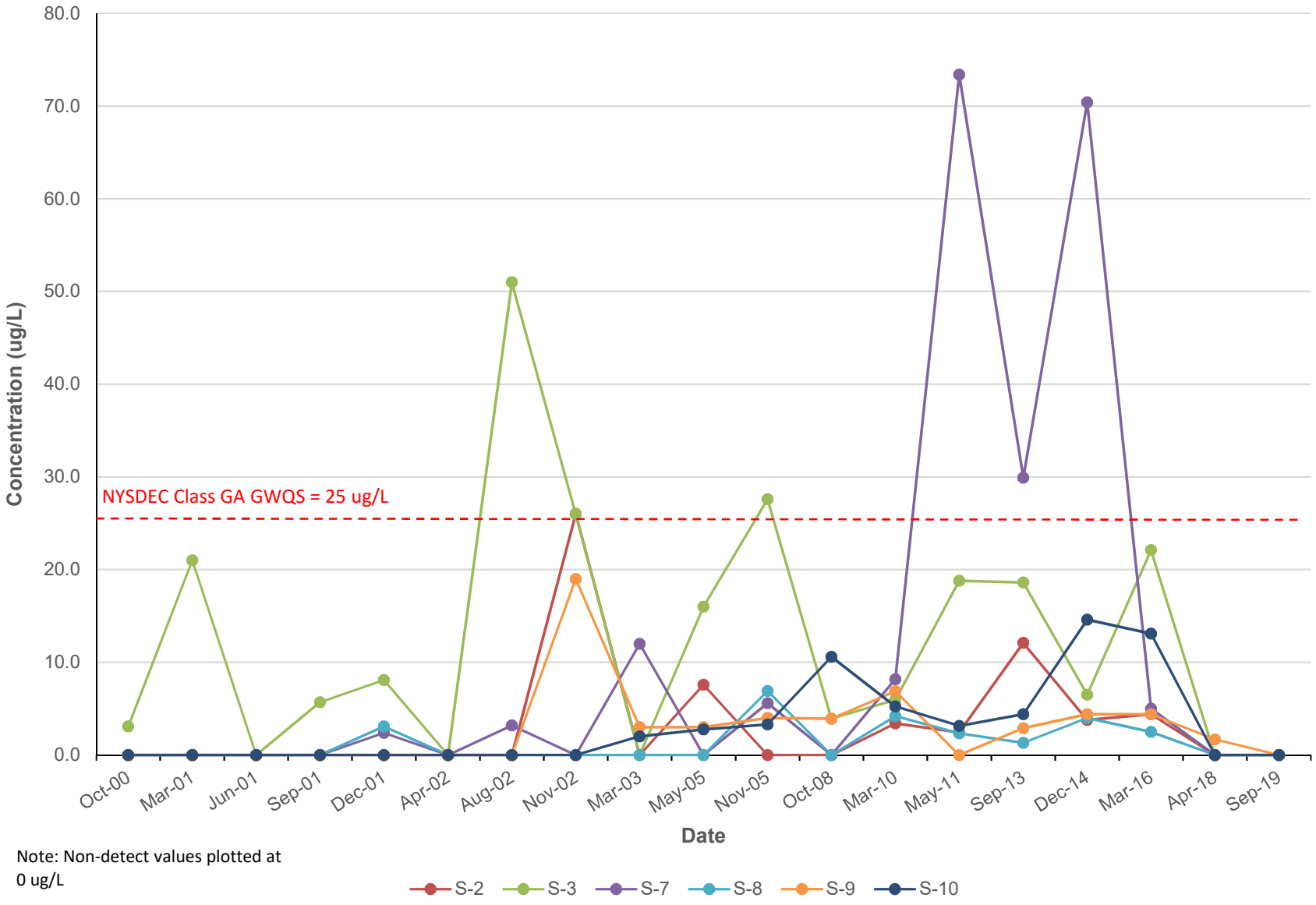
Note: Non-detect values plotted at 0 ug/L

Figure E-9
Bedrock Monitoring Wells Concentration Trends over Time: Chromium
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



