SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

January 3, 2020

Travis O'Rourke
Municipality of Anchorage Maintenance and Operations Department
3640 E. Tudor Road
Anchorage, Alaska 99507

RE: FORMER SECOND AVENUE EASEMENT TANKS, 1021 EAST THIRD AVENUE, ANCHORAGE, ALASKA; ADEC FILE NO. 2100.26.326

Shannon & Wilson, Inc. conducted the fall 2019 groundwater and storm water monitoring event for the former Second Avenue easement tanks site located at 1021 East Third Avenue in Anchorage, Alaska on October 28 and 29, 2019. In accordance with our Alaska Department of Environmental Conservation (ADEC)-approved work plan dated May 17, 2019, a summary data package presenting the results of the fall 2019 monitoring event was prepared in lieu of a semi-annual report. The data package, enclosed with this letter, includes summary tables of current and historical analytical results, support figures, field notes, the analytical laboratory reports, and ADEC laboratory data review checklists (LDRCs).

This summary data package was prepared for the exclusive use of the MOA. The findings presented within this data package are based on the limited sampling and analyses that we conducted. They should not be construed as definite conclusions regarding the project site's groundwater and storm water conditions. It is possible that our subsurface tests missed higher levels, although our intention was to sample areas likely to be impacted and in accordance with the ADEC-approved work plan. As a result, the sampling and analyses performed can only provide you data regarding the environmental characteristics of this site and does not represent a conclusion that an agency or its staff will reach. The data presented in this summary data package should be considered representative of the time of our monitoring event. Changes in site conditions can occur over time, due to natural forces or human activity.

Shannon & Wilson has prepared the attachment "Important Information About Your Geotechnical/Environmental Report," to clarify use and limitations of this summary data package. You are advised that various state and federal agencies (ADEC, EPA, etc.) may require the reporting of this information. Shannon & Wilson does not assume the responsibility for reporting these findings.

5430 Fairbanks Street ■ Suite 3 ■ Anchorage, Alaska 99518-1263 ■ 907 561-2120 ■ Fax 206 695-6777
■ www.shannonwilson.com ■

SHANNON & WILSON

We appreciate the opportunity to be of service. Please contact the undersigned at (907) 561-2120 with any questions or comments concerning the contents of the summary data package.

Sincerely,

SHANNON & WILSON

LeeAnne Osgood

LeeAnne Osgood, P.E.
Associate

Enc. Table 1 – Sample Locations and Descriptions
Table 2 – Well Development and Sampling Log
Table 3 – Groundwater and Storm Water Sample Analytical Results
Table 4 – Summary of Historical Groundwater and Storm Water Data
Figure 1 – Vicinity Map
Figure 2 – Site Plan
Figure 3 – Storm Water System Plan
Field Notes
SGS Laboratory Report Number 1196507 and LDRC
SGS Laboratory Report Number 1196484 and LDRC
Important Information About Your Geotechnical/Environmental Report

TABLE 1
SAMPLE LOCATIONS AND DESCRIPTIONS

Sample Number	Date	Sample Location (See Figures 2 and 3)	Depth (feet bgs)
Groundwater Samples			
* B4MW	10/28/2019	Monitoring Well B4MW	5.23
* B24MW	10/28/2019	Duplicate of Sample B4MW	5.23
* B5MW	10/28/2019	Monitoring Well B5MW	10.11
* B11MW	10/28/2019	Monitoring Well B11MW	3.05
* B17MW	10/28/2019	Monitoring Well B17MW	8.10
Storm Water Samples			
* MH1	10/29/2019	Storm Water Manhole MH1	7.36
* MH3(CBMH#2)	10/29/2019	Storm Water Manhole MH3 (Beehive Inlet CBMH#2)	2.25
* MH86	10/29/2019	Storm Water MOA Manhole 86	4.98
Quality Control Samples			
* WTB	10/28/2019	Water Trip Blank (groundwater)	-
* WTB	10/29/2019	Water Trip Blank (storm water)	-

Notes:

* = Sample analyzed by the project laboratory (See Table 3)

\- = Measurement not recorded or not applicable

bgs = below ground surface

TABLE 2
WELL DEVELOPMENT AND SAMPLING LOG

	Monitoring Well Number				Manhole Number		
	B4MW	**B5MW**	**B11MW**	**B17MW**	**MH1**	**MH3 (CBMH#2)**	**MH86**
Water Level Measurement Data							
Date Water Level Measured	10/28/19	10/28/19	10/28/19	10/28/19	10/29/19	10/29/19	10/29/19
Time Water Level Measured	10:23	10:12	9:46	9:33	11:46	10:58	11:27
Measured Depth to Water (ft below TOC)	5.04	9.89	2.75	7.45	-	-	-
Height of TOC bgs (ft)	-0.19	-0.22	-0.30	-0.65	-	-	-
Measured Depth to Water (ft bgs)	5.23	10.11	3.05	8.10	7.36	2.25	4.98
Surveyed TOC Elevation (ft)	97.45	98.35	78.31	77.83	-	-	-
Water Level Elevation (ft)	92.41	88.46	75.56	70.38	-	-	-
Purging/Sampling Data							
Date Sampled	10/28/19	10/28/19	10/28/19	10/28/19	10/29/19	10/29/19	10/29/19
Time Sampled	16:06	14:32	13:01	11:27	11:52	11:05	11:30
Measured Depth to Water (ft below TOC)	5.04	9.89	2.75	7.45	-	-	-
Total Depth of Well (ft below TOC)	10.83	12.29	15.22	12.63	-	-	-
Water Column in Well (ft)	5.79	2.40	12.47	5.18	-	-	-
Gallons per Foot	0.16	0.16	0.16	0.16	-	-	-
Water Column Volume (gallons)	0.93	0.38	2.00	0.83	-	-	-
Total Volume Pumped (gallons)	1.0	0.5	2.0	5.3	-	-	-
Sampling Method	SP	SP	SP	SP	SS	SS	SS
Diameter of Well Casing	2-inch	2-inch	2-inch	2-inch	-	-	-
Water Quality Data							
Temperature (^{o}C)	8.66	10.15	10.07	12.37	10.1	10.1	9.2
Specific Conductance (µS/cm)	1,247	84	437	1,012	661	638	626
pH (Standard Units)	6.47	6.30	6.30	5.99	7.27	5.89	6.90
Oxidation Reduction Potential (mV)	165.2	189.6	187.9	196.5	-	-	-
Turbidity (NTU)	70.00	39.23	53.20	4.78	4.07	204.3	6.64
Remarks	Duplicate Sample B24MW				Grab sample	Grab sample	Grab sample

Notes:
Water quality parameters were measured with a Hanna or YSI 556 water quality meter and Hach 2100 Turbidimeter.
Level Loop Survey conducted by Shannon & Wilson, Inc. on July 9, 2019

TOC = top of casing
^{o}C = degrees Celsius
ft = feet
mV = millivolt
µS/cm = microsiemens per centimeter
NTU = Nephelometric Turbidity Units
bgs = below ground surface
SS = Swing Sampler
SP = Submersible pump
- = Not recorded or not applicable

TABLE 3
GROUNDWATER AND STORM WATER SAMPLE ANALYTICAL RESULTS

Parameter Tested	Units	Method*	Groundwater Cleanup Level**	Surface Water Quality Standard ***	Sample ID Number^ and Water Depth in Feet bgs (See Table 1, Figures 2 and 3, and Analytical Laboratory Reports)									
					Monitoring Wells					Manholes			Trip Blanks	
					B4MW 5.23	B24MW~ 5.23	B5MW 10.11	B11MW 3.05	B17MW 8.10	MH1 7.36	MH3 (CBMH#2) 2.25	MH86 4.98	WTB Groundwater	WTB Surface Water
Diesel Range Organics (DRO)	mg/L	AK 102	1.5	-	**5.78 E**	**3.71 E**	**2.10**	**0.574 J**	-	**0.447 J**	**0.335 J**	**0.347 J**	-	-
Residual Range Organics (RRO)	mg/L	AK 103	1.1	-	**3.29 E**	**2.39 E**	**3.97**	**0.980**	-	**0.818**	**0.627**	**0.663**	-	-
Volatile Organic Compounds (VOCs)														
Benzene	mg/L	EPA 8260C	0.0046	-	<0.000200	<0.000200	<0.000200	<0.000200	-	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200
Toluene	mg/L	EPA 8260C	1.1	-	<0.000500	<0.000500	<0.000500	<0.000500	-	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	EPA 8260C	0.015	-	<0.000500	<0.000500	<0.000500	<0.000500	-	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	EPA 8260C	0.190	-	<0.00150	<0.00150	<0.00150	<0.00150	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
1,2,4-Trimethylbenzene	mg/L	EPA 8260C	0.056	-	<0.000500	**0.000482 J**	<0.000500	<0.000500	-	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
4-Isopropyltoluene	mg/L	EPA 8260C	-	-	**0.000464 J**	**0.000503 J**	<0.000500	<0.000500	-	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Chloromethane	mg/L	EPA 8260C	0.190		<0.000500	**0.000376 J**	**0.000335 J**	<0.000500		**0.000501 J**	**0.000486 J**	**0.000369 J**	<0.000500	<0.000500
Methylene chloride	mg/L	EPA 8260C	0.110		<0.00250	<0.00250	<0.00250	<0.00250		<0.00250	<0.00250	<0.00250	**0.00191 J**	**0.00123 J**
o-Xylene	mg/L	EPA 8260C	0.190	-	<0.000500	**0.000395 J**	<0.000500	<0.000500	-	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
sec-Butylbenzene	mg/L	EPA 8260C	2	-	**0.000414 J**	**0.000439 J**	<0.000500	<0.000500	-	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Other VOCs	mg/L	EPA 8260C	varies	varies	ND	ND	ND	ND	-	ND	ND	ND	ND	ND
Total Lead	mg/L	EPA 6020A	0.015	0.00069 †	**0.00331**	**0.00322**	**0.0150**	**0.00576**	<0.000500	<0.000500	<0.000500	<0.000500	-	-

Notes:

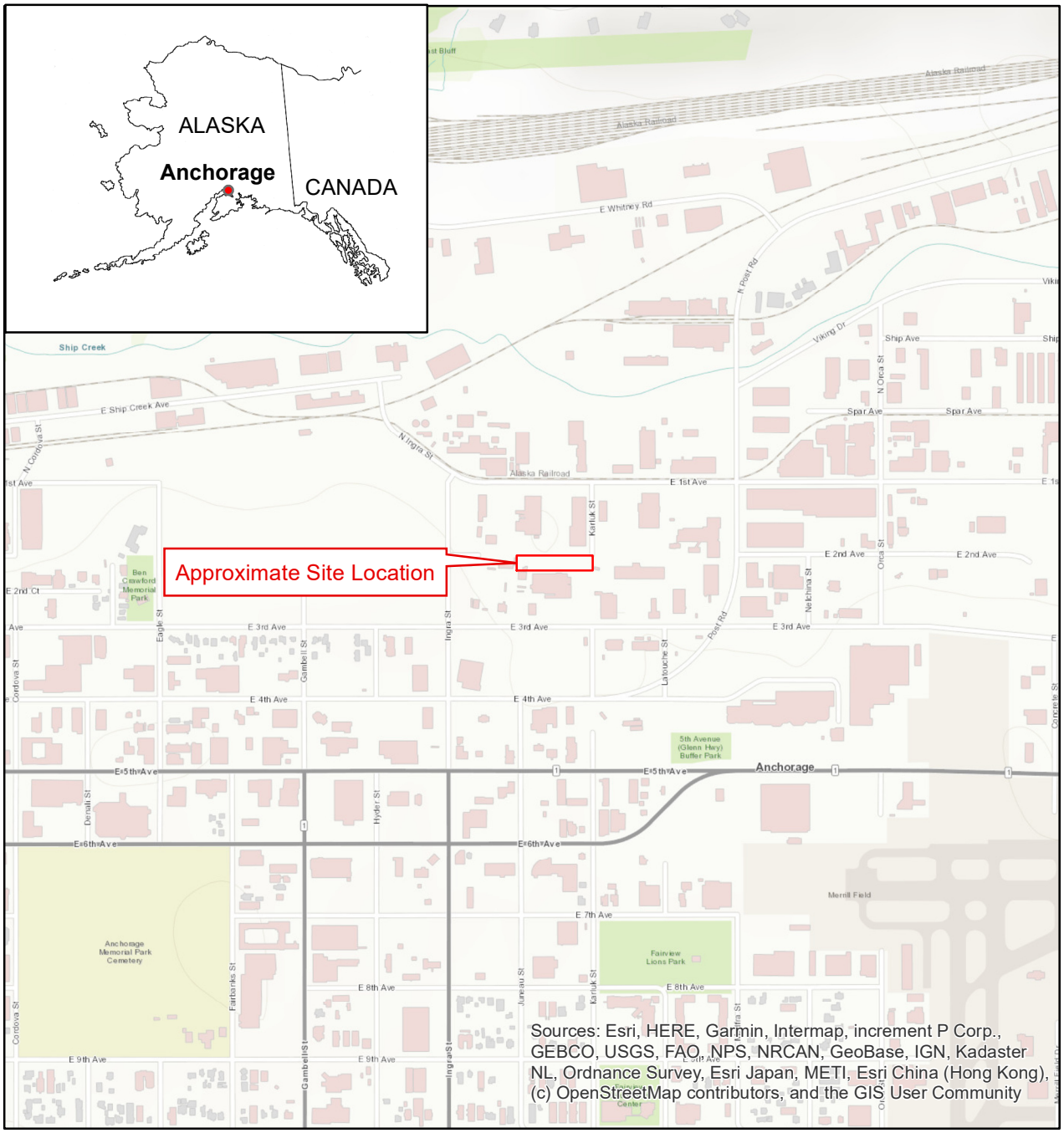
*	See Analytical Laboratory Reports for compounds tested, methods, and laboratory reporting limits
**	Groundwater cleanup levels are listed in Table C, 18 AAC 75.345 (October 2018)
***	Water quality standards listed in 18 AAC 70 (April 6, 2018) and/or *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic Substances*
†	= water quality standard based on assumed hardness of 30 milligrams per liter (mg/L)
^	= sample ID No. preceded by 102104-
mg/L	= milligrams per liter
0.980	= analyte detected
2.10	= reported concentration is equal to or exceeds the ADEC Table C cleanup level
<0.000200	= analyte not detected; laboratory limit of detection is 0.000200 mg/L
bgs	= below ground surface
-	= not applicable
~	= duplicate of preceding sample
J	= concentration is an estimate less than the limit of quantitation (LOQ). See the SGS laboratory report for details.
ND	= analyte not detected
E	= result is an estimate due to a primary/field duplicate sample pair relative percent difference (RPD) failure.