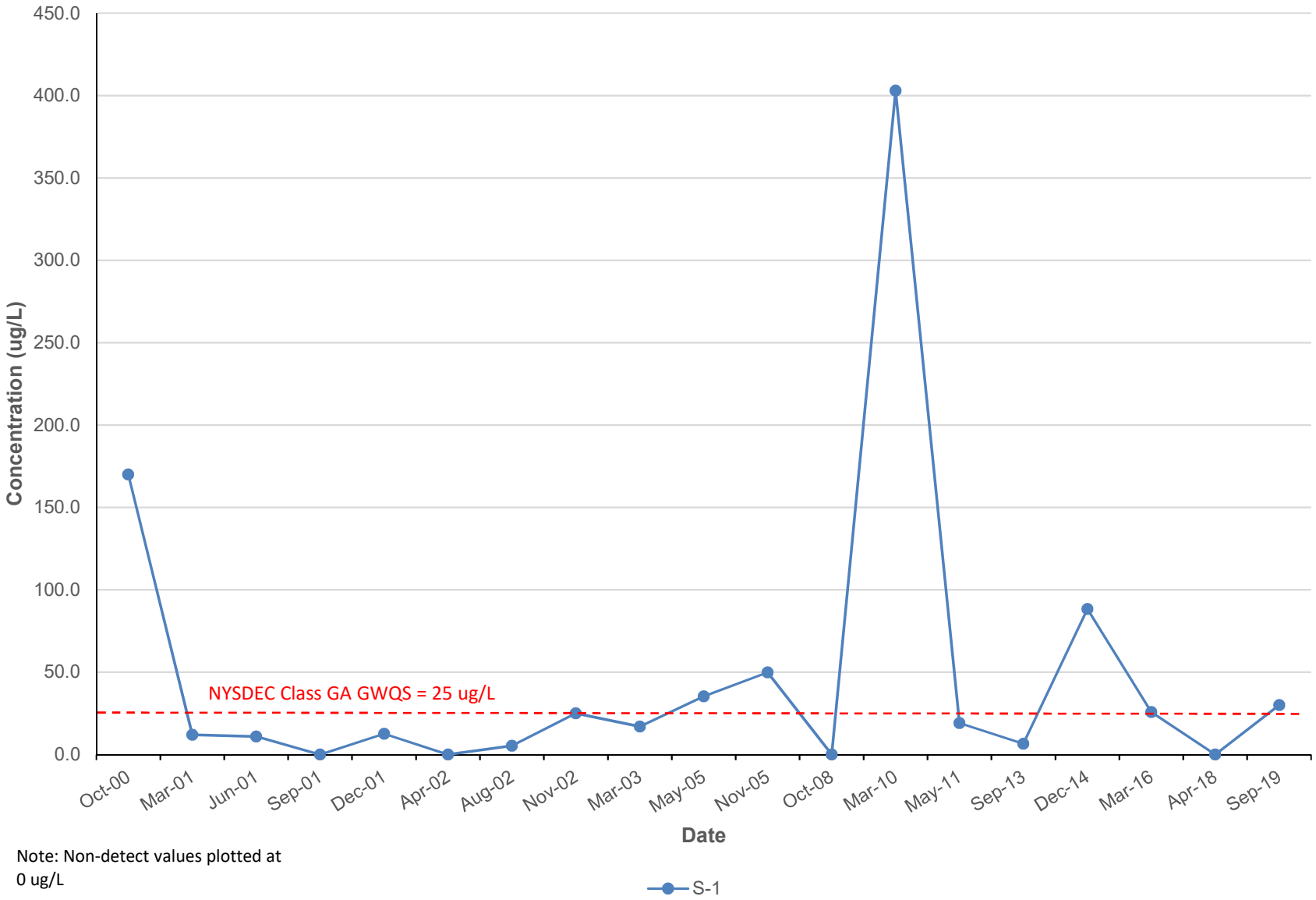
Note: Non-detect values plotted at 0 ug/L

Figure E-10
Overburden Monitoring Wells Concentration Trends over Time: Lead
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