TABLE 4
SUMMARY OF HISTORICAL GROUNDWATER AND STORM WATER DATA

Monitoring Point	Date	Parameter Tested and Cleanup Level* (in mg/L)							
		GRO 2.2	DRO 1.5	RRO 1.1	Benzene 0.0046	Toluene 1.1	Ethylbenzene 0.015	Xylenes 0.190	Lead 0.015
B3MW	8/7/00	**0.135**	<0.297	<0.495	<0.00100	<0.00100	<0.00100	<0.00100	**<0.0667**
	2/22/01	<0.0900	**0.660**	**0.665**	<0.000500	<0.00200	<0.00200	<0.00200	-
	6/5/01	<0.0900	<0.495	<0.990	<0.000500	<0.00200	<0.00200	<0.00200	-
	9/10/01	<0.0900	<0.495	<0.990	<0.000500	<0.00200	<0.00200	<0.00200	-
	12/13/01	<0.0900	<0.505	<1.01	<0.000500	<0.00200	<0.00200	<0.00200	-
	6/14/04	<0.0900	<0.341	<0.568	<0.000500	<0.00200	<0.00200	<0.00200	-
	5/6/14	-	-	-	-	-	-	-	-
	10/20/16	-	**0.50**	**0.443 J**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	6/27/19	-	**0.420 J**	**0.558**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	Well B3MW removed from the groundwater monitoring program per ADEC September 23, 2019 letter.								
B4MW	8/8/00	<0.0900	**1.45**	**2.77**	<0.00100	<0.00100	<0.00100	<0.00100	**<0.0667**
	2/22/01	**0.917**	**1.86**	**2.31**	**0.00242**	<0.00200	**0.00351**	**0.00601**	-
	6/5/01	**0.518**	**1.33**	**1.47**	**0.00205**	**0.00633**	**0.00215**	**0.00486**	-
	9/10/01	**0.171**	**2.18**	**3.61**	**0.00107**	<0.00200	<0.00200	<0.00200	-
	12/13/01	**0.708**	**1.12**	<0.990	**0.00317**	<0.00200	**0.00535**	**0.01550**	-
	6/17/04	**0.212**	**1.01**	**1.19**	**0.00117**	<0.00200	<0.00200	<0.00200	-
	5/6/14	-	**2.60**	**1.47**	**0.000230 J**	<0.000500	**0.000370 J**	**0.00170 J**	**0.00501**
	10/21/16	-	**2.32~**	**1.18~**	<0.000200	<0.000500	<0.000500	<0.00150	**0.0224~**
	6/27/19	-	**1.60 E~**	**1.27 E~**	<0.000200	**0.000411 J~**	<0.000500	<0.00150	**0.0396 E~**
	10/28/19	-	**5.78 E~**	**3.29 E~**	<0.000200	<0.000500	<0.000500	<0.00150	**0.00331 ~**
B5MW	8/8/00	<0.0900	**1.29**	**1.24**	<0.00100	<0.00100	<0.00100	**0.00247**	**<0.0667**
	2/22/01	**0.221**	**3.89**	**8.90**	**0.00102**	<0.00200	**0.00612**	**0.01892**	-
	6/5/01	**0.257**	**3.68**	**9.53**	**0.000932**	<0.00200	**0.00447**	**0.01593**	-
	9/10/01	**0.148**	**4.32**	**9.69**	**0.000897**	<0.00200	**0.00363**	**0.00937**	-
	12/13/01	**0.0904**	**0.863**	**1.12**	**0.000899**	**0.00240**	**0.00345**	**0.01874**	-
	6/17/04	<0.0900	**0.879**	**1.16**	<0.000500	<0.00200	<0.00200	**0.00308**	-
	5/6/14	-	**1.80**	**1.79**	**0.000260 J**	<0.000500	**0.000440 J**	**0.00239 J**	**0.0201**
	10/21/16	-	**1.57**	**1.19**	<0.000200	<0.000500	<0.000500	<0.00150	**0.0399**
	6/28/19	-	**1.58**	**1.79**	**0.000199 J**	<0.000500	**0.000385 J**	**0.00156 J**	**0.0636**
	10/28/19	-	**2.10**	**3.97**	<0.000200	<0.000500	<0.000500	<0.00150	**0.0150**
B10MW	8/7/00	<0.0900	<0.300	<0.500	<0.00100	<0.00100	<0.00100	<0.00100	**<0.0667**
	2/22/01†	-	-	-	-	-	-	-	-
	6/5/01	<0.0900	<0.500	<1.00	<0.000500	<0.00200	<0.00200	<0.00200	-
	9/10/01	<0.0900	<0.495	<0.990	<0.000500	<0.00200	<0.00200	<0.00200	-
	12/13/01	<0.0900	<0.495	<0.990	<0.000500	<0.00200	<0.00200	<0.00200	-
	6/17/04	<0.0900	<0.341	<0.568	<0.000500	<0.00200	<0.00200	<0.00200	-
	5/6/14	-	-	-	-	-	-	-	-
	10/20/16	Well B10MW lost / assumed destroyed.							
B11MW	2/22/01	<0.0900	<0.345	<0.575	<0.000500	<0.00200	<0.00200	<0.00200	-
	6/5/01	<0.0900	<0.538	<1.08	<0.000500	<0.00200	<0.00200	<0.00200	-
	9/10/01	<0.0900	<0.495	<0.990	<0.000500	<0.00200	<0.00200	<0.00200	-
	12/13/01†	-	-	-	-	-	-	-	-
	6/17/04	<0.0900	<0.379	<0.581	<0.000500	<0.00200	<0.00200	<0.00200	-
	5/7/14	-	**0.282 J**	**0.299 J**	<0.000200	<0.000500	<0.000500	<0.00150	**0.0371**
	10/21/16	-	**0.627**	**0.846**	<0.000200	<0.000500	<0.000500	<0.00150	**0.109**
	6/28/19	-	**0.221 J**	<0.240	<0.000200	<0.000500	<0.000500	<0.00150	**0.0395**
	10/28/19	-	**0.574 J**	**0.980**	<0.000200	<0.000500	<0.000500	<0.00150	**0.00576**
B12MW	5/6/14	-	**1.54~**	**5.11~**	<0.000200	<0.000500	<0.000500	**0.00128 J~**	**0.341~**
	10/20/16	-	**0.497 J**	**0.240 J**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	Well B12MW positioned within planned excavation footprint and not included in groundwater monitoring program.								
B13MW	5/6/14	Water not encountered in well following installation							
	10/14/16	Water not encountered on 10/14/2016. Well Decommissioned 10/14/2016.							
B14MW	5/6/14	-	<0.308	<0.256	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	6/27/19	-	**0.212 J**	<0.236	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	Well B14MW removed from the groundwater monitoring program per ADEC September 23, 2019 letter.								
B17MW	6/28/19	-	-	-	-	-	-	-	<0.000500
	10/28/19	-	-	-	-	-	-	-	<0.000500
MH1	4/18/01	<0.0900	<0.319	<0.532	<0.000500	<0.00200	<0.00200	<0.00200	-
	5/7/14	-	**1.32**	**1.52**	<0.000200	<0.000500	<0.000500	<0.00150	**0.00508**
	10/20/16	-	**0.293 J**	**0.351 J**	<0.000200	<0.000500	<0.000500	<0.00150	**0.00188**
	7/1/19	-	**0.213 J**	**0.173 J**	<0.000200	<0.000500	<0.000500	<0.00150	**0.000355 J**
	10/29/2019	-	**0.447 J**	**0.818**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
MH3 (CBMH#2)	4/18/01	<0.0900	<0.333	<0.556	**0.000507**	<0.00200	<0.00200	<0.00200	-
	5/6/14	-	**0.788**	**2.95**	<0.000200	<0.000500	<0.000500	<0.00150	**0.0415**
	10/20/16	-	<0.283	<0.236	<0.000200	<0.000500	<0.000500	<0.00150	**0.00119**
	7/1/19	-	**0.242 J**	**0.226 J**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	10/29/19	-	**0.335 J**	**0.627**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
MH86	7/1/19	-	**0.624**	**1.48**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500
	10/29/19	-	**0.347 J**	**0.663**	<0.000200	<0.000500	<0.000500	<0.00150	<0.000500

Notes:

*	= groundwater cleanup levels and surface water quality standards provided in Table 3
†	= monitoring well frozen, not sampled
mg/L	= milligrams per liter
<0.0900	= analyte not detected; laboratory limit of detection is 0.0900 mg/L
1.86	= reported concentration is equal to or exceeds the ADEC cleanup level
0.135	= analyte detected
E	= result is an estimate due to a primary/field duplicate sample pair relative percent difference (RPD) failure.
-	= not applicable
~	= Analytical results for the sample reflect the higher concentrations for a duplicate set



N

0 1,000 2,000

Feet

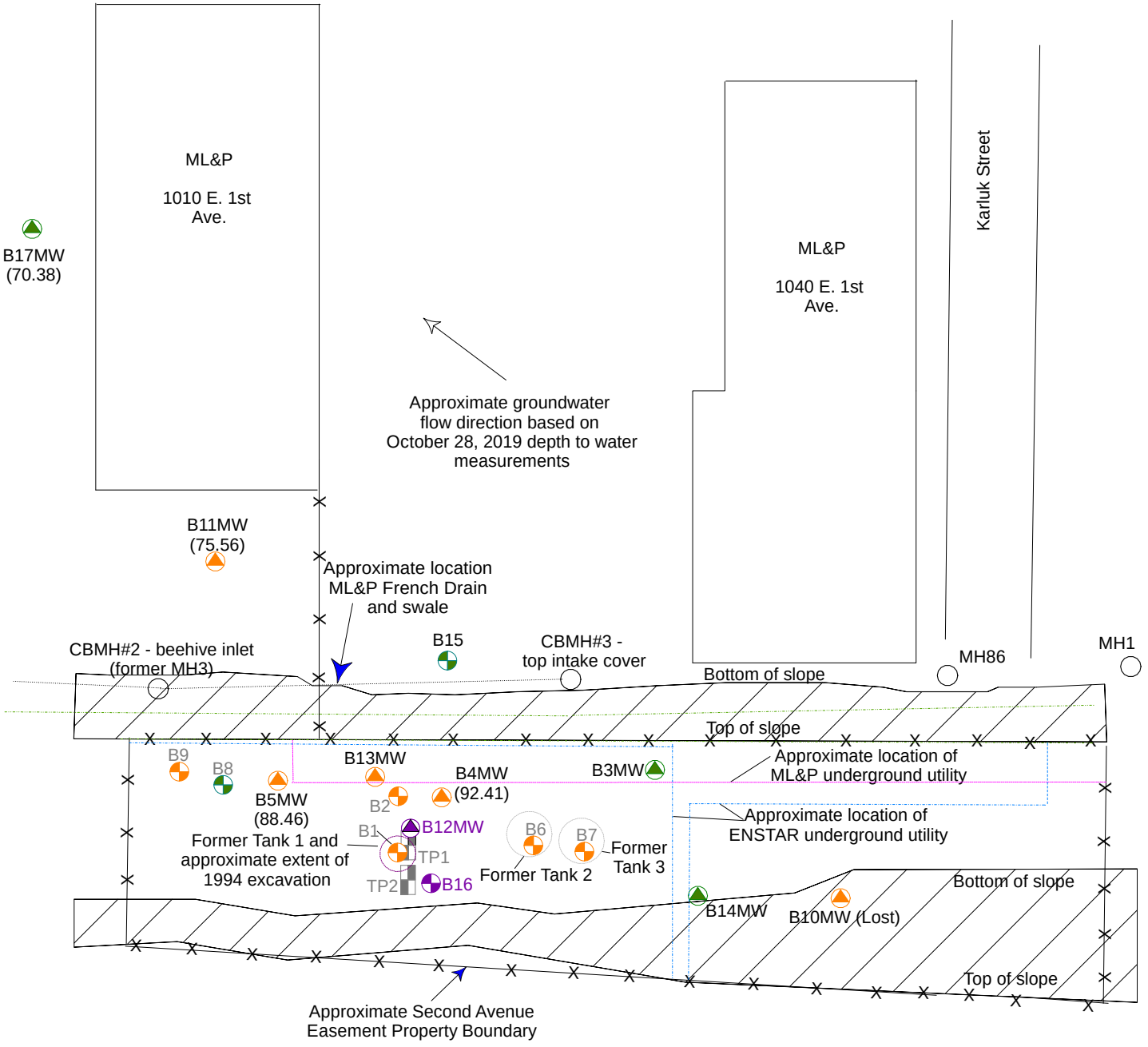
1021 East Third Avenue
Anchorage, AK

VICINITY MAP

January 2020 102104-002

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 1



LEGEND

- B15 — Approximate location of soil boring advanced by Shannon & Wilson in September 1996 (Boring B1 and B2), July 2000 (Borings B6, B7, B8, and B9), October 2016 (Borings B15 and B16)
- B4MW (92.22) — Approximate location of monitoring well installed by Shannon & Wilson in July 2000 (Wells B3MW, B4MW, B5MW, B10MW), February 2011 (Well B11MW), April 2014 (Wells B12MW and B13MW), October 2016 (Well B14MW), and June 2019 (B17MW). Approximate groundwater elevation based on October 28, 2019 water level measurements and June 2019 level-loop survey.
- TP2 — Approximate location of Test Pit TP2 advanced by Shannon & Wilson in June 2001.
- Approximate location of former storage tank
- CBMH#2 — Approximate location of Manhole CBMH#2
- Approximate location of fence/property boundary

Purple — Analytical soil results for one or more target analyte(s) exceed the ADEC Maximum Allowable Concentrations (MAC)

Orange — Analytical soil results for one or more target analyte(s) exceed the most stringent ADEC Method Two cleanup levels

Green — Analytical soil results for one or more target analyte(s) detected at concentrations less than ADEC Method Two cleanup levels

0 60 120

APPROXIMATE SCALE IN FEET

N

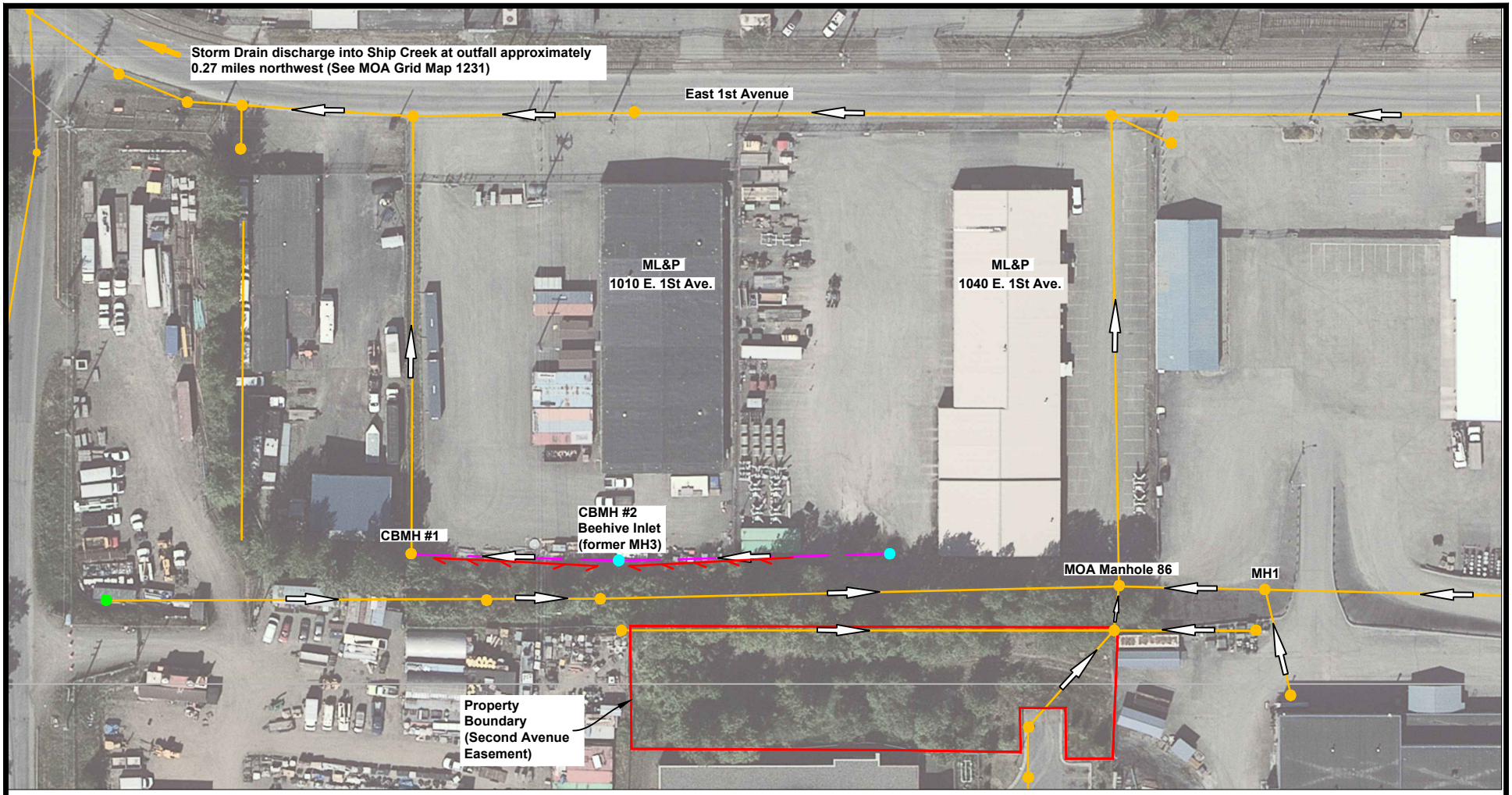
1021 East Third Avenue
Anchorage, Alaska

SITE PLAN

January 2020 102104-002

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

Fig. 2



Map adapted from aerial imagery provided by the Municipality of Anchorage (MOA) (Image date: May 2015), MOA Grid Maps (SW1231 and 1232), and ML&P Warehouse Drainage Improvements (Dated 07/25/2015). The MOA Grid maps and ML&P Figure are provided in Attachment 1.

LEGEND

- Approximate location of an MOA Subdrain
- Approximate location of the ML&P French drain installed in 2015
- Approximate location of Manhole
- Approximate location of Cleanout
- Storm water inlet/intake
- MH1 — Approximate location of the MH1 and MH3 sampled by Shannon & Wilson, Inc.
- Subdrain or French Drain water flow direction
- Approximate location and flow direction of the ML&P surface swale

N

0 50 100 200

APPROXIMATE SCALE IN FEET

1021 East Third Avenue
Anchorage, Alaska

STORM WATER SYSTEM PLAN

January 2020 102104-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 3

LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 102104-002 Location: 1021 E 3rd Ave Weather: sunny 40°F

Well No.: B4MW

Date: 10/28/19 Time Started: 15:25 Time Completed: 16:55

Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 10:23 Date of Depth Measurement: 10/28/19

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:

Diameter of Casing: 2" Well Screen Interval:

Total Depth of Well Below MP: 10.83 Product Thickness, if noted: —

Depth-to-Water (DTW) Below MP: 5.04

80% prepurge volume is DTW = 6.24

Water Column in Well: 5.79 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 0.93 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/28/19 Time Started: 15:30 Time Completed: 16:05

Three Well Volumes: 2.79 (Gallons in Well x 3)

Gallons Purged: 1.0 Depth of Pump (generally 2 ft from bottom): 6.0

Max. Drawdown (generally 0.3 ft): 0.38 Pump Rate: 0.1 L/min

Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
15:35	0.2	0.1	5.29	0.25	8.60	1167		6.57	176.6	30.13
15:40	0.3	0.1	5.30	0.26	8.63	1225		6.48	179.5	54.16
15:45	0.4	0.1	5.33	0.29	8.13	1249		6.49	176.7	57.82
15:50	0.6	0.1	5.35	0.31	8.22	1251		6.47	175.4	54.12
15:55	0.7	0.1	5.39	0.35	8.47	1248		6.47	172.5	78.69
16:00	0.9	0.1	5.41	0.37	8.57	1247		6.47	168.6	73.20
16:05	1.0	0.1	5.42	0.38	8.66	1247		6.47	165.2	70.00

2 all but turbidity stable + 1 w.v.

16:06 = sample time

SAMPLING DATA

Odor: none Color: slightly foggy

Sample Designation: 102104-B4MW Time / Date: 16:06 10/28/19

QC Sample Designation: 102104-B24MW Time / Date: 16:26 10/28/19

QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: Mini whale

Sampling Method: Submersible Pump / Other: Mini whale

Water Quality Instruments Used/Manufacturer/Model Number YSI 556+ MicroTPW

Calibration Info (Time, Ranges, etc) 8:30 10/28/19 in S&W office

Remarks: drawdown did not stabilize

Sampling Personnel: LCJ

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 102104-002 Location: 1021 E. 3rd Ave Weather: sunny ~45°F

Well No.: B5MW

Date: 10/28/19 Time Started: 14:00 Time Completed: 15:15

Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 10:12 Date of Depth Measurement: 10/28/19

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:

Diameter of Casing: 2" Well Screen Interval:

Total Depth of Well Below MP: 12.29 Product Thickness, if noted: —

Depth-to-Water (DTW) Below MP: 9.89

Water Column in Well: 2.40 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 0.38 (Water Column in Well x Gallons per foot)

80% Purge Volume = DTW of 10.37ft

PURGING DATA

Date Purged: 10/28/19 Time Started: 14:10 Time Completed: 14:30

Three Well Volumes: 1.14 (Gallons in Well x 3)

Gallons Purged: 0.5 Depth of Pump (generally 2 ft from bottom): LJ 10.89

Max. Drawdown (generally 0.3 ft): 0.37 Pump Rate: 0.1 L/min

Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
14:15	0.2	0.1	10.20	0.31	10.69	74		6.59	180.9	49.96
14:20	0.3	0.1	10.24	0.35	10.34	80		6.32	188.8	42.71
14:25	0.4	0.1	10.25	0.36	10.20	83		6.37	187.9	41.77
14:30	0.5	0.1	10.26	0.37	10.15	84		6.30	189.6	39.23
↑ all parameters stable besides turbidity										
	4 > 1 WV purged.									

14:32 = sample time

SAMPLING DATA

Odor: none Color: Pretty clear

Sample Designation: 102104-B5MW Time / Date: 14:32 10/28/19

QC Sample Designation: — Time / Date: —

QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: Minimhale

Sampling Method: Submersible Pump / Other: Minimhale

Water Quality Instruments Used/Manufacturer/Model Number YSI 556+ MicroTPW

Calibration Info (Time, Ranges, etc) 8:30 10/28/19 @ S&W office

Remarks:

Sampling Personnel: LCJ

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 102104-002 Location: 1021 E. 3rd Ave Weather: Sunny 45°F
Well No.: B11MW
Date: 10/28/19 Time Started: 11:45 Time Completed: 13:50
Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 9:46 Date of Depth Measurement: 10/28/19
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____
Diameter of Casing: 2" Well Screen Interval: _____
Total Depth of Well Below MP: 15.22 Product Thickness, if noted: —
Depth-to-Water (DTW) Below MP: 2.75
Water Column in Well: 12.47 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 2.00 (Water Column in Well x Gallons per foot)

Note: 80% Volume would be DTW = 5.24 ft

PURGING DATA

Date Purged: 10/28/19 Time Started: 11:55 Time Completed: 13:00
Three Well Volumes: 6.00 (Gallons in Well x 3)
Gallons Purged: 2.0 Depth of Pump (generally 2 ft from bottom): 3.75
Max. Drawdown (generally 0.3 ft): 1.31 Pump Rate: ~0.1 L/min
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)	depth of Pump
12:00	0.2	0.1	3.06	0.31	10.08	682		6.23	187.0	40.15	
12:05	0.3	0.1	3.36	0.61	9.56	570		6.26	188.4	47.90	3.75
12:10	0.5	0.1	3.42	0.67	9.54	567		6.24	189.5	50.57	3.75
12:15	0.6	0.1	3.44	0.69	9.56	557		6.20	189.3	54.22	3.75
12:20	0.8	0.1	3.50	0.75	9.56	542		6.20	188.4	50.09	3.75
12:25	0.9	0.1	3.55	0.80	9.56	538		6.21	188.1	54.04	3.75

SAMPLING DATA

Odor: none Color: slightly cloudy
Sample Designation: 102104-B11MW Time / Date: 13:01 10/28/19
QC Sample Designation: — Time / Date: —
QA Sample Designation: — Time / Date: —
Evacuation Method: Submersible Pump / Other: Mini whale
Sampling Method: Submersible Pump / Other: Mini whale
Water Quality Instruments Used/Manufacturer/Model Number YSI 556 + MicroTPW
Calibration Info (Time, Ranges, etc) YSI cal @ 8:30 in S&W office 10/28/19
Remarks: drawdown didn't stabilize, have to move pump

Sampling Personnel: LCJ

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Continued from previous page

Job No: 107104-002 Location: 1021 E 3rd Ave Site: Brother Francis

Well No.: B11MW

Date: 10/28/19

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond (uS/cm)	DO (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)	depth of pump 3.75
12:30	1.1	0.1	3.62	0.87	9.57	521		6.22	188.0	49.49	
12:35	1.2	0.1	3.75	1.00	9.63	505		6.24	187.4	54.84	4.50
12:40	1.4	0.1	3.80	1.05	9.68	495		6.26	186.8	49.45	4.50
12:45	1.5	0.1	3.92	1.17	9.76	451		6.39	183.0	43.04	4.50
12:50	1.7	0.1	3.99	1.24	9.87	453		6.39	184.1	48.52	4.50
12:55	1.8	0.1	4.05	1.30	9.98	443		6.30	187.4	50.88	4.50
13:00	2.0	0.1	4.06	1.31	10.07	437		6.30	187.9	53.20	4.50
	↑ one well volume removed & 1hr purge time & >80% pre purge volume.										
13:01 = sample time											

	Interval (minutes)	Pump Rate (mL/min):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
ADEC May 2010)	3 to 5	100 to 150	<0.0328	±3% or ±0.2	±3%	±10%	±0.1	±10	±10%
EPA Jan. 2010)	5	50	<0.3	±3%	±3%	±10%	±0.1	±10	±10% or <5 NTU

EPA guidance requires all parameters to stabilize for 3 consecutive readings before sampling. If not stable within 2 hours, collect sample.

ADEC guidance requires 3 parameters (4 if using temperature) to stabilize for 3 consecutive readings before sampling.

LOW-FLOW WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 102104-002 Location: 1021 E. 3rd Ave Weather: Overcast ~40°F

Well No.: B17MW

Date: 10/28/19 Time Started: 10:30 Time Completed: 11:43

Develop Date: — Develop End Time: — (24 hour break)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 9:33 Date of Depth Measurement: 10/28/19

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____

Diameter of Casing: 2" Well Screen Interval: _____

Total Depth of Well Below MP: 12.63 Product Thickness, if noted: —

Depth-to-Water (DTW) Below MP: 7.45

Water Column in Well: 5.18 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 0.83 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/28/19 Time Started: 10:46 Time Completed: 11:26

Three Well Volumes: 2.49 (Gallons in Well x 3)

Gallons Purged: 5.3 Depth of Pump (generally 2 ft from bottom): 8.45

Max. Drawdown (generally 0.3 ft): 0.04 Pump Rate: 0.5 L/min

Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
10:51	0.6	0.5	7.50	0.05	11.60	976		5.43	220.3	0.00
10:56	1.3	0.5	7.49	0.04	11.85	1000		5.61	212.6	1.90
11:01	1.9	0.5	7.49	0.04	11.82	1199		5.78	209.0	170.0
11:06	2.6	0.5	7.49	0.04	12.11	1079		5.87	205.7	33.47
11:11	3.3	0.5	7.49	0.04	12.17	1052		5.89	203.3	59.71
11:16	3.9	0.5	7.49	0.04	12.18	1030		5.96	198.8	55.40

SAMPLING DATA

Odor: None Color: clear

Sample Designation: 102104-B17MW Time / Date: 11:27 10/28/19

QC Sample Designation: — Time / Date: —

QA Sample Designation: — Time / Date: —

Evacuation Method: Submersible Pump / Other: Mini whale

Sampling Method: Submersible Pump / Other: Mini whale

Water Quality Instruments Used/Manufacturer/Model Number YSI 556 + MicroTPW

Calibration Info (Time, Ranges, etc) YSI cal. @ 8:30 @ SW office

Remarks: Only lead sample.