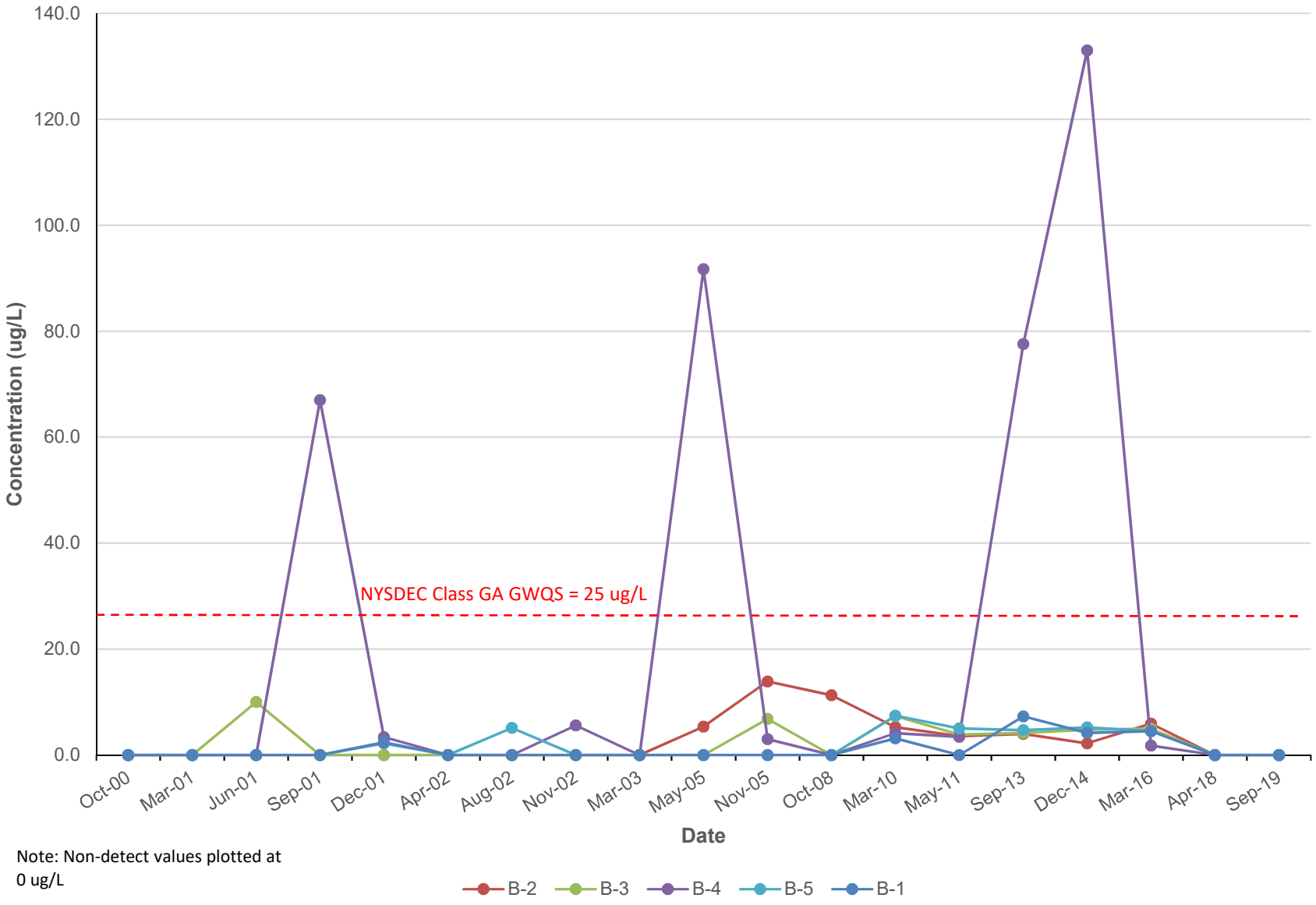
Note: Non-detect values plotted at 0 ug/L

Figure E-11
Overburden Monitoring Well S-1 Concentration Trends over Time: Lead
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