Sampling Personnel: LCJ

WELL CASING VOLUMES (GAL/FT): 1" = 0.04 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

LOW-FLOW WATER SAMPLING LOG

Continued from previous page

Job No: 102104-002 Location: 1021 E 3rd Ave Site: Brother Francis
Well No.: B17MW
Date: 10/28/19

Time:	Gallons:	Pump Rate (L/min):	DTW (ft BMP):	Drawdown (ft):	Temp: (°C)	Sp. Cond (uS/cm)	DO (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
11:21	4.6	0.5	7.49	0.04	12.19	1013		5.94	199.5	14.55
11:26	9.3	0.5	7.49	0.04	12.37	1012		5.99	196.5	4.78
↑ all but turbidity stable										
11:27 = sample time										

	Interval (minutes)	Pump Rate (mL/min):	Drawdown (ft):	Temp: (°C)	Sp. Cond.: (uS/cm)	DO (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (NTU)
ADEC May 2010)	3 to 5	100 to 150	<0.0328	±3% or ±0.2	±3%	±10%	±0.1	±10	±10%
EPA Jan. 2010)	5	50	<0.3	±3%	±3%	±10%	±0.1	±10	±10% or <5 NTU

EPA guidance requires all parameters to stabilize for 3 consecutive readings before sampling. If not stable within 2 hours, collect sample.
ADEC guidance requires 3 parameters (4 if using temperature) to stabilize for 3 consecutive readings before sampling.

Shannon & Wilson, Inc.

STORM WATER SAMPLING LOG

Job No: 102104-MH1 Location: 102 E 3rd Ave Weather: Rainy. 45°F

Date: 10/29/19 Time Started: 11:45 Time Completed: 12:00

WATER LEVEL DATA

Time of Depth Measurement: 11:46 Date of Depth Measurement: 10/29/19

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: top of MH cover

Depth-to-Water (DTW) Below MP: 7.36

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)	DTW (Feet)
11:50	—	10.1	661	—	7.27	—	4.07	7.36

SAMPLING DATA

Odor: none Color: clear

Sample Designation: 102104-MH1 Time / Date: 11:52 10/29/19

QC Sample Designation: — Time / Date: —

QA Sample Designation: — Time / Date: —

Sampling Method: Dedicated Bladder Pump / Other: Swing sampler

Remarks:

Sampling Personnel: LCJ, TWC

STORM WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 102104-MH86 Location: 1021 E 3rd Ave Weather: overcast 45°F

Date: 10/29/19 Time Started: 11:20 Time Completed: 11:40

WATER LEVEL DATA

Time of Depth Measurement: 11:27 Date of Depth Measurement: 10/29/19

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: top of manhole covering

Depth-to-Water (DTW) Below MP: 4.98

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)	DTW (Feet)
11:29	—	9.2	626 µS LJ	—	6.90	—	6.64	4.98

SAMPLING DATA

Odor: none Color: Pretty clear

Sample Designation: 102104-MH86 Time / Date: 11:30 10/29/19

QC Sample Designation: — Time / Date: —

QA Sample Designation: — Time / Date: —

Sampling Method: Dedicated Bladder Pump / Other: Surry sampler

Remarks:

Sampling Personnel: LCJ, TWL

STORM WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 102104-MH3(CBMH2) Location: Brother Francis, Anchor Weather: Overcast 45°F

Date: 10/29/19 Time Started: 10:56 Time Completed: 11:15

WATER LEVEL DATA

Time of Depth Measurement: 10/29/19 Date of Depth Measurement: 10:58

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / (Other:) top of MH covering

Depth-to-Water (DTW) Below MP: 2.25

Time:	Gallons:	Temp: (°C)	Sp. Cond.: (µS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)	DTW (Feet)
11:04	—	10.1	638	—	5.89	—	204.3	2.25

SAMPLING DATA

Odor: none Color: light orange

Sample Designation: 102104-MH3(CBMH2) Time / Date: 11:05 10/29/19

QC Sample Designation: — Time / Date: —

QA Sample Designation: — Time / Date: —

Sampling Method: Dedicated Bladder Pump (Other:) Swiy sampler

Remarks:

Sampling Personnel: LCJ, TWC

LCJ

102104-002 Brother Francis 10/28/19

8:30 calibrate YSI 556
9:00 leave S&W office
9:20 get to site, call Steve for access
9:25 Steve unlocks gate. get DTW at B17MW & B1MW
10:00 go up to easement

* Note that there appears to be ticks in the easement.

10:30 start sampling @ B17MW
13:50 done sampling B17MW & B1MW. go back to easement
16:55 done sampling. lock up easement. leave site.
17:15 back at S&W office

10/29/19

10:00 drop GW samples off at SGS, head to Brother Francis w/ Trevor to get stormwater samples
10:50 calls Steve to access gate
10:58 Beehive manhole sample
12:00 done w/ storm water samples

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks Street Suite 3
Anchorage, AK 99518
(907)433-3246

Report Number: **1196507**

Client Project: **102104-002 Former 2nd Ave**

Dear Trevor Crosby,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Jillian at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Jillian Janssen
2019.11.12
09:55:13 -09'00'

Jillian Janssen Date
Project Manager
Jillian.Janssen@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1196507**
Project Name/Site: **102104-002 Former 2nd Ave**
Project Contact: **Trevor Crosby**

Refer to sample receipt form for information on sample condition.

LCSD for HBN 1801817 [VXX/3518 (1541875) LCSD

8260C - LCSD recovery for bromoform does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
102104-MH1	1196507001	10/29/2019	10/30/2019	Water (Surface, Eff., Ground)
102104-MH86	1196507002	10/29/2019	10/30/2019	Water (Surface, Eff., Ground)
102104-MH3 (CBMH2)	1196507003	10/29/2019	10/30/2019	Water (Surface, Eff., Ground)
102104-WTB	1196507004	10/29/2019	10/30/2019	Water (Surface, Eff., Ground)

Method	Method Description
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
SW6020A	Metals by ICP-MS
SW8260C	Volatile Organic Compounds (W) FULL

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Detectable Results Summary

Client Sample ID: **102104-MH1**
Lab Sample ID: 1196507001

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	0.447J	mg/L
	Residual Range Organics	0.818	mg/L
Volatile GC/MS	Chloromethane	0.501J	ug/L

Client Sample ID: **102104-MH86**
Lab Sample ID: 1196507002

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	0.347J	mg/L
	Residual Range Organics	0.663	mg/L
Volatile GC/MS	Chloromethane	0.369J	ug/L

Client Sample ID: **102104-MH3 (CBMH2)**
Lab Sample ID: 1196507003

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	0.335J	mg/L
	Residual Range Organics	0.627	mg/L
Volatile GC/MS	Chloromethane	0.486J	ug/L

Client Sample ID: **102104-WTB**
Lab Sample ID: 1196507004

	Parameter	Result	Units
Volatile GC/MS	Methylene chloride	1.23J	ug/L

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-MH1**

Client Sample ID: **102104-MH1**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507001
Lab Project ID: 1196507

Collection Date: 10/29/19 11:52
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	0.500	U	1.00	0.310	ug/L	5		11/09/19 18:13

Batch Information

Analytical Batch: MMS10675
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/09/19 18:13
Container ID: 1196507001-A

Prep Batch: MXX32967
Prep Method: SW3010A
Prep Date/Time: 11/06/19 10:25
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-MH1**

Client Sample ID: **102104-MH1**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507001
Lab Project ID: 1196507

Collection Date: 10/29/19 11:52
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.447	J	0.600	0.180	mg/L	1		11/07/19 16:48
Surrogates								
5a Androstane (surr)	93.3		50-150		%	1		11/07/19 16:48

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 16:48
Container ID: 1196507001-B

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.818		0.500	0.150	mg/L	1		11/07/19 16:48
Surrogates								
n-Triacontane-d62 (surr)	101		50-150		%	1		11/07/19 16:48

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 16:48
Container ID: 1196507001-B

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Results of **102104-MH1**

Client Sample ID: **102104-MH1**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507001
Lab Project ID: 1196507

Collection Date: 10/29/19 11:52
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:23
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 09:23
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:23
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 09:23
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-MH1**

Client Sample ID: **102104-MH1**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507001
Lab Project ID: 1196507

Collection Date: 10/29/19 11:52
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Chloromethane	0.501	J	1.00	0.310	ug/L	1		11/03/19 09:23
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:23
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Freon-113	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		11/03/19 09:23
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
Naphthalene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
o-Xylene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		11/03/19 09:23
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Styrene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Toluene	0.500	U	1.00	0.310	ug/L	1		11/04/19 02:23
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:23
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:23
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		11/03/19 09:23
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		11/03/19 09:23
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		11/03/19 09:23
4-Bromofluorobenzene (surr)	94.7		85-114		%	1		11/03/19 09:23
Toluene-d8 (surr)	103		89-112		%	1		11/03/19 09:23

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-MH1**

Client Sample ID: **102104-MH1**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507001
Lab Project ID: 1196507

Collection Date: 10/29/19 11:52
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 02:23
Container ID: 1196507001-E

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 09:23
Container ID: 1196507001-D

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-MH86**

Client Sample ID: **102104-MH86**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507002
Lab Project ID: 1196507

Collection Date: 10/29/19 11:30
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	0.500	U	1.00	0.310	ug/L	5		11/09/19 18:18

Batch Information

Analytical Batch: MMS10675
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/09/19 18:18
Container ID: 1196507002-A

Prep Batch: MXX32967
Prep Method: SW3010A
Prep Date/Time: 11/06/19 10:25
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-MH86**

Client Sample ID: **102104-MH86**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507002
Lab Project ID: 1196507

Collection Date: 10/29/19 11:30
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.347	J	0.588	0.176	mg/L	1		11/07/19 16:58
Surrogates								
5a Androstane (surr)	94.3		50-150		%	1		11/07/19 16:58

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 16:58
Container ID: 1196507002-B

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.663		0.490	0.147	mg/L	1		11/07/19 16:58
Surrogates								
n-Triacontane-d62 (surr)	103		50-150		%	1		11/07/19 16:58

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 16:58
Container ID: 1196507002-B

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **102104-MH86**

Client Sample ID: **102104-MH86**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507002
Lab Project ID: 1196507

Collection Date: 10/29/19 11:30
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:39
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 09:39
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:39
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 09:39
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-MH86**

Client Sample ID: **102104-MH86**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507002
Lab Project ID: 1196507

Collection Date: 10/29/19 11:30
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Chloromethane	0.369	J	1.00	0.310	ug/L	1		11/03/19 09:39
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:39
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Freon-113	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		11/03/19 09:39
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
Naphthalene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
o-Xylene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		11/03/19 09:39
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Styrene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Toluene	0.500	U	1.00	0.310	ug/L	1		11/04/19 02:39
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:39
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:39
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		11/03/19 09:39
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		11/03/19 09:39
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		11/03/19 09:39
4-Bromofluorobenzene (surr)	95.4		85-114		%	1		11/03/19 09:39
Toluene-d8 (surr)	102		89-112		%	1		11/03/19 09:39

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-MH86**

Client Sample ID: **102104-MH86**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507002
Lab Project ID: 1196507

Collection Date: 10/29/19 11:30
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 02:39
Container ID: 1196507002-E

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 09:39
Container ID: 1196507002-D

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-MH3 (CBMH2)**

Client Sample ID: **102104-MH3 (CBMH2)**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507003
Lab Project ID: 1196507

Collection Date: 10/29/19 11:05
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	0.500	U	1.00	0.310	ug/L	5		11/09/19 18:22

Batch Information

Analytical Batch: MMS10675
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/09/19 18:22
Container ID: 1196507003-A

Prep Batch: MXX32967
Prep Method: SW3010A
Prep Date/Time: 11/06/19 10:25
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-MH3 (CBMH2)**

Client Sample ID: **102104-MH3 (CBMH2)**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507003
Lab Project ID: 1196507

Collection Date: 10/29/19 11:05
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.335	J	0.610	0.183	mg/L	1		11/07/19 17:08
Surrogates								
5a Androstane (surr)	86.3		50-150		%	1		11/07/19 17:08

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 17:08
Container ID: 1196507003-B

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 246 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.627		0.508	0.152	mg/L	1		11/07/19 17:08
Surrogates								
n-Triacontane-d62 (surr)	94.5		50-150		%	1		11/07/19 17:08

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 17:08
Container ID: 1196507003-B

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 246 mL
Prep Extract Vol: 1 mL

Results of **102104-MH3 (CBMH2)**

Client Sample ID: **102104-MH3 (CBMH2)**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507003
Lab Project ID: 1196507

Collection Date: 10/29/19 11:05
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:54
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 09:54
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:54
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 09:54
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-MH3 (CBMH2)**

Client Sample ID: **102104-MH3 (CBMH2)**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507003
Lab Project ID: 1196507

Collection Date: 10/29/19 11:05
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Chloromethane	0.486	J	1.00	0.310	ug/L	1		11/03/19 09:54
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:54
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Freon-113	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		11/03/19 09:54
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
Naphthalene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
o-Xylene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		11/03/19 09:54
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Styrene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Toluene	0.500	U	1.00	0.310	ug/L	1		11/04/19 02:54
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:54
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:54
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		11/03/19 09:54
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		11/03/19 09:54
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		11/03/19 09:54
4-Bromofluorobenzene (surr)	95		85-114		%	1		11/03/19 09:54
Toluene-d8 (surr)	101		89-112		%	1		11/03/19 09:54

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-MH3 (CBMH2)**

Client Sample ID: **102104-MH3 (CBMH2)**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507003
Lab Project ID: 1196507

Collection Date: 10/29/19 11:05
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 02:54
Container ID: 1196507003-E

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 09:54
Container ID: 1196507003-D

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-WTB**

Client Sample ID: **102104-WTB**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507004
Lab Project ID: 1196507

Collection Date: 10/29/19 11:00
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 06:35
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 06:35
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 06:35
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 06:35
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-WTB**