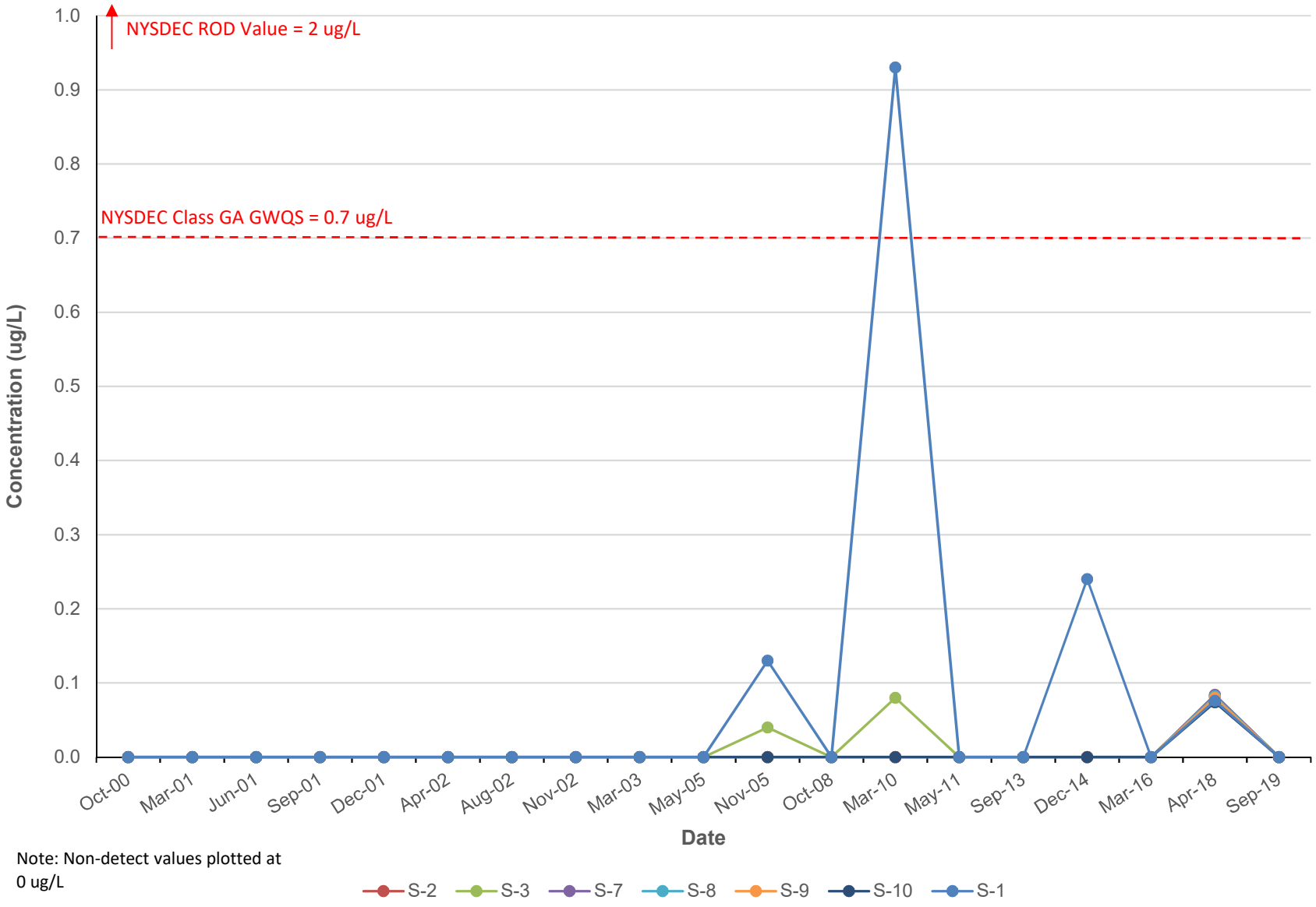
Note: Non-detect values plotted at 0 ug/L

Figure E-12
Bedrock Monitoring Wells Concentration Trends over Time: Lead
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