Client Sample ID: **102104-WTB**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507004
Lab Project ID: 1196507

Collection Date: 10/29/19 11:00
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Chloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:35
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Freon-113	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Methylene chloride	1.23	J	5.00	1.00	ug/L	1		11/03/19 06:35
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
Naphthalene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
o-Xylene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		11/03/19 06:35
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Styrene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Toluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:35
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:35
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		11/03/19 06:35
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		11/03/19 06:35
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		11/03/19 06:35
4-Bromofluorobenzene (surr)	96.5		85-114		%	1		11/03/19 06:35
Toluene-d8 (surr)	103		89-112		%	1		11/03/19 06:35

Print Date: 11/12/2019 9:16:17AM

J flagging is activated

Results of **102104-WTB**

Client Sample ID: **102104-WTB**
Client Project ID: **102104-002 Former 2nd Ave**
Lab Sample ID: 1196507004
Lab Project ID: 1196507

Collection Date: 10/29/19 11:00
Received Date: 10/30/19 10:23
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 06:35
Container ID: 1196507004-A

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1801936 [MXX/32967]
Blank Lab ID: 1542401

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003

Results by **SW6020A**

Parameter	Results	LOQ/CL	DL	Units
Lead	0.500U	1.00	0.310	ug/L

Batch Information

Analytical Batch: MMS10675
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: DMM
Analytical Date/Time: 11/9/2019 5:26:40PM

Prep Batch: MXX32967
Prep Method: SW3010A
Prep Date/Time: 11/6/2019 10:25:24AM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [MXX32967]
Blank Spike Lab ID: 1542402
Date Analyzed: 11/09/2019 17:31

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003

Results by **SW6020A**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Lead	1000	1050	105	(88-115)

Batch Information

Analytical Batch: **MMS10675**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexlon P5**
Analyst: **DMM**

Prep Batch: **MXX32967**
Prep Method: **SW3010A**
Prep Date/Time: **11/06/2019 10:25**
Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Matrix Spike Summary

Original Sample ID: 1542403
MS Sample ID: 1542404 MS
MSD Sample ID: 1542405 MSD

Analysis Date: 11/09/2019 17:40
Analysis Date: 11/09/2019 17:45
Analysis Date: 11/09/2019 17:50
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003

Results by **SW6020A**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Lead	1.23	1000	1020	102	1000	1020	101	88-115	0.44	(< 20)

Batch Information

Analytical Batch: MMS10675
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: DMM
Analytical Date/Time: 11/9/2019 5:45:26PM

Prep Batch: MXX32967
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 11/6/2019 10:25:24AM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 11/12/2019 9:16:23AM

Method Blank

Blank ID: MB for HBN 1801817 [VXX/35180]
Blank Lab ID: 1541873

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003, 1196507004

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	2.50U	5.00	1.50	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

Method Blank

Blank ID: MB for HBN 1801817 [VXX/35180]
Blank Lab ID: 1541873

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003, 1196507004

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	96.1	85-114		%
Toluene-d8 (surr)	103	89-112		%

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 1801817 [VXX/35180]
Blank Lab ID: 1541873

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003, 1196507004

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS19626
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: NRB
Analytical Date/Time: 11/3/2019 4:20:00AM

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/3/2019 12:30:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [VXX35180]
Blank Spike Lab ID: 1541874
Date Analyzed: 11/03/2019 04:43

Spike Duplicate ID: LCSD for HBN 1196507 [VXX35180]
Spike Duplicate Lab ID: 1541875
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003, 1196507004

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	32.1	107	30	31.8	106	(78-124)	0.96	(< 20)
1,1,1-Trichloroethane	30	32.2	107	30	31.0	103	(74-131)	4.00	(< 20)
1,1,2,2-Tetrachloroethane	30	29.9	100	30	30.2	101	(71-121)	1.00	(< 20)
1,1,2-Trichloroethane	30	33.2	111	30	33.4	111	(80-119)	0.51	(< 20)
1,1-Dichloroethane	30	32.5	108	30	31.2	104	(77-125)	4.00	(< 20)
1,1-Dichloroethene	30	29.2	98	30	28.1	94	(71-131)	4.10	(< 20)
1,1-Dichloropropene	30	33.4	111	30	32.0	107	(79-125)	4.30	(< 20)
1,2,3-Trichlorobenzene	30	30.9	103	30	34.4	115	(69-129)	10.70	(< 20)
1,2,3-Trichloropropane	30	28.4	95	30	29.3	98	(73-122)	3.00	(< 20)
1,2,4-Trichlorobenzene	30	31.8	106	30	33.0	110	(69-130)	3.70	(< 20)
1,2,4-Trimethylbenzene	30	29.7	99	30	28.4	95	(79-124)	4.40	(< 20)
1,2-Dibromo-3-chloropropane	30	30.5	102	30	32.3	108	(62-128)	5.70	(< 20)
1,2-Dibromoethane	30	30.0	100	30	30.4	101	(77-121)	1.20	(< 20)
1,2-Dichlorobenzene	30	29.7	99	30	29.3	98	(80-119)	1.40	(< 20)
1,2-Dichloroethane	30	32.2	107	30	32.0	107	(73-128)	0.81	(< 20)
1,2-Dichloropropane	30	32.3	108	30	31.1	104	(78-122)	3.80	(< 20)
1,3,5-Trimethylbenzene	30	29.4	98	30	28.4	95	(75-124)	3.20	(< 20)
1,3-Dichlorobenzene	30	30.5	102	30	29.7	99	(80-119)	2.60	(< 20)
1,3-Dichloropropane	30	35.0	117	30	35.1	117	(80-119)	0.07	(< 20)
1,4-Dichlorobenzene	30	30.4	101	30	29.7	99	(79-118)	2.50	(< 20)
2,2-Dichloropropane	30	33.2	111	30	31.7	106	(60-139)	4.90	(< 20)
2-Butanone (MEK)	90	92.4	103	90	101	112	(56-143)	8.90	(< 20)
2-Chlorotoluene	30	30.1	100	30	29.2	97	(79-122)	3.30	(< 20)
2-Hexanone	90	104	116	90	111	124	(57-139)	6.70	(< 20)
4-Chlorotoluene	30	30.6	102	30	29.4	98	(78-122)	3.90	(< 20)
4-Isopropyltoluene	30	29.0	97	30	28.1	94	(77-127)	3.40	(< 20)
4-Methyl-2-pentanone (MIBK)	90	88.4	98	90	92.7	103	(67-130)	4.80	(< 20)
Benzene	30	31.2	104	30	30.4	101	(79-120)	2.70	(< 20)
Bromobenzene	30	29.3	98	30	28.7	96	(80-120)	2.00	(< 20)
Bromochloromethane	30	26.5	88	30	26.1	87	(78-123)	1.70	(< 20)
Bromodichloromethane	30	33.5	112	30	32.8	109	(79-125)	2.10	(< 20)
Bromoform	30	39.1	130	30	39.9	133	* (66-130)	2.10	(< 20)
Bromomethane	30	30.9	103	30	29.4	98	(53-141)	5.00	(< 20)
Carbon disulfide	45	48.7	108	45	46.8	104	(64-133)	4.00	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [VXX35180]
Blank Spike Lab ID: 1541874
Date Analyzed: 11/03/2019 04:43

Spike Duplicate ID: LCSD for HBN 1196507 [VXX35180]
Spike Duplicate Lab ID: 1541875
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003, 1196507004

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	33.3	111	30	32.0	107	(72-136)	4.20	(< 20)
Chlorobenzene	30	28.5	95	30	28.1	94	(82-118)	1.50	(< 20)
Chloroethane	30	31.2	104	30	35.6	119	(60-138)	12.90	(< 20)
Chloroform	30	32.1	107	30	31.1	104	(79-124)	3.30	(< 20)
Chloromethane	30	33.5	112	30	31.6	105	(50-139)	5.80	(< 20)
cis-1,2-Dichloroethene	30	29.1	97	30	28.0	93	(78-123)	3.60	(< 20)
cis-1,3-Dichloropropene	30	32.5	108	30	31.9	106	(75-124)	2.00	(< 20)
Dibromochloromethane	30	31.7	106	30	31.8	106	(74-126)	0.35	(< 20)
Dibromomethane	30	30.8	103	30	30.4	101	(79-123)	1.10	(< 20)
Dichlorodifluoromethane	30	29.1	97	30	27.1	90	(32-152)	7.10	(< 20)
Ethylbenzene	30	31.1	104	30	30.3	101	(79-121)	2.40	(< 20)
Freon-113	45	46.6	103	45	44.9	100	(70-136)	3.70	(< 20)
Hexachlorobutadiene	30	35.6	119	30	34.6	115	(66-134)	3.00	(< 20)
Isopropylbenzene (Cumene)	30	32.8	109	30	32.0	107	(72-131)	2.40	(< 20)
Methylene chloride	30	30.1	100	30	29.0	97	(74-124)	3.70	(< 20)
Methyl-t-butyl ether	45	48.3	107	45	48.5	108	(71-124)	0.46	(< 20)
Naphthalene	30	24.8	83	30	28.1	94	(61-128)	12.30	(< 20)
n-Butylbenzene	30	30.6	102	30	29.4	98	(75-128)	4.00	(< 20)
n-Propylbenzene	30	31.0	103	30	29.6	99	(76-126)	4.60	(< 20)
o-Xylene	30	30.6	102	30	30.4	101	(78-122)	0.69	(< 20)
P & M -Xylene	60	62.2	104	60	61.2	102	(80-121)	1.60	(< 20)
sec-Butylbenzene	30	29.7	99	30	28.1	94	(77-126)	5.60	(< 20)
Styrene	30	31.9	106	30	31.8	106	(78-123)	0.43	(< 20)
tert-Butylbenzene	30	29.1	97	30	27.7	92	(78-124)	4.80	(< 20)
Tetrachloroethene	30	33.3	111	30	32.4	108	(74-129)	2.70	(< 20)
Toluene	30	30.8	103	30	30.0	100	(80-121)	2.60	(< 20)
trans-1,2-Dichloroethene	30	29.4	98	30	28.3	94	(75-124)	3.70	(< 20)
trans-1,3-Dichloropropene	30	35.8	119	30	36.2	121	(73-127)	1.10	(< 20)
Trichloroethene	30	29.7	99	30	28.5	95	(79-123)	4.20	(< 20)
Trichlorofluoromethane	30	32.9	110	30	33.3	111	(65-141)	1.20	(< 20)
Vinyl acetate	30	34.4	115	30	35.0	117	(54-146)	1.60	(< 20)
Vinyl chloride	30	34.2	114	30	31.6	105	(58-137)	7.70	(< 20)
Xylenes (total)	90	92.8	103	90	91.6	102	(79-121)	1.30	(< 20)

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [VXX35180]
Blank Spike Lab ID: 1541874
Date Analyzed: 11/03/2019 04:43

Spike Duplicate ID: LCSD for HBN 1196507 [VXX35180]
Spike Duplicate Lab ID: 1541875
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003, 1196507004

Results by **SW8260C**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	106	106	30	106	106	(81-118)	0.23	
4-Bromofluorobenzene (surr)	30	92	92	30	89.8	90	(85-114)	2.40	
Toluene-d8 (surr)	30	100	100	30	101	101	(89-112)	0.36	

Batch Information

Analytical Batch: **VMS19626**
Analytical Method: **SW8260C**
Instrument: **Agilent 7890-75MS**
Analyst: **NRB**

Prep Batch: **VXX35180**
Prep Method: **SW5030B**
Prep Date/Time: **11/03/2019 00:30**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 1801864 [VXX/35191]
Blank Lab ID: 1542023

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	98.8	89-112		%

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Instrument: VPA 780/5975 GC/MS
Analyst: NRB
Analytical Date/Time: 11/3/2019 9:20:00PM

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/3/2019 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [VXX35191]
Blank Spike Lab ID: 1542024
Date Analyzed: 11/03/2019 21:36

Spike Duplicate ID: LCSD for HBN 1196507 [VXX35191]
Spike Duplicate Lab ID: 1542025
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Toluene	30	27.6	92	30	27.2	91	(80-121)	1.40	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	95.6	96	30	97.9	98	(81-118)	2.30	
4-Bromofluorobenzene (surr)	30	97.8	98	30	98.2	98	(85-114)	0.40	
Toluene-d8 (surr)	30	99.3	99	30	98.5	99	(89-112)	0.81	

Batch Information

Analytical Batch: **VMS19630**
Analytical Method: **SW8260C**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **NRB**

Prep Batch: **VXX35191**
Prep Method: **SW5030B**
Prep Date/Time: **11/03/2019 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 1801763 [XXX/42548]
Blank Lab ID: 1541547

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	93.4	60-120		%

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: JMG
Analytical Date/Time: 11/7/2019 11:23:00AM

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/1/2019 9:24:18AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [XXX42548]
Blank Spike Lab ID: 1541548
Date Analyzed: 11/07/2019 11:53

Spike Duplicate ID: LCSD for HBN 1196507 [XXX42548]
Spike Duplicate Lab ID: 1541549
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	18.7	94	20	20.0	100	(75-125)	6.40	(< 20)
Surrogates									
5a Androstane (surr)	0.4	96.7	97	0.4	106	106	(60-120)	9.10	

Batch Information

Analytical Batch: **XFC15464**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **JMG**

Prep Batch: **XXX42548**
Prep Method: **SW3520C**
Prep Date/Time: **11/01/2019 09:24**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1801763 [XXX/42548]
Blank Lab ID: 1541547

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196507001, 1196507002, 1196507003

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	0.250U	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	95.3	60-120		%

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: JMG
Analytical Date/Time: 11/7/2019 11:23:00AM

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/1/2019 9:24:18AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196507 [XXX42548]
Blank Spike Lab ID: 1541548
Date Analyzed: 11/07/2019 11:53

Spike Duplicate ID: LCSD for HBN 1196507 [XXX42548]
Spike Duplicate Lab ID: 1541549
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196507001, 1196507002, 1196507003

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	16.6	83	20	17.8	89	(60-120)	6.90	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	89.5	90	0.4	101	101	(60-120)	12.10	

Batch Information

Analytical Batch: **XFC15464**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **JMG**

Prep Batch: **XXX42548**
Prep Method: **SW3520C**
Prep Date/Time: **11/01/2019 09:24**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

1196507

334867 WSW 10/30/19

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Laboratory SGS Page 1 of 1
Attn: Jillian