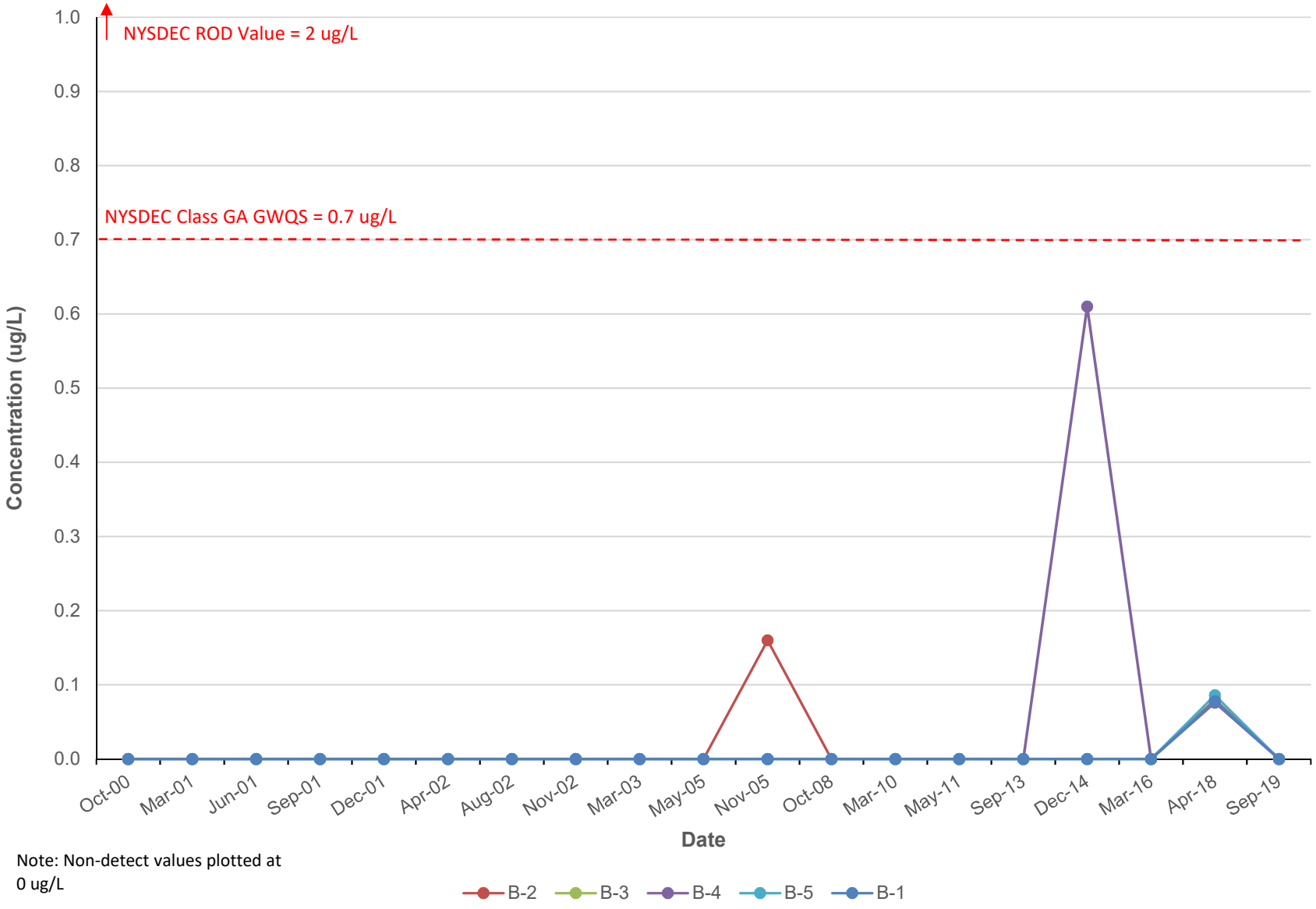
Note: Non-detect values plotted at 0 ug/L

Figure E-13
Overburden Monitoring Wells Concentration Trends over Time: Mercury
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



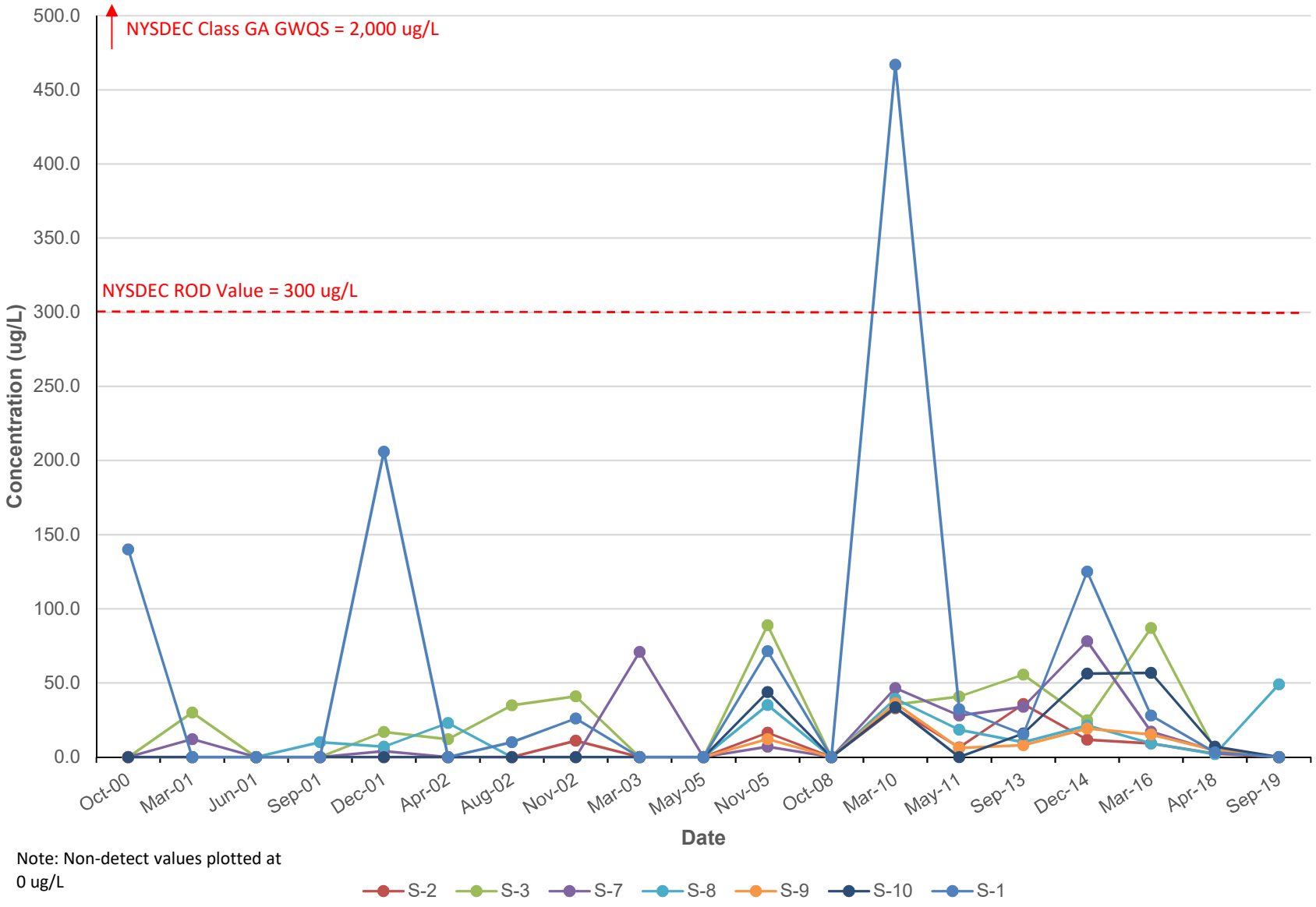
Note: Non-detect values plotted at 0 ug/L

Figure E-14
Bedrock Monitoring Wells Concentration Trends over Time: Mercury
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