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

2705 Saint Andrews Loop, Suite A
Pasco, WA 99301-3378
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

3990 Collins Way, Suite 100
Lake Oswego, OR 97035
(503) 223-6147

1321 Bannock Street, Suite 200
Denver, CO 80204
(303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	DRO/RRO AK102/AK103	VOCs 8260C	Total Lead 6020A				Total Number of Containers	Remarks/Matrix
102104-MH1	(1) A-F	11:52	10/29/19		X	X	X	X				6	Stormwater
102104-MH86	(2) A-F	11:30	↓		↓	↓	↓	↓				↓	↓
102104-MH3(CBMH2)	(3) A-F	11:05			↓	↓	↓	↓				↓	↓
102104-WTB	(4) A-C	11:00	↓				↓					3	lab trip blank

Project Information	Sample Receipt
Project Number: 102104-002	Total Number of Containers
Project Name: Former 2nd Ave	COC Seals/Intact? Y/N/NA
Contact: TWC	Received Good Cond./Cold
Ongoing Project? Yes ☒ No ☐	Delivery Method:
Sampler: LCJ, TWC	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: Standard
Special Instructions: Level 2 deliverables; SGS Quote 360185

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 10:25	Signature: Time:	Signature: Time:
Printed Name: Lori Jones Date: 10/30/19	Printed Name: Date:	Printed Name: Date:
Company: SW	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 1023
Printed Name: Date:	Printed Name: Date:	Printed Name: Nicole Warn Date: 10/30/19
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

TB: 0.1059 CS: HD

No. 39 035003

e-Sample Receipt Form

SGS Workorder #: **1196507**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		Yes — Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	Absent
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
	N/A	**Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 0.1 °C Therm. ID: D59
		Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	No	Sample 1 collection time was labeled 11:55. Proceeding per CoC.
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
	N/A	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1196507001-A	HNO3 to pH < 2	OK			
1196507001-B	HCL to pH < 2	OK			
1196507001-C	HCL to pH < 2	OK			
1196507001-D	HCL to pH < 2	OK			
1196507001-E	HCL to pH < 2	OK			
1196507001-F	HCL to pH < 2	OK			
1196507002-A	HNO3 to pH < 2	OK			
1196507002-B	HCL to pH < 2	OK			
1196507002-C	HCL to pH < 2	OK			
1196507002-D	HCL to pH < 2	OK			
1196507002-E	HCL to pH < 2	OK			
1196507002-F	HCL to pH < 2	OK			
1196507003-A	HNO3 to pH < 2	OK			
1196507003-B	HCL to pH < 2	OK			
1196507003-C	HCL to pH < 2	OK			
1196507003-D	HCL to pH < 2	OK			
1196507003-E	HCL to pH < 2	OK			
1196507003-F	HCL to pH < 2	OK			
1196507004-A	HCL to pH < 2	OK			
1196507004-B	HCL to pH < 2	OK			
1196507004-C	HCL to pH < 2	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

Laboratory Data Review Checklist

Completed By:

Lori Jones

Title:

Environmental Engineering Staff

Date:

January 2020

Consultant Firm:

Shannon & Wilson, Inc.

Laboratory Name:

SGS North America, Inc.

Laboratory Report Number:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

ADEC File Number:

2100.26.326

Hazard Identification Number:

24899

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   Yes☐ No☐ N/A☒ Comments:

   The samples were not transferred to another "network" laboratory or sub-contracted to an alternate laboratory.

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   Yes☒ No☐ N/A☐ Comments:

   The temperature blank was documented as 0.1°C.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   Yes☒ No☐ N/A☐ Comments:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes☒ No☐ N/A☐ Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes☒ No☐ N/A☐ Comments:

The sample collection time was listed on the CoC as 11:55 for sample MH1. However, the collection time listed on the sample containers was 11:52, which matches the field notes.

e. Data quality or usability affected?

Comments:

Data quality/usability is unaffected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes☒ No☐ N/A☐ Comments:

The case narrative notes that:

- For Method 8260C, LCSD recovery for bromoform does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

c. Were all corrective actions documented?

Yes☐ No☒ N/A☐ Comments:

The case narrative does not discuss corrective actions taken.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative does not discuss data quality/usability.

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes☐ No☒ N/A☐ Comments:

The limit of detection (LOD) for 1,2,3-Trichloropropane (0.500 µg/L) is greater than the ADEC Table C Cleanup Level (0.0075 µg/L).

e. Data quality or usability affected?

The data cannot be used to determine whether or not a concentration of 1,2,3-Trichloropropane is present at a concentration greater than the ADEC cleanup level and less than the LOD.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes☒ No☐ N/A☐ Comments:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

v. Data quality or usability affected?

Comments:

The data is considered acceptable for the purposes of this project.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

LCSD recovery for bromoform does not meet QC criteria.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

All samples are potentially affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☒ N/A☐ Comments:

Bromoform was not detected in the project samples. Therefore, flagging is not required.

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

See above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality/usability is unaffected.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes☒ No☐ N/A☐ Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iv. Data quality or usability affected?

Comments:

Data quality/usability is unaffected.

e. Trip Blanks

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes☒ No☐ N/A☐ Comments:

One water trip blank (WTB) was submitted to the laboratory with the project samples.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes☐ No☒ N/A☐ Comments:

All samples were transported in one cooler.

iii. All results less than LOQ and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

The trip blank contained an estimated concentration of methylene chloride (0.00123 J mg/L) less than the LOQ.

iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

All project samples are potentially affected; however, methylene chloride was not detected in the project samples.

v. Data quality or usability affected?

Comments:

See above.

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes☒ No☐ N/A☐ Comments:

Field duplicate submitted under separate laboratory work order.

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

ii. Submitted blind to lab?

Yes☐ No☐ N/A☒ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A☒ Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A☒ Comments:

An equipment blank was not included in our ADEC-approved work plan.

i. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☒ Comments:

ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

iii. Data quality or usability affected?

Comments:

1196507

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

   a. Defined and appropriate?

      Yes☒ No☐ N/A☐ Comments:

Laboratory-specific flags are defined on page 3 of the laboratory report.

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks Street Suite 3
Anchorage, AK 99518
(907)433-3246

Report Number: **1196484**

Client Project: **102104-002 Former 2nd Ave Tnk**

Dear Trevor Crosby,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Jillian at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Jillian Janssen
2019.11.12
09:51:10
-09'00'

Jillian Janssen Date
Project Manager
Jillian.Janssen@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1196484**
Project Name/Site: **102104-002 Former 2nd Ave Tnk**
Project Contact: **Trevor Crosby**

Refer to sample receipt form for information on sample condition.

LCSD for HBN 1801817 [VXX/3518 (1541875) LCSD

8260C - LCSD recovery for bromoform does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
102104-B4MW	1196484001	10/28/2019	10/29/2019	Water (Surface, Eff., Ground)
102104-B5MW	1196484002	10/28/2019	10/29/2019	Water (Surface, Eff., Ground)
102104-B11MW	1196484003	10/28/2019	10/29/2019	Water (Surface, Eff., Ground)
102104-B17MW	1196484004	10/28/2019	10/29/2019	Water (Surface, Eff., Ground)
102104-B24MW	1196484005	10/28/2019	10/29/2019	Water (Surface, Eff., Ground)
102104-WTB	1196484006	10/28/2019	10/29/2019	Water (Surface, Eff., Ground)

Method	Method Description
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
SW6020A	Metals by ICP-MS
SW8260C	Volatile Organic Compounds (W) FULL

Detectable Results Summary

Client Sample ID: **102104-B4MW**
Lab Sample ID: 1196484001

	Parameter	Result	Units
Metals by ICP/MS	Lead	3.31	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	5.78	mg/L
	Residual Range Organics	3.29	mg/L
Volatile GC/MS	4-Isopropyltoluene	0.464J	ug/L
	sec-Butylbenzene	0.414J	ug/L

Client Sample ID: **102104-B5MW**
Lab Sample ID: 1196484002

	Parameter	Result	Units
Metals by ICP/MS	Lead	15.0	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	2.10	mg/L
	Residual Range Organics	3.97	mg/L
Volatile GC/MS	Chloromethane	0.335J	ug/L

Client Sample ID: **102104-B11MW**
Lab Sample ID: 1196484003

	Parameter	Result	Units
Metals by ICP/MS	Lead	5.76	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.574J	mg/L
	Residual Range Organics	0.980	mg/L

Client Sample ID: **102104-B24MW**
Lab Sample ID: 1196484005

	Parameter	Result	Units
Metals by ICP/MS	Lead	3.22	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	3.71	mg/L
	Residual Range Organics	2.39	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	0.482J	ug/L
	4-Isopropyltoluene	0.503J	ug/L
	Chloromethane	0.376J	ug/L
	o-Xylene	0.395J	ug/L
	sec-Butylbenzene	0.439J	ug/L

Client Sample ID: **102104-WTB**
Lab Sample ID: 1196484006

	Parameter	Result	Units
Volatile GC/MS	Methylene chloride	1.91J	ug/L

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-B4MW**

Client Sample ID: **102104-B4MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484001
Lab Project ID: 1196484

Collection Date: 10/28/19 16:06
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	3.31		1.00	0.310	ug/L	5		11/02/19 22:25

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/02/19 22:25
Container ID: 1196484001-F

Prep Batch: MXX32946
Prep Method: SW3010A
Prep Date/Time: 10/30/19 12:22
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-B4MW**

Client Sample ID: **102104-B4MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484001
Lab Project ID: 1196484

Collection Date: 10/28/19 16:06
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	5.78		0.566	0.170	mg/L	1		11/07/19 16:08
Surrogates								
5a Androstane (surr)	87		50-150		%	1		11/07/19 16:08

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 16:08
Container ID: 1196484001-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	3.29		0.472	0.142	mg/L	1		11/07/19 16:08
Surrogates								
n-Triacontane-d62 (surr)	95.8		50-150		%	1		11/07/19 16:08

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 16:08
Container ID: 1196484001-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Results of **102104-B4MW**

Client Sample ID: **102104-B4MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484001
Lab Project ID: 1196484

Collection Date: 10/28/19 16:06
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 08:22
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/04/19 01:21
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:22
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 08:22
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:22
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:22
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
4-Isopropyltoluene	0.464	J	1.00	0.310	ug/L	1		11/03/19 08:22
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:22
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 08:22
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 08:22
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:22
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:22
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:22

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B4MW**

Client Sample ID: **102104-B4MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484001
Lab Project ID: 1196484

Collection Date: 10/28/19 16:06
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Chloromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		11/03/19 08:22
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		11/03/19 08:22
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		11/04/19 01:21
Freon-113	5.00 U		10.0	3.10	ug/L	1		11/03/19 08:22
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		11/03/19 08:22
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		11/03/19 08:22
Naphthalene	0.500 U		1.00	0.310	ug/L	1		11/04/19 01:21
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
o-Xylene	0.500 U		1.00	0.310	ug/L	1		11/04/19 01:21
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		11/04/19 01:21
sec-Butylbenzene	0.414 J		1.00	0.310	ug/L	1		11/03/19 08:22
Styrene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Toluene	0.500 U		1.00	0.310	ug/L	1		11/04/19 01:21
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 08:22
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		11/03/19 08:22
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		11/03/19 08:22
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		11/04/19 01:21
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		11/03/19 08:22
4-Bromofluorobenzene (surr)	95.8		85-114		%	1		11/03/19 08:22
Toluene-d8 (surr)	100		89-112		%	1		11/03/19 08:22

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B4MW**

Client Sample ID: **102104-B4MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484001
Lab Project ID: 1196484

Collection Date: 10/28/19 16:06
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 01:21
Container ID: 1196484001-D

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 08:22
Container ID: 1196484001-C

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-B5MW**

Client Sample ID: **102104-B5MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484002
Lab Project ID: 1196484

Collection Date: 10/28/19 14:32
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	15.0		1.00	0.310	ug/L	5		11/02/19 22:30

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/02/19 22:30
Container ID: 1196484002-F

Prep Batch: MXX32946
Prep Method: SW3010A
Prep Date/Time: 10/30/19 12:22
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-B5MW**

Client Sample ID: **102104-B5MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484002
Lab Project ID: 1196484

Collection Date: 10/28/19 14:32
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	2.10		0.566	0.170	mg/L	1		11/07/19 16:18
Surrogates								
5a Androstane (surr)	83.7		50-150		%	1		11/07/19 16:18

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 16:18
Container ID: 1196484002-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	3.97		0.472	0.142	mg/L	1		11/07/19 16:18
Surrogates								
n-Triacontane-d62 (surr)	92.6		50-150		%	1		11/07/19 16:18

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 16:18
Container ID: 1196484002-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Results of **102104-B5MW**

Client Sample ID: **102104-B5MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484002
Lab Project ID: 1196484

Collection Date: 10/28/19 14:32
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 08:37
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/04/19 01:36
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 08:37
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 08:37
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 08:37
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B5MW**

Client Sample ID: **102104-B5MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484002
Lab Project ID: 1196484

Collection Date: 10/28/19 14:32
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Chloromethane	0.335	J	1.00	0.310	ug/L	1		11/03/19 08:37
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:37
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Freon-113	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		11/03/19 08:37
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
Naphthalene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
o-Xylene	0.500	U	1.00	0.310	ug/L	1		11/04/19 01:36
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		11/04/19 01:36
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Styrene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Toluene	0.500	U	1.00	0.310	ug/L	1		11/04/19 01:36
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:37
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:37
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		11/03/19 08:37
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		11/04/19 01:36
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		11/03/19 08:37
4-Bromofluorobenzene (surr)	94		85-114		%	1		11/03/19 08:37
Toluene-d8 (surr)	102		89-112		%	1		11/03/19 08:37

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B5MW**

Client Sample ID: **102104-B5MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484002
Lab Project ID: 1196484

Collection Date: 10/28/19 14:32
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 01:36
Container ID: 1196484002-D

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 08:37
Container ID: 1196484002-C

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-B11MW**

Client Sample ID: **102104-B11MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484003
Lab Project ID: 1196484

Collection Date: 10/28/19 13:01
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	5.76		1.00	0.310	ug/L	5		11/02/19 22:35

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/02/19 22:35
Container ID: 1196484003-F

Prep Batch: MXX32946
Prep Method: SW3010A
Prep Date/Time: 10/30/19 12:22
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Results of **102104-B11MW**

Client Sample ID: **102104-B11MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484003
Lab Project ID: 1196484

Collection Date: 10/28/19 13:01
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.574	J	0.588	0.176	mg/L	1		11/07/19 16:28
Surrogates								
5a Androstane (surr)	83.6		50-150		%	1		11/07/19 16:28

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 16:28
Container ID: 1196484003-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.980		0.490	0.147	mg/L	1		11/07/19 16:28
Surrogates								
n-Triacontane-d62 (surr)	91.6		50-150		%	1		11/07/19 16:28

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 16:28
Container ID: 1196484003-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **102104-B11MW**

Client Sample ID: **102104-B11MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484003
Lab Project ID: 1196484

Collection Date: 10/28/19 13:01
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 08:53
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 08:53
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 08:53
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 08:53
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B11MW**

Client Sample ID: **102104-B11MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484003
Lab Project ID: 1196484

Collection Date: 10/28/19 13:01
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Chloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 08:53
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Freon-113	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		11/03/19 08:53
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
Naphthalene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
o-Xylene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		11/03/19 08:53
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Styrene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Toluene	0.500	U	1.00	0.310	ug/L	1		11/04/19 01:52
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 08:53
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		11/03/19 08:53
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		11/03/19 08:53
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		11/03/19 08:53
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		11/03/19 08:53
4-Bromofluorobenzene (surr)	95		85-114		%	1		11/03/19 08:53
Toluene-d8 (surr)	102		89-112		%	1		11/03/19 08:53

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B11MW**

Client Sample ID: **102104-B11MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484003
Lab Project ID: 1196484

Collection Date: 10/28/19 13:01
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 01:52
Container ID: 1196484003-D

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 08:53
Container ID: 1196484003-C

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-B17MW**

Client Sample ID: **102104-B17MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484004
Lab Project ID: 1196484

Collection Date: 10/28/19 11:27
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	0.500	U	1.00	0.310	ug/L	5		11/02/19 22:39

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/02/19 22:39
Container ID: 1196484004-A

Prep Batch: MXX32946
Prep Method: SW3010A
Prep Date/Time: 10/30/19 12:22
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-B24MW**

Client Sample ID: **102104-B24MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484005
Lab Project ID: 1196484

Collection Date: 10/28/19 16:26
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	3.22		1.00	0.310	ug/L	5		11/02/19 22:53

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Analyst: DMM
Analytical Date/Time: 11/02/19 22:53
Container ID: 1196484005-F

Prep Batch: MXX32946
Prep Method: SW3010A
Prep Date/Time: 10/30/19 12:22
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Results of **102104-B24MW**

Client Sample ID: **102104-B24MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484005
Lab Project ID: 1196484

Collection Date: 10/28/19 16:26
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	3.71		0.577	0.173	mg/L	1		11/07/19 16:38
Surrogates								
5a Androstane (surr)	82.1		50-150		%	1		11/07/19 16:38

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 11/07/19 16:38
Container ID: 1196484005-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	2.39		0.481	0.144	mg/L	1		11/07/19 16:38
Surrogates								
n-Triacontane-d62 (surr)	89.8		50-150		%	1		11/07/19 16:38

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 11/07/19 16:38
Container ID: 1196484005-A

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/01/19 09:24
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Results of **102104-B24MW**

Client Sample ID: **102104-B24MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484005
Lab Project ID: 1196484

Collection Date: 10/28/19 16:26
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:08
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,2,4-Trimethylbenzene	0.482	J	1.00	0.310	ug/L	1		11/03/19 09:08
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:08
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 09:08
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:08
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:08
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
4-Isopropyltoluene	0.503	J	1.00	0.310	ug/L	1		11/03/19 09:08
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:08
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 09:08
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 09:08
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 09:08
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 09:08
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 09:08

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B24MW**

Client Sample ID: **102104-B24MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484005
Lab Project ID: 1196484

Collection Date: 10/28/19 16:26
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Chloromethane	0.376 J		1.00	0.310	ug/L	1		11/03/19 09:08
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		11/03/19 09:08
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		11/03/19 09:08
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Freon-113	5.00 U		10.0	3.10	ug/L	1		11/03/19 09:08
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		11/03/19 09:08
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		11/03/19 09:08
Naphthalene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
o-Xylene	0.395 J		1.00	0.310	ug/L	1		11/03/19 09:08
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		11/03/19 09:08
sec-Butylbenzene	0.439 J		1.00	0.310	ug/L	1		11/03/19 09:08
Styrene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Toluene	0.500 U		1.00	0.310	ug/L	1		11/04/19 02:08
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 09:08
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		11/03/19 09:08
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		11/03/19 09:08
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		11/03/19 09:08
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	1		11/03/19 09:08
4-Bromofluorobenzene (surr)	95.9		85-114		%	1		11/03/19 09:08
Toluene-d8 (surr)	101		89-112		%	1		11/03/19 09:08

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-B24MW**

Client Sample ID: **102104-B24MW**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484005
Lab Project ID: 1196484

Collection Date: 10/28/19 16:26
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/04/19 02:08
Container ID: 1196484005-D

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/03/19 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 09:08
Container ID: 1196484005-C

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **102104-WTB**

Client Sample ID: **102104-WTB**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484006
Lab Project ID: 1196484

Collection Date: 10/28/19 11:00
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		11/03/19 06:20
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:20
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		11/03/19 06:20
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:20
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:20
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:20
Benzene	0.200	U	0.400	0.120	ug/L	1		11/03/19 06:20
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
Bromoform	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
Bromomethane	2.50	U	5.00	1.50	ug/L	1		11/03/19 06:20
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		11/03/19 06:20
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		11/03/19 06:20
Chloroethane	0.500	U	1.00	0.310	ug/L	1		11/03/19 06:20

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-WTB**

Client Sample ID: **102104-WTB**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484006
Lab Project ID: 1196484

Collection Date: 10/28/19 11:00
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Chloromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		11/03/19 06:20
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		11/03/19 06:20
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Freon-113	5.00 U		10.0	3.10	ug/L	1		11/03/19 06:20
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Methylene chloride	1.91 J		5.00	1.00	ug/L	1		11/03/19 06:20
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		11/03/19 06:20
Naphthalene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
o-Xylene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		11/03/19 06:20
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Styrene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Toluene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		11/03/19 06:20
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		11/03/19 06:20
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		11/03/19 06:20
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		11/03/19 06:20
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		11/03/19 06:20
4-Bromofluorobenzene (surr)	93.9		85-114		%	1		11/03/19 06:20
Toluene-d8 (surr)	102		89-112		%	1		11/03/19 06:20

Print Date: 11/12/2019 9:14:16AM

J flagging is activated

Results of **102104-WTB**

Client Sample ID: **102104-WTB**
Client Project ID: **102104-002 Former 2nd Ave Tnk**
Lab Sample ID: 1196484006
Lab Project ID: 1196484

Collection Date: 10/28/19 11:00
Received Date: 10/29/19 10:16
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS19626
Analytical Method: SW8260C
Analyst: NRB
Analytical Date/Time: 11/03/19 06:20
Container ID: 1196484006-A

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/03/19 00:30
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 1801681 [MXX/32946]
Blank Lab ID: 1541144

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484004, 1196484005

Results by **SW6020A**

Parameter	Results	LOQ/CL	DL	Units
Lead	0.500U	1.00	0.310	ug/L

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: DMM
Analytical Date/Time: 11/2/2019 9:38:50PM

Prep Batch: MXX32946
Prep Method: SW3010A
Prep Date/Time: 10/30/2019 12:22:58PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [MXX32946]
Blank Spike Lab ID: 1541145
Date Analyzed: 11/02/2019 21:43

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484004, 1196484005

Results by **SW6020A**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Lead	1000	1040	104	(88-115)

Batch Information

Analytical Batch: **MMS10666**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexion P5**
Analyst: **DMM**

Prep Batch: **MXX32946**
Prep Method: **SW3010A**
Prep Date/Time: **10/30/2019 12:22**
Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Matrix Spike Summary

Original Sample ID: 1541146
MS Sample ID: 1541147 MS
MSD Sample ID: 1541148 MSD

Analysis Date: 11/02/2019 22:02
Analysis Date: 11/02/2019 22:07
Analysis Date: 11/02/2019 22:11
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484004, 1196484005

Results by **SW6020A**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Lead	0.500U	1000	1020	102	1000	1040	104	88-115	2.39	(< 20)

Batch Information

Analytical Batch: MMS10666
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: DMM
Analytical Date/Time: 11/2/2019 10:07:01PM

Prep Batch: MXX32946
Prep Method: 3010 H20 Digest for Metals ICP-MS
Prep Date/Time: 10/30/2019 12:22:58PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 11/12/2019 9:14:22AM

Method Blank

Blank ID: MB for HBN 1801817 [VXX/35180]
Blank Lab ID: 1541873

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484005, 1196484006

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	2.50U	5.00	1.50	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

Method Blank

Blank ID: MB for HBN 1801817 [VXX/35180]
Blank Lab ID: 1541873

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484005, 1196484006

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	96.1	85-114		%
Toluene-d8 (surr)	103	89-112		%

Method Blank

Blank ID: MB for HBN 1801817 [VXX/35180]
Blank Lab ID: 1541873

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484005, 1196484006

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS19626
Analytical Method: SW8260C
Instrument: Agilent 7890-75MS
Analyst: NRB
Analytical Date/Time: 11/3/2019 4:20:00AM

Prep Batch: VXX35180
Prep Method: SW5030B
Prep Date/Time: 11/3/2019 12:30:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [VXX35180]
Blank Spike Lab ID: 1541874
Date Analyzed: 11/03/2019 04:43

Spike Duplicate ID: LCSD for HBN 1196484 [VXX35180]
Spike Duplicate Lab ID: 1541875
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484005, 1196484006

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	32.1	107	30	31.8	106	(78-124)	0.96	(< 20)
1,1,1-Trichloroethane	30	32.2	107	30	31.0	103	(74-131)	4.00	(< 20)
1,1,2,2-Tetrachloroethane	30	29.9	100	30	30.2	101	(71-121)	1.00	(< 20)
1,1,2-Trichloroethane	30	33.2	111	30	33.4	111	(80-119)	0.51	(< 20)
1,1-Dichloroethane	30	32.5	108	30	31.2	104	(77-125)	4.00	(< 20)
1,1-Dichloroethene	30	29.2	98	30	28.1	94	(71-131)	4.10	(< 20)
1,1-Dichloropropene	30	33.4	111	30	32.0	107	(79-125)	4.30	(< 20)
1,2,3-Trichlorobenzene	30	30.9	103	30	34.4	115	(69-129)	10.70	(< 20)
1,2,3-Trichloropropane	30	28.4	95	30	29.3	98	(73-122)	3.00	(< 20)
1,2,4-Trichlorobenzene	30	31.8	106	30	33.0	110	(69-130)	3.70	(< 20)
1,2,4-Trimethylbenzene	30	29.7	99	30	28.4	95	(79-124)	4.40	(< 20)
1,2-Dibromo-3-chloropropane	30	30.5	102	30	32.3	108	(62-128)	5.70	(< 20)
1,2-Dibromoethane	30	30.0	100	30	30.4	101	(77-121)	1.20	(< 20)
1,2-Dichlorobenzene	30	29.7	99	30	29.3	98	(80-119)	1.40	(< 20)
1,2-Dichloroethane	30	32.2	107	30	32.0	107	(73-128)	0.81	(< 20)
1,2-Dichloropropane	30	32.3	108	30	31.1	104	(78-122)	3.80	(< 20)
1,3,5-Trimethylbenzene	30	29.4	98	30	28.4	95	(75-124)	3.20	(< 20)
1,3-Dichlorobenzene	30	30.5	102	30	29.7	99	(80-119)	2.60	(< 20)
1,3-Dichloropropane	30	35.0	117	30	35.1	117	(80-119)	0.07	(< 20)
1,4-Dichlorobenzene	30	30.4	101	30	29.7	99	(79-118)	2.50	(< 20)
2,2-Dichloropropane	30	33.2	111	30	31.7	106	(60-139)	4.90	(< 20)
2-Butanone (MEK)	90	92.4	103	90	101	112	(56-143)	8.90	(< 20)
2-Chlorotoluene	30	30.1	100	30	29.2	97	(79-122)	3.30	(< 20)
2-Hexanone	90	104	116	90	111	124	(57-139)	6.70	(< 20)
4-Chlorotoluene	30	30.6	102	30	29.4	98	(78-122)	3.90	(< 20)
4-Isopropyltoluene	30	29.0	97	30	28.1	94	(77-127)	3.40	(< 20)
4-Methyl-2-pentanone (MIBK)	90	88.4	98	90	92.7	103	(67-130)	4.80	(< 20)
Benzene	30	31.2	104	30	30.4	101	(79-120)	2.70	(< 20)
Bromobenzene	30	29.3	98	30	28.7	96	(80-120)	2.00	(< 20)
Bromochloromethane	30	26.5	88	30	26.1	87	(78-123)	1.70	(< 20)
Bromodichloromethane	30	33.5	112	30	32.8	109	(79-125)	2.10	(< 20)
Bromoform	30	39.1	130	30	39.9	133	* (66-130)	2.10	(< 20)
Bromomethane	30	30.9	103	30	29.4	98	(53-141)	5.00	(< 20)
Carbon disulfide	45	48.7	108	45	46.8	104	(64-133)	4.00	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [VXX35180]
Blank Spike Lab ID: 1541874
Date Analyzed: 11/03/2019 04:43

Spike Duplicate ID: LCSD for HBN 1196484 [VXX35180]
Spike Duplicate Lab ID: 1541875
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484005, 1196484006