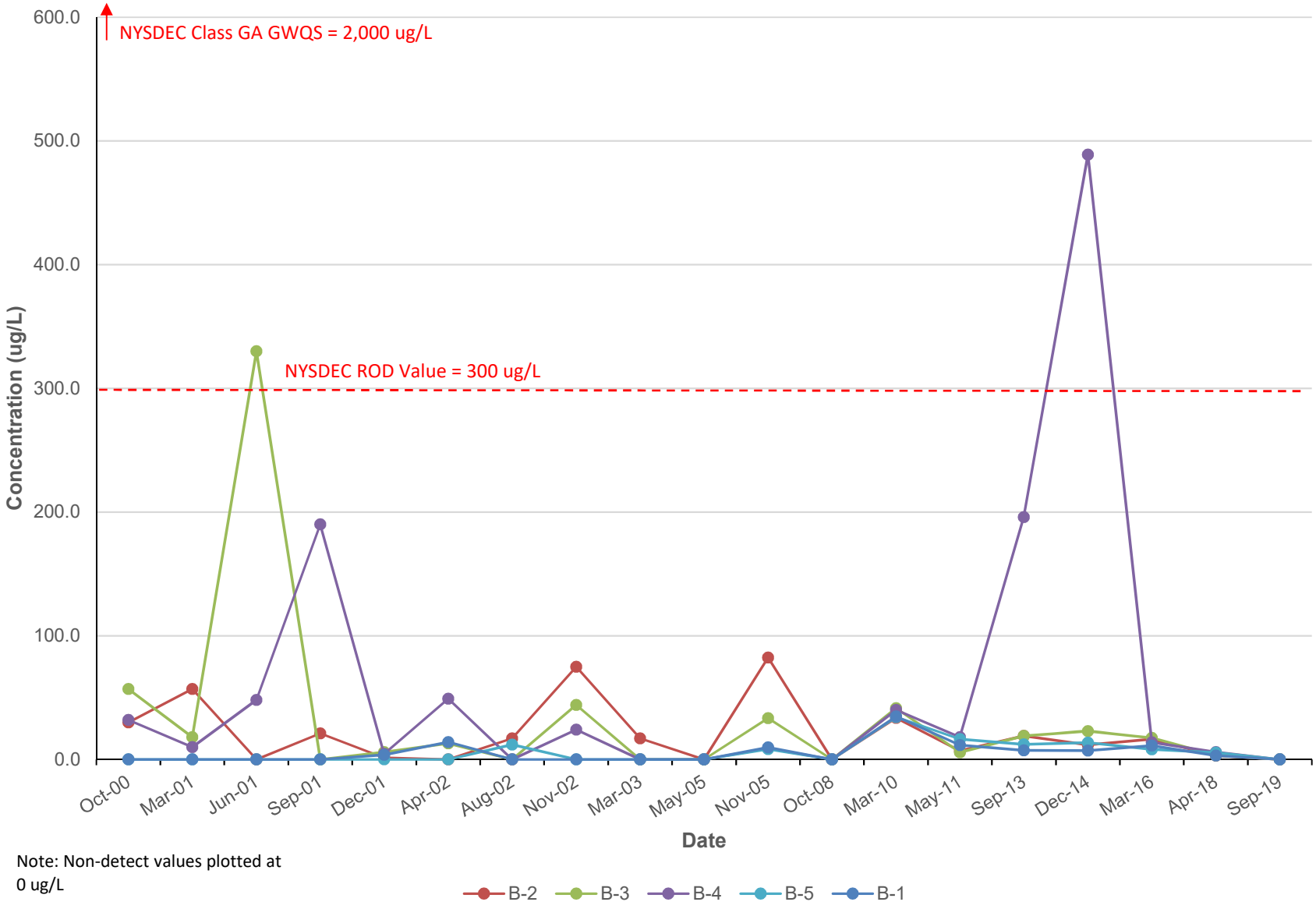
Note: Non-detect values plotted at 0 ug/L

Figure E-15
Overburden Monitoring Wells Concentration Trends over Time: Zinc
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



Note: Non-detect values plotted at 0 ug/L

Figure E-16
Bedrock Monitoring Wells Concentration Trends over Time: Zinc
Former Schatz Federal Bearings Site (NYSDEC Site No. 3-14-003)



Note: Non-detect values plotted at 0 ug/L