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	33.3	111	30	32.0	107	(72-136)	4.20	(< 20)
Chlorobenzene	30	28.5	95	30	28.1	94	(82-118)	1.50	(< 20)
Chloroethane	30	31.2	104	30	35.6	119	(60-138)	12.90	(< 20)
Chloroform	30	32.1	107	30	31.1	104	(79-124)	3.30	(< 20)
Chloromethane	30	33.5	112	30	31.6	105	(50-139)	5.80	(< 20)
cis-1,2-Dichloroethene	30	29.1	97	30	28.0	93	(78-123)	3.60	(< 20)
cis-1,3-Dichloropropene	30	32.5	108	30	31.9	106	(75-124)	2.00	(< 20)
Dibromochloromethane	30	31.7	106	30	31.8	106	(74-126)	0.35	(< 20)
Dibromomethane	30	30.8	103	30	30.4	101	(79-123)	1.10	(< 20)
Dichlorodifluoromethane	30	29.1	97	30	27.1	90	(32-152)	7.10	(< 20)
Ethylbenzene	30	31.1	104	30	30.3	101	(79-121)	2.40	(< 20)
Freon-113	45	46.6	103	45	44.9	100	(70-136)	3.70	(< 20)
Hexachlorobutadiene	30	35.6	119	30	34.6	115	(66-134)	3.00	(< 20)
Isopropylbenzene (Cumene)	30	32.8	109	30	32.0	107	(72-131)	2.40	(< 20)
Methylene chloride	30	30.1	100	30	29.0	97	(74-124)	3.70	(< 20)
Methyl-t-butyl ether	45	48.3	107	45	48.5	108	(71-124)	0.46	(< 20)
Naphthalene	30	24.8	83	30	28.1	94	(61-128)	12.30	(< 20)
n-Butylbenzene	30	30.6	102	30	29.4	98	(75-128)	4.00	(< 20)
n-Propylbenzene	30	31.0	103	30	29.6	99	(76-126)	4.60	(< 20)
o-Xylene	30	30.6	102	30	30.4	101	(78-122)	0.69	(< 20)
P & M -Xylene	60	62.2	104	60	61.2	102	(80-121)	1.60	(< 20)
sec-Butylbenzene	30	29.7	99	30	28.1	94	(77-126)	5.60	(< 20)
Styrene	30	31.9	106	30	31.8	106	(78-123)	0.43	(< 20)
tert-Butylbenzene	30	29.1	97	30	27.7	92	(78-124)	4.80	(< 20)
Tetrachloroethene	30	33.3	111	30	32.4	108	(74-129)	2.70	(< 20)
Toluene	30	30.8	103	30	30.0	100	(80-121)	2.60	(< 20)
trans-1,2-Dichloroethene	30	29.4	98	30	28.3	94	(75-124)	3.70	(< 20)
trans-1,3-Dichloropropene	30	35.8	119	30	36.2	121	(73-127)	1.10	(< 20)
Trichloroethene	30	29.7	99	30	28.5	95	(79-123)	4.20	(< 20)
Trichlorofluoromethane	30	32.9	110	30	33.3	111	(65-141)	1.20	(< 20)
Vinyl acetate	30	34.4	115	30	35.0	117	(54-146)	1.60	(< 20)
Vinyl chloride	30	34.2	114	30	31.6	105	(58-137)	7.70	(< 20)
Xylenes (total)	90	92.8	103	90	91.6	102	(79-121)	1.30	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [VXX35180]
Blank Spike Lab ID: 1541874
Date Analyzed: 11/03/2019 04:43

Spike Duplicate ID: LCSD for HBN 1196484 [VXX35180]
Spike Duplicate Lab ID: 1541875
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484005, 1196484006

Results by **SW8260C**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	106	106	30	106	106	(81-118)	0.23	
4-Bromofluorobenzene (surr)	30	92	92	30	89.8	90	(85-114)	2.40	
Toluene-d8 (surr)	30	100	100	30	101	101	(89-112)	0.36	

Batch Information

Analytical Batch: **VMS19626**
Analytical Method: **SW8260C**
Instrument: **Agilent 7890-75MS**
Analyst: **NRB**

Prep Batch: **VXX35180**
Prep Method: **SW5030B**
Prep Date/Time: **11/03/2019 00:30**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Method Blank

Blank ID: MB for HBN 1801864 [VXX/35191]
Blank Lab ID: 1542023

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484005

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	98.8	89-112		%

Batch Information

Analytical Batch: VMS19630
Analytical Method: SW8260C
Instrument: VPA 780/5975 GC/MS
Analyst: NRB
Analytical Date/Time: 11/3/2019 9:20:00PM

Prep Batch: VXX35191
Prep Method: SW5030B
Prep Date/Time: 11/3/2019 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [VXX35191]
Blank Spike Lab ID: 1542024
Date Analyzed: 11/03/2019 21:36

Spike Duplicate ID: LCSD for HBN 1196484 [VXX35191]
Spike Duplicate Lab ID: 1542025
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484005

Results by **SW8260C**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	28.7	96	30	29.2	97	(79-124)	1.60	(< 20)
Ethylbenzene	30	29.0	97	30	29.0	97	(79-121)	0.23	(< 20)
Naphthalene	30	27.7	92	30	29.2	97	(61-128)	5.40	(< 20)
o-Xylene	30	29.0	97	30	29.2	98	(78-122)	0.68	(< 20)
P & M -Xylene	60	58.7	98	60	58.3	97	(80-121)	0.73	(< 20)
Toluene	30	27.6	92	30	27.2	91	(80-121)	1.40	(< 20)
Xylenes (total)	90	87.7	98	90	87.5	97	(79-121)	0.26	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	95.6	96	30	97.9	98	(81-118)	2.30	
4-Bromofluorobenzene (surr)	30	97.8	98	30	98.2	98	(85-114)	0.40	
Toluene-d8 (surr)	30	99.3	99	30	98.5	99	(89-112)	0.81	

Batch Information

Analytical Batch: **VMS19630**
Analytical Method: **SW8260C**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **NRB**

Prep Batch: **VXX35191**
Prep Method: **SW5030B**
Prep Date/Time: **11/03/2019 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 11/12/2019 9:14:30AM

Method Blank

Blank ID: MB for HBN 1801763 [XXX/42548]
Blank Lab ID: 1541547

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484005

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	93.4	60-120		%

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: JMG
Analytical Date/Time: 11/7/2019 11:23:00AM

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/1/2019 9:24:18AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [XXX42548]
Blank Spike Lab ID: 1541548
Date Analyzed: 11/07/2019 11:53

Spike Duplicate ID: LCSD for HBN 1196484 [XXX42548]
Spike Duplicate Lab ID: 1541549
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484005

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	18.7	94	20	20.0	100	(75-125)	6.40	(< 20)
Surrogates									
5a Androstane (surr)	0.4	96.7	97	0.4	106	106	(60-120)	9.10	

Batch Information

Analytical Batch: **XFC15464**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **JMG**

Prep Batch: **XXX42548**
Prep Method: **SW3520C**
Prep Date/Time: **11/01/2019 09:24**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1801763 [XXX/42548]
Blank Lab ID: 1541547

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1196484001, 1196484002, 1196484003, 1196484005

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	0.250U	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	95.3	60-120		%

Batch Information

Analytical Batch: XFC15464
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: JMG
Analytical Date/Time: 11/7/2019 11:23:00AM

Prep Batch: XXX42548
Prep Method: SW3520C
Prep Date/Time: 11/1/2019 9:24:18AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Member of SGS Group

Blank Spike Summary

Blank Spike ID: LCS for HBN 1196484 [XXX42548]
Blank Spike Lab ID: 1541548
Date Analyzed: 11/07/2019 11:53

Spike Duplicate ID: LCSD for HBN 1196484 [XXX42548]
Spike Duplicate Lab ID: 1541549
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1196484001, 1196484002, 1196484003, 1196484005

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	16.6	83	20	17.8	89	(60-120)	6.90	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	89.5	90	0.4	101	101	(60-120)	12.10	

Batch Information

Analytical Batch: **XFC15464**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **JMG**

Prep Batch: **XXX42548**
Prep Method: **SW3520C**
Prep Date/Time: **11/01/2019 09:24**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 11/12/2019 9:14:39AM

1196484

Profile: 334867 JKJ

CHAIN-OF-CUSTODY RECORD

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Laboratory SGS Page 1 of 1
Attn: Jilian

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

2705 Saint Andrews Loop, Suite A
Pasco, WA 99301-3378
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

3990 Collins Way, Suite 100
Lake Oswego, OR 97035
(503) 223-6147

1321 Bannock Street, Suite 200
Denver, CO 80204
(303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	DRO/RRO AK102/AK103	VOCs 8260C	Total Lead 6020A				Total Number of Containers	Remarks/Matrix
102104-B4MW	(1) AF	16:06	10/28/19		X	X	X	X				6	groundwater
102104-B5MW	(2) AF	14:32				X	X	X				6	
102104-B11MW	(3) AF	13:01				X	X	X				6	
102104-B17MW	(4) A	11:27						X				1	
102104-B24MW	(5) AF	16:26				X	X	X				6	
102104-WTB	(6) AC	11:00					X					3	lab trip blanks

Project Information	Sample Receipt
Project Number: 102104-002	Total Number of Containers
Project Name: Former 2nd Ave Tnk	COC Seals/Intact? Y/N/NA (3)
Contact: TWC	Received Good Cond./Cold
Ongoing Project? Yes [X] No [ ]	Delivery Method: Absent, UPS
Sampler: LCJ	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: Standard
Special Instructions: Level 2 deliverables; SGS quote 360185

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: [signature] Time: 10:14	Signature: Time:	Signature: Time:
Printed Name: Lori Jones Date: 10/29/19	Printed Name: Date:	Printed Name: Date:
Company: SGS	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: [signature] Time: 10:16
Printed Name: Date:	Printed Name: Date:	Printed Name: AMG EG & AMG Date: 10/23/19
Company:	Company:	Company: SGS 2.6° JDS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

No. 45 35211

e-Sample Receipt Form

SGS Workorder #: **1196484**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		Yes — Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	Absent
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 2.6 °C Therm. ID: D59
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
	Yes	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1196484001-A	HCL to pH < 2	OK			
1196484001-B	HCL to pH < 2	OK			
1196484001-C	HCL to pH < 2	OK			
1196484001-D	HCL to pH < 2	OK			
1196484001-E	HCL to pH < 2	OK			
1196484001-F	HNO3 to pH < 2	OK			
1196484002-A	HCL to pH < 2	OK			
1196484002-B	HCL to pH < 2	OK			
1196484002-C	HCL to pH < 2	OK			
1196484002-D	HCL to pH < 2	OK			
1196484002-E	HCL to pH < 2	OK			
1196484002-F	HNO3 to pH < 2	OK			
1196484003-A	HCL to pH < 2	OK			
1196484003-B	HCL to pH < 2	OK			
1196484003-C	HCL to pH < 2	OK			
1196484003-D	HCL to pH < 2	OK			
1196484003-E	HCL to pH < 2	OK			
1196484003-F	HNO3 to pH < 2	OK			
1196484004-A	HNO3 to pH < 2	OK			
1196484005-A	HCL to pH < 2	OK			
1196484005-B	HCL to pH < 2	OK			
1196484005-C	HCL to pH < 2	OK			
1196484005-D	HCL to pH < 2	OK			
1196484005-E	HCL to pH < 2	OK			
1196484005-F	HNO3 to pH < 2	OK			
1196484006-A	HCL to pH < 2	OK			
1196484006-B	HCL to pH < 2	OK			
1196484006-C	HCL to pH < 2	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

Laboratory Data Review Checklist

Completed By:

Lori Jones

Title:

Environmental Engineering Staff

Date:

January 2020

Consultant Firm:

Shannon & Wilson, Inc.

Laboratory Name:

SGS North America Inc.

Laboratory Report Number:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

ADEC File Number:

2100.26.326

Hazard Identification Number:

24899

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   Yes☐ No☐ N/A☒ Comments:

   The samples were not transferred to another "network" laboratory or sub-contracted to an alternate laboratory.

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   Yes☒ No☐ N/A☐ Comments:

   The temperature blank was documented as 2.6°C.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   Yes☒ No☐ N/A☐ Comments:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes☒ No☐ N/A☐ Comments:

No discrepancies noted in sample receipt.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes☐ No☐ N/A☒ Comments:

Discrepancies were not noted by the laboratory.

e. Data quality or usability affected?

Comments:

Data quality/usability is unaffected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes☐ No☐ N/A☐ Comments:

The case narrative notes that:

- For Method 8260C the LCSD recovery for bromoform does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

c. Were all corrective actions documented?

Yes☐ No☒ N/A☐ Comments:

The case narrative does not discuss corrective actions taken.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative does not discuss data quality/usability.

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes☐ No☒ N/A☐ Comments:

The limit of detection (LOD) for 1,2,3-Trichloropropane (0.500 µg/L) is greater than the ADEC Table C Cleanup Level (0.0075 µg/L).

e. Data quality or usability affected?

The data cannot be used to determine whether or not a concentration of 1,2,3-Trichloropropane is present at a concentration greater than the ADEC cleanup level and less than the LOD.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes☒ No☐ N/A☐ Comments:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

v. Data quality or usability affected?

Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

LCSD recovery for bromoform does not meet QC criteria.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

All samples are potentially affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☒ N/A☐ Comments:

Bromoform was not detected in the project samples. Therefore, flagging is not required.

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

See above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality/usability is unaffected.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes☒ No☐ N/A☐ Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iv. Data quality or usability affected?

Comments:

Data quality/usability is unaffected.

e. Trip Blanks

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes☒ No☐ N/A☐ Comments:

One water trip blank (WTB) was submitted to the laboratory with the project samples.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes☐ No☒ N/A☐ Comments:

All samples were transported in one cooler.

iii. All results less than LOQ and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

However, an estimated concentration of methylene chloride (0.00191 J mg/L) was detected in the trip blank.

iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

All project samples are potentially affected; however, methylene chloride was not detected in the project samples.

v. Data quality or usability affected?

Comments:

See above.

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes☒ No☐ N/A☐ Comments:

Sample B24MW is a field duplicate of Sample B4MW.

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

The RPDs for diesel range organics (DRO) (43.6%) and residual range organics (RRO) (31.7%) are greater than the DQO. RPDs could not be calculated for several analytes due to non-detect results for the primary and/or duplicate sample.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

The DRO and RRO concentration in the primary and duplicate samples are both greater than the ADEC Table C cleanup levels and the results are usable for the purpose of this project. The DRO and RRO results are considered estimated and are flagged "E" on Tables 3 and 4.

g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☒ N/A☐ Comments:

The collection of a decontamination or equipment blank was not included as part of our ADEC-approved work plan.

i. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☒ Comments:

ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

1196484

Laboratory Report Date:

November 12, 2019

CS Site Name:

MOA – Brother Francis Shelter Property

iii. Data quality or usability affected?

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

Laboratory-specific flags are defined on page 3 of the laboratory report.

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland