SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

February 1, 2024

Owen Means, PWS
HDL Engineering Consultants, LLC
3335 Arctic Boulevard
Anchorage, Alaska 99503

RE: SITE CHARACTERIZATION REPORT, PORT GRAHAM OCEAN OUTFALL CONSOLIDATION, PORT GRAHAM, ALASKA; ADEC FILE NO. 2327.38.002

Dear Mr. Means:

We are pleased to submit this report which presents the results of our site characterization activities associated with the Port Graham Ocean Outfall Consolidation project in Port Graham, Alaska. A vicinity map and site plan are included as Figure 1 and 2, respectively.

BACKGROUND

We understand that the Alaska Native Tribal Health Consortium (ANTHC) intends to construct sewer mains in Port Graham, Alaska. A portion of the sewer construction project, from Manhole 19 to Manhole 20, will take place adjacent to an active Alaska Department of Environmental Conservation (ADEC) Contaminated Site "Port Graham Village Corp. Diesel Spill" (ADEC File # 2327.38.002). A design drawing showing the relevant portion of the sewer alignment is provided as Attachment 1.

During the construction project, ANTHC will excavate soil and bedrock along the alignment to install a sewer pipe. Shannon & Wilson will prepare a Soil Management Plan (SMP) which will detail screening, sampling, and management procedures for the potentially contaminated soil which may be encountered during the construction project in 2024. This site characterization report will be used in the creation of the SMP and to assist with identifying soil disposal options prior to the start of construction.

FIELD ACTIVITIES

The project consisted of advancing six test pits and collecting field screening and analytical soil samples. The approximate test pit locations are shown on Figure 2. The field activities were conducted on July 19, 2023 in general accordance with our ADEC approved July 10, 2023 *Work Plan for Site Characterization, Port Graham Ocean Outfall Consolidation, Port Graham, Alaska.* Mr. Peter Campbell, of the ADEC, approved the Work Plan in an email dated July 10, 2023.

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▪ www.shannonwilson.com ▪

Shannon & Wilson provided a Qualified Environmental Professional to collect field screening readings and analytical soil samples. ANTHC provided the equipment and personnel to advance the test pits. SGS North America, Inc. (SGS) of Anchorage, Alaska conducted the analytical testing of the soil samples.

Copies of field notes and site photographs are included in Attachments 2 and 3, respectively. It should be noted that the field notes presented in Attachment 2 are provided for informational purposes only. Tables 1 and 2 represent our interpretation of the field data and take precedence over the field notes.

Test Pits

Six test pits, TP1 through TP6, were advanced to depths between 1 and 8 feet below ground surface (bgs) to the west and south of the tank farm at the locations shown on Figure 2. Test Pits TP1, TP2, TP3 and TP 6 were advanced along the sewer alignment between Manhole 19 and Manhole 20. Test Pits TP 4 and TP5 were advanced along the sewer alignment between Manhole 18 and Manhole 19. After sample collection, test pits were backfilled with the excavated soil.

SUBSURFACE CONDITIONS

Soil at the site generally consisted of sandy gravel. Bedrock was encountered in test pits TP2, TP3, and TP4 at 3.5, 1, and 4 feet bgs, respectively. Water was observed collecting on the bedrock surface in Test Pit TP3.

An unmarked water line running approximately east-west was encountered and damaged at approximately 6 feet bgs in Test Pit TP1.

Soil Sampling

Field screening and analytical samples were collected from the test pits at approximately 2-foot intervals. Each soil sample was visually described and "screened" for volatile organic compounds (VOCs) using a photoionization detector (PID) and ADEC-approved headspace screening techniques. The field screening samples were collected in re-sealable plastic bags, warmed to at least 40 degrees Fahrenheit, and tested within 60 minutes of collection. To screen, the sample was agitated for about 15 seconds, the seal of the bag was opened slightly, the instrument probe was inserted into the air space above the soil, and the bag held closed around the probe. The maximum ionization response as the PID draws vapor

from the sample bag was recorded. The PID was calibrated with 100 parts per million (ppm) isobutylene in air standard gas.

One analytical soil sample from each test pit was submitted for laboratory analysis. The samples were collected from the sample interval with the highest PID measurement. The samples were submitted for analysis of gasoline range organics (GRO) by Alaska Method (AK) 101, diesel range organics (DRO) by AK 102, VOCs by EPA Method 8260D, and polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D SIM. One duplicate sample was also collected. For quality control purposes, one trip blank accompanying the sample cooler with the volatile samples was submitted and was analyzed for GRO and VOCs.

Analytical samples were collected by quickly and completely filling laboratory-provided glass jars in decreasing order of volatility. For each volatile sample, at least 25 grams of soil, but no more than what can be completely submerged with 25-milliliters of methanol, were placed into a pre-weighed, 4-ounce jar with a septa lid. A 25-milliliter aliquot of methanol containing laboratory-added surrogates was added to the sample jar to submerge the soil sample. For each non-volatile sample, the laboratory-supplied jar was completely filled with soil, taking care to exclude gravel and debris. Sample jars were filled using dedicated stainless-steel spoons, placed in coolers with ice packs, and transferred to the laboratory using chain of custody procedures.

DISCUSSION OF ANALYTICAL RESULTS

The analytical results were compared to the ADEC cleanup levels presented in the October 2023, 18 AAC 75 regulations. The applicable soil criteria consist of the most stringent ADEC Method Two cleanup levels listed in Table B1 and B2 of 18 AAC 75.341, for the "over 40-inch (precipitation) zone". The applicable cleanup criteria are listed in Table 2. The laboratory report and completed ADEC Laboratory Data Review Checklist (LDRC) are provided in Attachment 4. The analytical results are summarized in Table 2.

Concentrations of DRO were detected in samples collected from each test pit, ranging from 14.9 J milligrams per kilogram to 4,960 mg/kg. Samples collected from Test Pits TP1 (649 mg/kg) and TP2 (4,960 mg/kg) contained DRO concentrations exceeding the ADEC Method Two cleanup level of 230 mg/kg.

Chloroform was detected in the primary/duplicate sample pair collected from Test Pit TP5 at 0.00741 J mg/kg and 0.00724 J mg/kg, respectively. These concentrations exceed the ADEC cleanup level of 0.0071 mg/kg. Chloroform was not detected in other project samples.

Naphthalene was detected in samples collected from Test Pits TP1 TP2, TP4, and TP5 at concentrations ranging from 0.00711 J mg/kg to 0.0958 mg/kg. The sample collected from TP2 (0.0958 mg/kg) exceeds the ADEC cleanup level of 0.038 mg/kg.

Various other VOCs and PAHs were detected in project samples collected at the site. Each of these detections were below ADEC cleanup levels.

QUALITY ASSURANCE SUMMARY

The project laboratories follow on-going quality assurance/quality control procedures to evaluate conformance to applicable ADEC data quality objectives (DQOs). Internal laboratory controls to assess data quality for this project include surrogates isotope dilution analyses, method blanks, matrix spike/matrix spike duplicates (MS/MSD), and laboratory control sample/laboratory control sample duplicates (LCS/LCSD) to assess precision, accuracy, and matrix bias. If a DQO was not met, the project laboratory provides a brief narrative concerning the problem in the case narrative of their laboratory reports (see Attachment 4).

PAH surrogate percent recoveries (%R) were greater than QC criteria in Sample TP2-2. Associated analytical results are considered potentially biased high and are flagged J+ in Table 2. GRO was detected in method blank samples above the limit of quantitation (LOQ). As such, affected samples with GRO detections less than the LOQ are reported as not detected at the LOQ and are flagged "B" in Table 2. Affected samples with detections of the associated analyte between the LOQ and 5x the blank detection are reported as not detected at the detected result and are flagged "B" in Table 2.

Shannon & Wilson conducted a limited data assessment to review the laboratory's compliance with precision, accuracy, sensitivity, and completeness to the data quality objectives. Shannon & Wilson reviewed the SGS data deliverables and completed the ADEC's Laboratory Data Review Checklist for each data package, which is included in Attachment 4. No non-conformances that would adversely affect the data quality or usability of the data were noted, with the exceptions discussed above.

SUMMARY

The project consisted of advancing six test pits and collecting screening and analytical soil samples on the west and south sides of the Port Graham fuel tank farm.

Soil with concentrations of petroleum related contaminants (DRO and naphthalene) exceeding the ADEC Method Two cleanup levels was detected in Test Pits TP1 and TP2 at

2.0 to 4.0 and 2.0 to 3.5 feet bgs, respectively. Additionally, chloroform was detected at concentrations above the ADEC cleanup level in Test Pit TP5 at 6.0 to 8.0 feet bgs, although this is unlikely to be related to the fuel spill at the former tank farm.

CLOSURE/LIMITATIONS

This report is prepared for the exclusive use of our client and their representatives in the study of this site. The findings presented within this report are based on the limited sampling and analyses that were conducted. They should not be construed as definite conclusions regarding soil and groundwater at the site. As a result, the sampling, analyses, and data interpretations can provide you with only our professional judgment as to the environmental characteristics of this site, and in no way guarantee that an agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. The data presented in this report should be considered representative of the time of our site assessment. Changes in site conditions can occur over time, due to natural forces or human activity. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised.

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 and therefore has not, and will not, disclose the results of this study unless specifically requested and authorized by HDL Engineering Consultants, LLC, or as required by law.

Shannon & Wilson has prepared the information, "Important Information About Your Geotechnical/Environmental Report," to assist you and others in understanding the use and limitations of our report.

Sincerely,

SHANNON & WILSON

Digitally signed by
Alex Geilich
Date: 2024.02.01
10:33:35 -09'00'

Alex Geilich
Senior Environmental Scientist

Enc. Tables 1 and 2; Figures 1 and 2; and Attachments 1 through 4

TABLE 1 - SAMPLE DETAILS

Analytical Sample ID (See Table 2)	Date	Sample Location (See Figure 2)	Depth (feet bgs)	Headspace (ppm)^
Test Pit TP1				
TP1-0	7/19/2023	Test Pit TP1	0.0-2.0	1.0
*TP1-2	7/19/2023	Test Pit TP1	2.0-4.0	4.9
TP1-4	7/19/2023	Test Pit TP1	4.0-6.0	1.1
Test Pit TP2				
TP2-0	7/19/2023	Test Pit TP2	0.0-2.0	1.9
*TP2-2	7/19/2023	Test Pit TP2	2.0-3.5	5.7
Test Pit TP3				
TP3-0	7/19/2023	Test Pit TP3	0.0-1.0	2.7
Test Pit TP4				
*TP4-0	7/19/2023	Test Pit TP4	0.0-2.0	0.9
TP4-2	7/19/2023	Test Pit TP4	2.0-4.0	0.7
Test Pit TP5				
TP5-0	7/19/2023	Test Pit TP5	0.0-2.0	0.6
TP5-2	7/19/2023	Test Pit TP5	2.0-4.0	0.4
TP5-4	7/19/2023	Test Pit TP5	4.0-6.0	0.3
*TP5-6	7/19/2023	Test Pit TP5	6.0-8.0	0.8
*TP5-16	7/19/2023	Duplicate of Sample TP6-6	6.0-8.0	0.8
Test Pit TP6				
TP6-0	7/19/2023	Test Pit TP6	0.0-2.0	2.0
*TP6-2	7/19/2023	Test Pit TP6	2.0-4.0	2.2
TP6-4	7/19/2023	Test Pit TP6	4.0-6.0	1.8
TP6-6	7/19/2023	Test Pit TP6	6.0-8.0	1.2
Quality Control				
*TB-S	7/19/2023	Soil Trip Blank	-	-

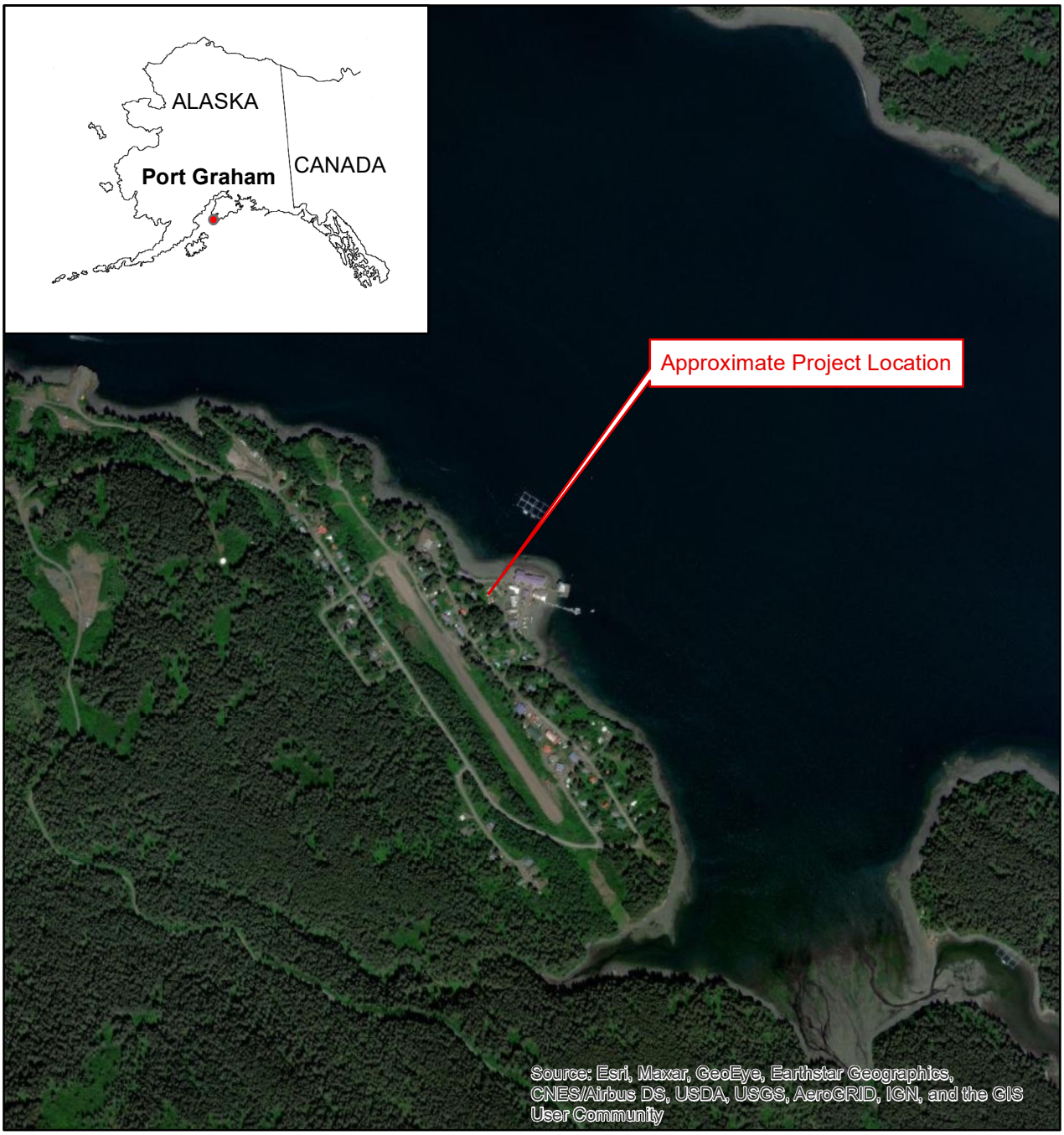
Notes
* = Analytical sample collected
^ = Field screening instrument was a Thermo Environmental Instruments 580B photoionization detector (PID)
bgs = below ground surface
ppm = parts per million

TABLE 2 - SUMMARY OF SOIL ANALYTICAL RESULTS

Analytical Method	Analyte	ADEC Cleanup Level*	Units	Sample ID and Depth in feet (See Table 1 and Figure 2)							
				Test Pit TP1	Test Pit TP2	Test Pit TP3	Test Pit TP4	Test Pit TP5		Test Pit TP6	Quality Control
				TP1-2	TP2-2	TP3-0	TP4-0	TP5-6	TP5-16~	TP6-2	TB-S
				2.0-4.0	2-3.5	0.0-1.0	0.0-2.0	6.0-8.0	6.0-8.0	2.0-4.0	-
580B PID	PID Headspace Reading	-	ppm	4.9	5.7	2.7	0.9	0.8	0.8	2.2	-
AK 101	Gasoline Range Organics	260	mg/kg	<3.37 B	27.8	<3.46 B	<4.02 B	<4.45 B	<4.54 B	<3.90 B	<2.62 B
AK 102	Diesel Range Organics	230	mg/kg	**649**	**4,960**	**42.5**	**56.2**	**40.0**	**58.3**	**14.9 J**	-
EPA 8260D (VOCs)	Benzene	0.022	mg/kg	**0.00837 J**	<0.0117	<0.00865	<0.0101	<0.0112	<0.0114	<0.00975	<0.00655
	Toluene	6.7	mg/kg	**0.0759**	<0.0234	<0.0173	<0.0201	<0.0223	<0.0227	**0.0493**	<0.0131
	Ethylbenzene	0.13	mg/kg	**0.0163 J**	<0.0234	<0.0173	<0.0201	<0.0223	<0.0227	**0.0160 J**	<0.0131
	Xylenes (total)	1.5	mg/kg	**0.100 J**	<0.0700	<0.0520	<0.0600	<0.0670	<0.0680	**0.117**	<0.0394
	1,2,4-Trimethylbenzene	0.61	mg/kg	<0.0675	**0.176 J**	<0.0690	<0.0805	<0.0890	<0.0910	<0.0780	<0.0525
	1,3,5-Trimethylbenzene	0.66	mg/kg	**0.0141 J**	**0.0421 J**	<0.0173	<0.0201	<0.0223	<0.0227	**0.0129 J**	<0.0131
	4-Isopropyltoluene	-	mg/kg	<0.0540	**0.153**	<0.0555	<0.0645	<0.0715	<0.0725	<0.0625	<0.0420
	Bromodichloromethane	0.0043	mg/kg	<0.00135	<0.00187	<0.00139	<0.00161	**0.00144 J**	**0.00135 J**	<0.00156	<0.00105
	Chloroform	0.0071	mg/kg	<0.00404	<0.00560	<0.00415	<0.00482	**0.00741 J**	**0.00724 J**	<0.00467	<0.00315
	Methylene chloride	0.33	mg/kg	<0.0675	<0.0935	<0.0690	<0.0805	<0.0890	<0.0910	<0.0780	**0.0341 J**
	Naphthalene	0.038	mg/kg	<0.0169	**0.0958**	<0.0173	<0.0201	<0.0223	<0.0227	<0.0195	<0.0131
	n-Propylbenzene	9.1	mg/kg	<0.0169	**0.0340 J**	<0.0173	<0.0201	<0.0223	<0.0227	<0.0195	<0.0131
	sec-Butylbenzene	28	mg/kg	<0.0169	**0.0394 J**	<0.0173	<0.0201	<0.0223	<0.0227	<0.0195	<0.0131
	Other VOCs	-	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
EPA SW8270D SIM (PAHs)	1-Methylnaphthalene	0.41	mg/kg	**0.00705 J**	**0.103 J+**	<0.0143	<0.0148	<0.0149	<0.0149	<0.0144	-
	2-Methylnaphthalene	1.3	mg/kg	**0.00997 J**	**0.0657 J+**	<0.0143	**0.00809 J**	<0.0149	<0.0149	<0.0144	-
	Acenaphthene	37	mg/kg	<0.0141	<0.0163	<0.0143	**0.0152 J**	<0.0149	<0.0149	<0.0144	-
	Acenaphthylene	18	mg/kg	**0.0183 J**	<0.0163	<0.0143	**0.0626**	**0.0633**	**0.0479**	<0.0144	-
	Anthracene	390	mg/kg	**0.0110 J**	<0.0163	<0.0143	**0.0725**	**0.0468**	**0.0364**	<0.0144	-
	Benzo(a)Anthracene	0.7	mg/kg	**0.0154 J**	<0.0163	<0.0143	**0.124**	**0.122**	**0.0896**	<0.0144	-
	Benzo[a]pyrene	1.2	mg/kg	**0.0216 J**	<0.0163	<0.0143	**0.129**	**0.147**	**0.111**	<0.0144	-
	Benzo[b]Fluoranthene	12	mg/kg	**0.0223 J**	<0.0163	<0.0143	**0.134**	**0.152**	**0.123**	<0.0144	-
	Benzo[g,h,i]perylene	1,900	mg/kg	**0.0158 J**	<0.0163	<0.0143	**0.0518**	**0.0668**	**0.0529**	<0.0144	-
	Benzo[k]fluoranthene	120	mg/kg	**0.00806 J**	<0.0163	<0.0143	**0.0518**	**0.0550**	**0.0376**	<0.0144	-
	Chrysene	600	mg/kg	**0.0183 J**	<0.0163	<0.0143	**0.140**	**0.141**	**0.0994**	<0.0144	-
	Dibenzo[a,h]anthracene	1.2	mg/kg	<0.0141	<0.0163	<0.0143	**0.0132 J**	**0.0144 J**	**0.0117 J**	<0.0144	-
	Fluoranthene	590	mg/kg	**0.0223 J**	**0.0223 J**	<0.0143	**0.280**	**0.274**	**0.172**	<0.0144	-
	Fluorene	36	mg/kg	<0.0141	<0.0163	<0.0143	**0.0283 J**	**0.0181 J**	**0.00853 J**	<0.0144	-
	Indeno[1,2,3-c,d] pyrene	12	mg/kg	**0.0114 J**	<0.0163	<0.0143	**0.0517**	**0.0616**	**0.0489**	<0.0144	-
	Naphthalene	0.038	mg/kg	**0.00711 J**	**0.0296 J+**	<0.0114	**0.00884 J**	**0.00985 J**	**0.00743 J**	<0.0116	-
	Phenanthrene	39	mg/kg	**0.0183 J**	<0.0163	<0.0143	**0.192**	**0.170**	**0.0741**	<0.0144	-
	Pyrene	87	mg/kg	**0.0350**	**0.0284 J**	<0.0143	**0.279**	**0.295**	**0.191**	<0.0144	-

Notes:

*	= ADEC soil cleanup level is the most stringent of the Method Two standards listed in Table B1 or B2, 18 AAC 75 (October 2023)
ADEC	= Alaska Department of Environmental Conservation
EPA	= Environmental Protection Agency
mg/kg	= Milligrams per kilogram
PAHs	= Polynuclear aromatic hydrocarbons
PID	= Photoionization detector
ppm	= Parts per million
VOCs	= Volatile organic compounds
ND	= Analyte not detected
<0.054	= Analyte not detected; laboratory limit of detection of 0.054 mg/kg
42.5	= Analyte detected
649	= Analyte detected at concentration exceeding ADEC cleanup level.
-	= Not applicable or sample not tested for this analyte
J	= Estimated concentration less than the limit of quantitation.
J+	= Results may be biased high due to surrogate failures.
B	= Analyte concentration is potentially affected by blank detection.



N

0 0.2 0.4

Miles

Port Graham Ocean Outfall
Port Graham, Alaska

VICINITY MAP

February 2024

110918-001

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 1

Test Pit advanced by Shannon & Wilson on July 19, 2023

N

0 50 100

APPROXIMATE SCALE IN FEET

Port Graham Ocean Outfall
Port Graham, Alaska

SITE MAP

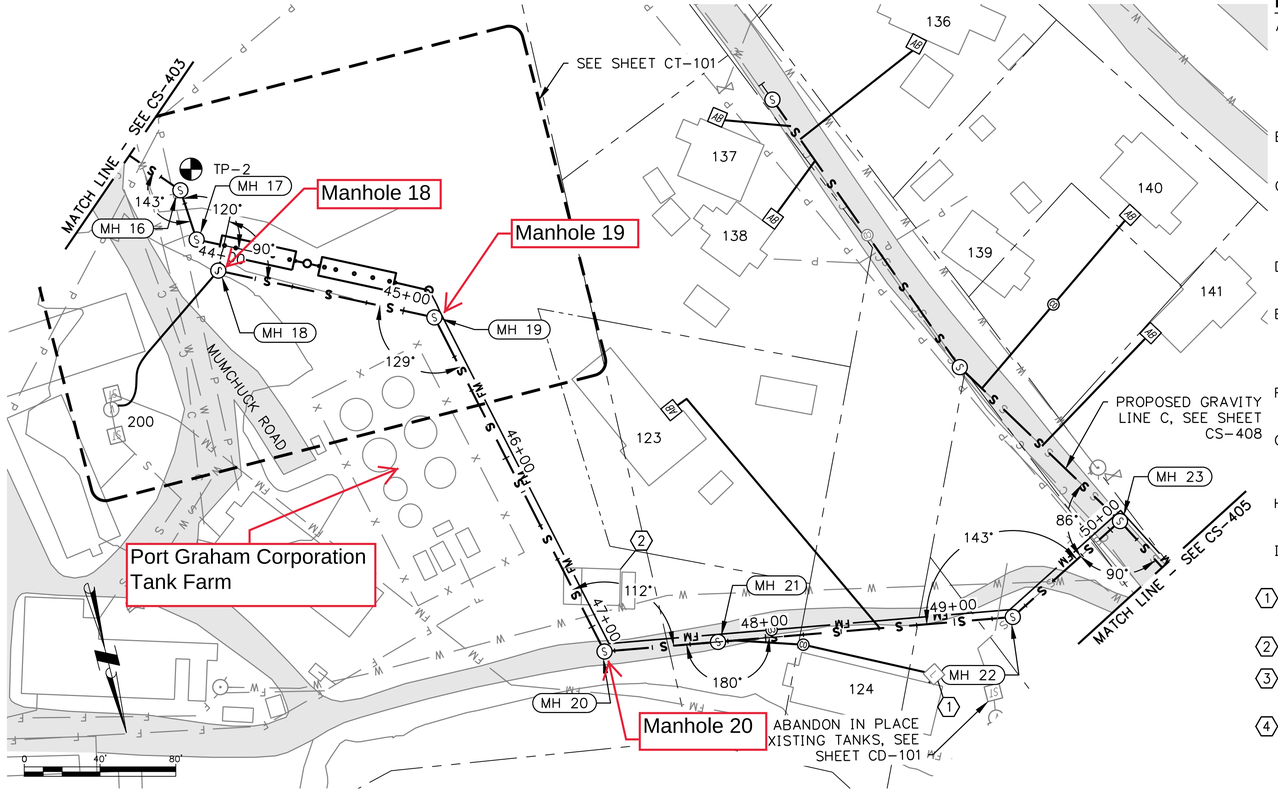
February 2024 110918-001

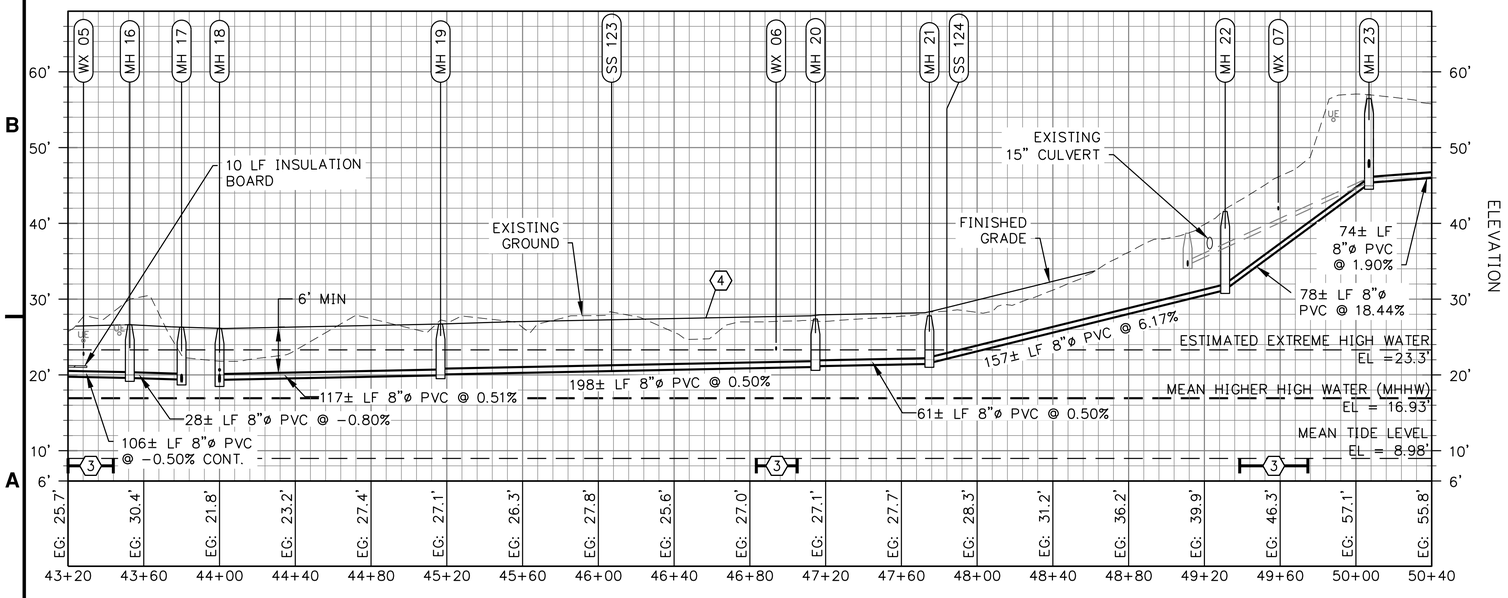
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 2

Attachment 1

Design Drawing





NOTES:

A. CONTRACTOR MAY ENCOUNTER BEDROCK IN AREAS WHERE GRAVITY MAIN ALIGNMENT HAS NOT BEEN DISTURBED FROM PREVIOUS CONSTRUCTION OR WHERE PIPE ELEVATION IS LOWER THAN EXISTING SEWER MAIN. SEE GEOTECHNICAL REPORT.

B. SEE SHEET CF-402 FOR PROPOSED FORCE MAIN PLAN AND PROFILE.

C. INSTALL 4" THICK X 6' WIDE RIGID INSULATION BOARD CENTERED OVER THE PIPE WHERE 6' BURIAL DEPTH CANNOT BE ACHIEVED. INSULATION NOT SHOWN IN PLAN FOR CLARITY.

D. SEE SHEET CD-101 FOR REMOVAL OF EXISTING FACILITIES.

E. EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATION. PROTECT IN PLACE AND WORK AROUND ALL EXISTING UTILITIES NOT SPECIFICALLY INDICATED TO BE RELOCATED.

F. SEE SHEET G-004 FOR SEWER SERVICE INFORMATION.

G. APPROXIMATE SEWER SERVICE ALIGNMENTS SHOWN, ADJUST ALIGNMENT AS NECESSARY TO ACCOMPLISH CONSTRUCTION.

H. MANHOLE LAYOUT IS TO CENTER OF STRUCTURE UNLESS NOTED OTHERWISE.

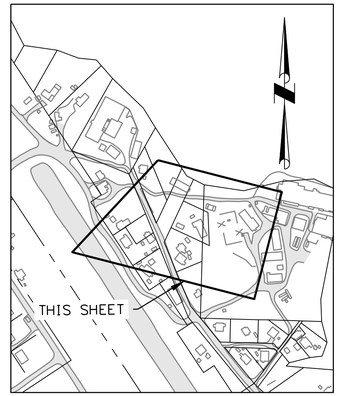
I. GRADE AREA TO ALLOW FOR POSITIVE DRAINAGE AND SLOPE TO EXISTING GRADE.

(1) EXISTING LIFT STATION TO BE REMOVED. INSTALL NEW SERVICE CONNECTION, SEE G-004.

(2) RELOCATE EXISTING STRUCTURES.

(3) HORIZONTAL SEPARATION DISTANCE WAIVER AREAS, SEE SHEET C-501.

(4) FURNISH AND INSTALL ADDITIONAL FILL MATERIAL AS REQUIRED TO PROVIDE 6' MIN COVER OVER PROPOSED GRAVITY SEWER LINE.



VICINITY MAP

CROSSINGS

ID #	STA	DESCRIPTION
WX 05	43+28±	WATER MAIN CROSSING
WX 06	46+94±	WATER MAIN CROSSING
WX 07	49+59±	WATER MAIN CROSSING

NEW STRUCTURES

ID #	STA	DESCRIPTION	COORDINATES
MH 16	43+52.6	CONVENTIONAL MANHOLE RIM=26.6 INV IN=19.61 INV OUT=19.58	N=1958992.4' E=1299112.1'
MH 17	43+80.0	TERMINAL MANHOLE RIM=26.3 INV IN=19.40 INV OUT=19.20	N=1959019.7' E=1299110.3'
MH 18	44+00.0	TERMINAL/TRANSITION MANHOLE RIM=26.1 INV IN=19.40 INV OUT=18.97	N=1959038.4' E=1299103.3'
MH 19	45+16.7	CONVENTIONAL MANHOLE RIM=26.7 INV IN=20.07 INV OUT=19.94	N=1959090.8' E=1298998.9'
MH 20	47+14.6	CONVENTIONAL MANHOLE RIM=27.4 INV IN=21.16 INV OUT=21.04	N=1959284.0' E=1298955.9'
MH 21	47+74.8	CONVENTIONAL MANHOLE RIM=27.4 INV IN=21.71 INV OUT=21.44	N=1959294.0' E=1298896.6'
MH 22	49+31.0	CONVENTIONAL MANHOLE RIM=41.6 INV IN=31.68 INV OUT=31.06	N=1959320.0' E=1298742.6'
MH 23	50+06.9	CONVENTIONAL MANHOLE RIM=56.5 INV IN=46.72 LINE C INV IN=45.64 INV OUT=45.41	N=1959285.1' E=1298675.2'

A1 **PLAN AND PROFILE - GRAVITY MAIN**

HORZ. SCALE 1" = 40'
VERT. SCALE 1" = 10'

Division of Environmental Health and Engineering
4500 Diplomacy Drive
Anchorage, Alaska 99508
(907) 729-3600

STATE OF ALASKA — DAVID EUGENE COOPER — No. CE-13858 — REGISTERED PROFESSIONAL ENGINEER

0 1"
BAR IS ONE INCH ON ORIGINAL DRAWING, IF NOT ADJUST SCALES ACCORDINGLY

PORT GRAHAM, AK
OUTFALL CONSOLIDATION
ISSUED FOR CONSTRUCTION

INIT	DESCRIPTION	DATE
MRK	ISSUED FOR CONSTRUCTION	MAY 2020

PLAN SET:	PGM-17-006
PROJ MGR:	DEC
PROJ ENG:	DEC
DRUMS ENG:	----
DRAWN BY:	CMC

SHEET TITLE

GRAVITY MAIN PLAN AND PROFILE STA 43+20 TO STA 51+40

CS-404
SHEET 5 OF 17

Attachment 2

Field Notes

SAMPLE COLLECTION LOG

SHANNON & WILSON, INC

Project Number: ~~110~~ 110918
Date: 7/14/23
Sampler: AG
Location:
Site: Pt Graham
Sheet Number:

Sample Number	Location	Sample Time	Sample Depth	Sample Type	GPS Reading*	PID Reading	Soil Classification	Analyses
TP1-0			0-2			1.0	On test pit logs	
TP1-2		1020	~~2-4~~ ~~2-3.5~~	2-4		4.9	↓	★
TP1-4			4-6			1.1		
TP2-0			0-2			1.9		
TP2-2		1220	~~2-4~~ 2-3.5			5.7		★
TP3-0		1240	0-1			2.7		★
TP4-0		1255	0-2			0.9		★
TP4-2			~~2~~-4			0.7		
TP5-0			0-2			0.6		
TP5-2			2-4			0.4		
TP5-4			4-6			0.3		
TP5-6		1315	6-8			0.8		★
TP5-16	(duplicate sample)	1330						★
TP6-0			0-2			2.0		
TP6-2		1355	2-4			2.2		★
TP6-4			4-6			1.8		
TP6-6			6-8			1.2		

Sample Type

ES	Environmental sample
FD	Field duplicate
FM	Field Screening
TB	Trip blank
*	GPS readings only collected from analytical sample locations

★ = analytical sample collected

FIELD LOG OF TEST PIT

LOGGED BY: AG SUBCONTRACTOR: _____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

LOG OF TEST PIT TP1

JOB NO: 110918 DATE: 7/19/23 LOCATION: _____

PROJECT: Pt Graham

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
Brown sandy gravel with broken rock throughout. Moist			TP1-0	0
				2
			TP1-2	
				4
4-6 ft - as above, with shells			TP1-4	
				6
				7 ft, end of TP
				8
Unmarked water line hit by excavator at 6 ft bgs				
				10
				12

Sketch of _____ Pit Side Surface Elevation: Approx. ____ Ft.

Horizontal Distance in Feet

0 2 4 6 8 10 12

NOTE

FIG.

Filename: J:\SupportLibrary\FIELD AND LAB FORMS\AutoCAD_Field Log of Test Pit.dwg Date: 08-23-2006 Login: Sandy Cottrell

FIELD LOG OF TEST PIT

LOGGED BY: AG SUBCONTRACTOR: _____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

JOB NO: 110918 DATE: 7/19/23 LOCATION: _____

LOG OF TEST PIT TP2

PROJECT: Pt Graham

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
brown sandy gravel w/ broken rock, moist			TP2-0	0
				2
grey staining & fuel odor 3-3.5			TP2-2	
encounter bedrock at 3.5				4
3.5 ft end of TP				6
				8
				10
				12

Sketch of _____ Pit Side Surface Elevation: Approx. ____ Ft.

Horizontal Distance in Feet

0 2 4 6 8 10 12

NOTE

FIG.

Filename: J:\Support\Library\FIELD AND LAB FORMS\AutoCAD_Field Log of Test Pit.dwg Date: 08-23-2006 Login: Sandy Cottrell

FIELD LOG OF TEST PIT

LOGGED BY: AG SUBCONTRACTOR: _____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

JOB NO: 110918 DATE: 7/19/23 LOCATION: _____

LOG OF TEST PIT TP3

PROJECT: Pt Graham

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
brown sandy gravel w/ broken rock encounter bedrock at 1 ft			TP3-0	0
End of TP at 1 ft 6/5				2
Prior to backfilling, water was noted accumulating on bedrock surface				4
				6
				8
				10
				12

Sketch of _____ Pit Side Surface Elevation: Approx. ____ Ft.

Horizontal Distance in Feet

0 2 4 6 8 10 12

NOTE

FIG.

Filename: J:\Support\Library\FIELD AND LAB FORMS\AutoCAD_Field Log of Test Pit.dwg Date: 08-23-2006 Login: Sandy Cottrell

FIELD LOG OF TEST PIT

LOGGED BY: AG SUBCONTRACTOR: _____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

JOB NO: 110918 DATE: 7/19/23 LOCATION: _____

LOG OF TEST PIT TP4

PROJECT: Pt Graham

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
brown sandy gravel with broken rock, moist			TP4-0	0
				2
			TP4-2	
Bedrock at 4 ft				4
End of TP				6
				8
				10
				12

Sketch of _____ Pit Side Surface Elevation: Approx. ____ Ft.

Horizontal Distance in Feet

0 2 4 6 8 10 12

NOTE

FIG.

Filename: J:\Support\Library\FIELD AND LAB FORMS\AutoCAD_Field Log of Test Pit.dwg Date: 08-23-2006 Login: Sandy Cottrell

FIELD LOG OF TEST PIT

LOGGED BY: AG SUBCONTRACTOR: _____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

JOB NO: 110918 DATE: 7/19/23 LOCATION: _____

LOG OF TEST PIT TP5

PROJECT: Pt Graham

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
brown sandy gravel w/ broken rock & large boulders ~~moist~~			TP5-0	0
				2
			TP5-2	
				4
brown gravel with sand & silt moist			TP5-4	
				6
			TP5-6	
				8
End of TP				
				10
				12

Sketch of _____ Pit Side Surface Elevation: Approx. ____ Ft.

Horizontal Distance in Feet

0 2 4 6 8 10 12

NOTE

FIG.

Filename: J:\SupportLibrary\FIELD AND LAB FORMS\AutoCAD_Field Log of Test Pit.dwg Date: 08-23-2006 Login: Sandy Cottrell

FIELD LOG OF TEST PIT

LOGGED BY: AG SUBCONTRACTOR: _____

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

JOB NO: 110918 DATE: 7/19/23 LOCATION: _____

LOG OF TEST PIT TP6

PROJECT: Pt Graham

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
brown Sandy gravel w/ broken rock, moist			TP6-0	0
brown fine sand (poorly graded) w/ gravel, moist			TP6-2	2
brown fine sand, moist			TP6-4	4
			TP6-6	6
End of TP at 8				8
				10
				12

Sketch of _____ Pit Side Surface Elevation: Approx. ____ Ft.

Horizontal Distance in Feet

0 2 4 6 8 10 12

NOTE

FIG.

Attachment 3

Site Photos

PHOTOS 1 & 2

Photo 1: Location of proposed sewer alignment on the west wide of the tank farm, view south. (July 19, 2023)

Photo 2: Location of proposed sewer alignment on the south side of the tank farm, view west. (July 19, 2023)

PHOTOS 3 & 4

Photo 3: Excavating Test Pit TP1, view southwest. (July 19, 2023)

Photo 4: Test Pit TP3, view Diesel ASTs, view northwest. (July 19, 2023)

PHOTOS 5 & 6

Photo 5: Excavating Test Pit TP5, view east. (July 19, 2023)

Photo 6: Excavating Test Pit TP6, view south. (July 19, 2023)

Attachment 4

Laboratory Report and ADEC Laboratory Data Review Checklist

Laboratory Report of Analysis

To: Shannon & Wilson, Inc.
5430 Fairbanks St #3
Anchorage, AK 99518

Report Number: **1233738**

Client Project: **110918-TP**

Dear Alex Geilich,

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 Justin 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.

_____

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

Case Narrative

SGS Client: **Shannon & Wilson, Inc.**
SGS Project: **1233738**
Project Name/Site: **110918-TP**
Project Contact: **Alex Geilich**

Refer to sample receipt form for information on sample condition.

110918-TP2-2 (1233738002) PS

8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.

1233738001MS (1724656) MS

8270D SIM - PAH MS recoveries for several analytes do not meet QC criteria. Refer to the LCS for accuracy requirements.

1233738001MSD (1724657) MSD

8270D SIM - PAH MSD recoveries for several analytes do not meet QC criteria. Refer to the LCS for accuracy requirements.

1233743003(1724690MSD) (1724692) MSD

8260D - MS/MSD RPDs for trichlorofluoromethane and 1,2,3-trichlorobenzene do not meet QC criteria. These analytes were not detected above the LOQ in the associated PS.
8260D - MSD recoveries for trichlorofluoromethane, hexachlorobutadiene, and 1,2,3-trichlorobenzene do not meet QC criteria. See LCS for accuracy requirements.

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

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM (PAH)				
1233738001	110918-TP1-2	XMS13796	Benzo(a)Anthracene	RP
1233738001	110918-TP1-2	XMS13796	Benzo[b]Fluoranthene	RP
1233738001	110918-TP1-2	XMS13796	Benzo[g,h,i]perylene	RP
1233738001	110918-TP1-2	XMS13796	Benzo[k]fluoranthene	RP
1233738001	110918-TP1-2	XMS13796	Chrysene	RP
1233738001	110918-TP1-2	XMS13796	Fluoranthene	RP
1233738001	110918-TP1-2	XMS13796	Indeno[1,2,3-c,d] pyrene	RP
1233738002	110918-TP2-2	XMS13796	2-Methylnaphthalene	RP
1233738002	110918-TP2-2	XMS13796	Fluoranthene	RP
1233738002	110918-TP2-2	XMS13796	Naphthalene	RP
1233738002	110918-TP2-2	XMS13796	Pyrene	RP
1233738004	110918-TP4-0	XMS13796	Benzo(a)Anthracene	RP
1233738004	110918-TP4-0	XMS13796	Benzo[k]fluoranthene	RP
1233738004	110918-TP4-0	XMS13796	Dibenzo[a,h]anthracene	RP
1233738005	110918-TP5-6	XMS13796	Benzo(a)Anthracene	RP
1233738005	110918-TP5-6	XMS13796	Benzo[k]fluoranthene	RP
1233738005	110918-TP5-6	XMS13796	Dibenzo[a,h]anthracene	RP
1233738006	110918-TP5-16	XMS13796	Benzo(a)Anthracene	RP
1233738006	110918-TP5-16	XMS13796	Benzo[k]fluoranthene	RP
1233738006	110918-TP5-16	XMS13796	Dibenzo[a,h]anthracene	RP
1724655	LCS for HBN 1859902 [XXX/48283	XMS13796	Benzo[k]fluoranthene	RP
1724656	1233738001MS	XMS13796	Benzo[k]fluoranthene	RP
1724656	1233738001MS	XMS13796	Chrysene	RP
1724657	1233738001MSD	XMS13796	Benzo[k]fluoranthene	RP
1724657	1233738001MSD	XMS13796	Chrysene	RP
1724657	1233738001MSD	XMS13796	Fluoranthene	RP
SW8260D				
1233738002	110918-TP2-2	VMS22599	Naphthalene	RP

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

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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 (Provisionally Certified as of 7/12/2023 for Nitrate-N and Nitrate-Nitrite as N EPA300.0 & SM4500NO3-F) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 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
TNTC	Too Numerous To Count
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.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
110918-TP1-2	1233738001	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TP2-2	1233738002	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TP3-0	1233738003	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TP4-0	1233738004	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TP5-6	1233738005	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TP5-16	1233738006	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TP6-2	1233738007	07/19/2023	07/21/2023	Soil/Solid (dry weight)
110918-TB	1233738008	07/19/2023	07/21/2023	Soil/Solid (dry weight)

Method	Method Description
8270D SIM (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
AK102	Diesel Range Organics (S)
AK101	Gasoline Range Organics (S)
SM21 2540G	Percent Solids SM2540G
SW8260D	VOC 8260 (S) Field Extracted

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Detectable Results Summary

Client Sample ID: **110918-TP1-2**
Lab Sample ID: 1233738001

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	7.05J	ug/kg
	2-Methylnaphthalene	9.97J	ug/kg
	Acenaphthylene	18.3J	ug/kg
	Anthracene	11.0J	ug/kg
	Benzo(a)Anthracene	15.4J	ug/kg
	Benzo[a]pyrene	21.6J	ug/kg
	Benzo[b]Fluoranthene	22.3J	ug/kg
	Benzo[g,h,i]perylene	15.8J	ug/kg
	Benzo[k]fluoranthene	8.06J	ug/kg
	Chrysene	18.3J	ug/kg
	Fluoranthene	22.3J	ug/kg
	Indeno[1,2,3-c,d] pyrene	11.4J	ug/kg
	Naphthalene	7.11J	ug/kg
	Phenanthrene	18.3J	ug/kg
	Pyrene	35.0	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	649	mg/kg
Volatile Fuels	Gasoline Range Organics	2.28J	mg/kg
Volatile GC/MS	1,3,5-Trimethylbenzene	14.1J	ug/kg
	Benzene	8.37J	ug/kg
	Ethylbenzene	16.3J	ug/kg
	o-Xylene	17.1J	ug/kg
	P & M -Xylene	83.3	ug/kg
	Toluene	75.9	ug/kg
	Xylenes (total)	100J	ug/kg

Client Sample ID: **110918-TP2-2**
Lab Sample ID: 1233738002

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	103	ug/kg
	2-Methylnaphthalene	65.7	ug/kg
	Fluoranthene	22.3J	ug/kg
	Naphthalene	29.6	ug/kg
	Pyrene	28.4J	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	4960	mg/kg
Volatile Fuels	Gasoline Range Organics	27.8	mg/kg
Volatile GC/MS	1,2,4-Trimethylbenzene	176J	ug/kg
	1,3,5-Trimethylbenzene	42.1J	ug/kg
	4-Isopropyltoluene	153	ug/kg
	Naphthalene	95.8	ug/kg
	n-Propylbenzene	34.0J	ug/kg
	sec-Butylbenzene	39.4J	ug/kg

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Detectable Results Summary

Client Sample ID: **110918-TP3-0**
Lab Sample ID: 1233738003

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	42.5	mg/kg
Volatile Fuels	Gasoline Range Organics	2.01J	mg/kg
Volatile GC/MS	P & M -Xylene	22.6J	ug/kg

Client Sample ID: **110918-TP4-0**
Lab Sample ID: 1233738004

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	2-Methylnaphthalene	8.09J	ug/kg
	Acenaphthene	15.2J	ug/kg
	Acenaphthylene	62.6	ug/kg
	Anthracene	72.5	ug/kg
	Benzo(a)Anthracene	124	ug/kg
	Benzo[a]pyrene	129	ug/kg
	Benzo[b]Fluoranthene	134	ug/kg
	Benzo[g,h,i]perylene	51.8	ug/kg
	Benzo[k]fluoranthene	51.8	ug/kg
	Chrysene	140	ug/kg
	Dibenzo[a,h]anthracene	13.2J	ug/kg
	Fluoranthene	280	ug/kg
	Fluorene	28.3J	ug/kg
	Indeno[1,2,3-c,d] pyrene	51.7	ug/kg
	Naphthalene	8.84J	ug/kg
	Phenanthrene	192	ug/kg
	Pyrene	279	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	56.2	mg/kg
Volatile Fuels	Gasoline Range Organics	2.16J	mg/kg

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Detectable Results Summary

Client Sample ID: **110918-TP5-6**
Lab Sample ID: 1233738005

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Acenaphthylene	63.3	ug/kg
	Anthracene	46.8	ug/kg
	Benzo(a)Anthracene	122	ug/kg
	Benzo[a]pyrene	147	ug/kg
	Benzo[b]Fluoranthene	152	ug/kg
	Benzo[g,h,i]perylene	66.8	ug/kg
	Benzo[k]fluoranthene	55.0	ug/kg
	Chrysene	141	ug/kg
	Dibenzo[a,h]anthracene	14.4J	ug/kg
	Fluoranthene	274	ug/kg
	Fluorene	18.1J	ug/kg
	Indeno[1,2,3-c,d] pyrene	61.6	ug/kg
	Naphthalene	9.85J	ug/kg
	Phenanthrene	170	ug/kg
	Pyrene	295	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	40.0	mg/kg
Volatile Fuels	Gasoline Range Organics	2.41J	mg/kg
Volatile GC/MS	Bromodichloromethane	1.44J	ug/kg
	Chloroform	7.41J	ug/kg

Client Sample ID: **110918-TP5-16**
Lab Sample ID: 1233738006

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Acenaphthylene	47.9	ug/kg
	Anthracene	36.4	ug/kg
	Benzo(a)Anthracene	89.6	ug/kg
	Benzo[a]pyrene	111	ug/kg
	Benzo[b]Fluoranthene	123	ug/kg
	Benzo[g,h,i]perylene	52.9	ug/kg
	Benzo[k]fluoranthene	37.6	ug/kg
	Chrysene	99.4	ug/kg
	Dibenzo[a,h]anthracene	11.7J	ug/kg
	Fluoranthene	172	ug/kg
	Fluorene	8.53J	ug/kg
	Indeno[1,2,3-c,d] pyrene	48.9	ug/kg
	Naphthalene	7.43J	ug/kg
	Phenanthrene	74.1	ug/kg
	Pyrene	191	ug/kg
Semivolatile Organic Fuels	Diesel Range Organics	58.3	mg/kg
Volatile Fuels	Gasoline Range Organics	2.23J	mg/kg
Volatile GC/MS	Bromodichloromethane	1.35J	ug/kg
	Chloroform	7.24J	ug/kg

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Detectable Results Summary

Client Sample ID: **110918-TP6-2**
Lab Sample ID: 1233738007

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	14.9J	mg/kg
Volatile Fuels	Gasoline Range Organics	2.33J	mg/kg
Volatile GC/MS	1,3,5-Trimethylbenzene	12.9J	ug/kg
	Ethylbenzene	16.0J	ug/kg
	o-Xylene	23.7J	ug/kg
	P & M -Xylene	93.8	ug/kg
	Toluene	49.3	ug/kg
	Xylenes (total)	117	ug/kg

Client Sample ID: **110918-TB**
Lab Sample ID: 1233738008

	Parameter	Result	Units
Volatile Fuels	Gasoline Range Organics	1.16J	mg/kg
Volatile GC/MS	Methylene chloride	34.1J	ug/kg

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Results of **110918-TP1-2**

Client Sample ID: **110918-TP1-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738001
Lab Project ID: 1233738

Collection Date: 07/19/23 10:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):88.5
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	7.05	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
2-Methylnaphthalene	9.97	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Acenaphthene	14.1	U	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Acenaphthylene	18.3	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Anthracene	11.0	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Benzo(a)Anthracene	15.4	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Benzo[a]pyrene	21.6	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Benzo[b]Fluoranthene	22.3	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Benzo[g,h,i]perylene	15.8	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Benzo[k]fluoranthene	8.06	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Chrysene	18.3	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Dibenzo[a,h]anthracene	14.1	U	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Fluoranthene	22.3	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Fluorene	14.1	U	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Indeno[1,2,3-c,d] pyrene	11.4	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Naphthalene	7.11	J	22.5	5.61	11.3	ug/kg	1		08/03/23 19:36
Phenanthrene	18.3	J	28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Pyrene	35.0		28.1	7.02	14.1	ug/kg	1		08/03/23 19:36
Surrogates									
2-Methylnaphthalene-d10 (surr)	92.5		58-103			%	1		08/03/23 19:36
Fluoranthene-d10 (surr)	98.1		54-113			%	1		08/03/23 19:36

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 19:36
Container ID: 1233738001-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.655 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP1-2**

Client Sample ID: **110918-TP1-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738001
Lab Project ID: 1233738

Collection Date: 07/19/23 10:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):88.5
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	649		22.5	10.1	11.3	mg/kg	1		07/29/23 18:13
Surrogates									
5a Androstane (surr)	104		50-150			%	1		07/29/23 18:13

Batch Information

Analytical Batch: XFC16578
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/29/23 18:13
Container ID: 1233738001-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.655 g
Prep Extract Vol: 5 mL

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Results of **110918-TP1-2**

Client Sample ID: **110918-TP1-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738001
Lab Project ID: 1233738

Collection Date: 07/19/23 10:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):88.5
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.28	J	3.37	1.01	1.69	mg/kg	1		07/29/23 11:14
Surrogates									
4-Bromofluorobenzene (surr)	80.7		50-150			%	1		07/29/23 11:14

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 11:14
Container ID: 1233738001-B

Prep Batch: VXX40199
Prep Method: SW5035A
Prep Date/Time: 07/19/23 10:20
Prep Initial Wt./Vol.: 52.025 g
Prep Extract Vol: 31.0032 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP1-2**

Client Sample ID: **110918-TP1-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738001
Lab Project ID: 1233738

Collection Date: 07/19/23 10:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):88.5
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	13.4	U	26.9	8.35	13.4	ug/kg	1		07/25/23 18:26
1,1,1-Trichloroethane	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,1,2,2-Tetrachloroethane	1.35	U	2.69	0.835	1.35	ug/kg	1		07/25/23 18:26
1,1,2-Trichloroethane	0.675	U	1.35	0.674	0.675	ug/kg	1		07/25/23 18:26
1,1-Dichloroethane	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,1-Dichloroethene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,1-Dichloropropene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,2,3-Trichlorobenzene	67.5	U	135	40.4	67.5	ug/kg	1		07/25/23 18:26
1,2,3-Trichloropropane	1.35	U	2.69	0.835	1.35	ug/kg	1		07/25/23 18:26
1,2,4-Trichlorobenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,2,4-Trimethylbenzene	67.5	U	135	40.4	67.5	ug/kg	1		07/25/23 18:26
1,2-Dibromo-3-chloropropane	67.5	U	135	41.8	67.5	ug/kg	1		07/25/23 18:26
1,2-Dibromoethane	1.01	U	2.02	1.01	1.01	ug/kg	1		07/25/23 18:26
1,2-Dichlorobenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,2-Dichloroethane	1.35	U	2.69	0.943	1.35	ug/kg	1		07/25/23 18:26
1,2-Dichloropropane	6.75	U	13.5	6.74	6.75	ug/kg	1		07/25/23 18:26
1,3,5-Trimethylbenzene	14.1	J	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,3-Dichlorobenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
1,3-Dichloropropane	6.75	U	13.5	4.18	6.75	ug/kg	1		07/25/23 18:26
1,4-Dichlorobenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
2,2-Dichloropropane	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
2-Butanone (MEK)	169	U	337	105	169	ug/kg	1		07/25/23 18:26
2-Chlorotoluene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
2-Hexanone	81.0	U	162	80.8	81.0	ug/kg	1		07/25/23 18:26
4-Chlorotoluene	13.4	U	26.9	13.5	13.4	ug/kg	1		07/25/23 18:26
4-Isopropyltoluene	54.0	U	108	53.9	54.0	ug/kg	1		07/25/23 18:26
4-Methyl-2-pentanone (MIBK)	169	U	337	105	169	ug/kg	1		07/25/23 18:26
Acetone	169	U	337	148	169	ug/kg	1		07/25/23 18:26
Benzene	8.37	J	16.8	5.25	8.40	ug/kg	1		07/25/23 18:26
Bromobenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Bromochloromethane	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Bromodichloromethane	1.35	U	2.69	0.835	1.35	ug/kg	1		07/25/23 18:26
Bromoform	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Bromomethane	13.4	U	26.9	10.8	13.4	ug/kg	1		07/25/23 18:26
Carbon disulfide	67.5	U	135	41.8	67.5	ug/kg	1		07/25/23 18:26
Carbon tetrachloride	8.40	U	16.8	5.25	8.40	ug/kg	1		07/25/23 18:26

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP1-2**

Client Sample ID: **110918-TP1-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738001
Lab Project ID: 1233738

Collection Date: 07/19/23 10:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):88.5
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Chloroethane	135	U	269	83.5	135	ug/kg	1		07/25/23 18:26
Chloroform	4.04	U	8.08	4.04	4.04	ug/kg	1		07/25/23 18:26
Chloromethane	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
cis-1,2-Dichloroethene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
cis-1,3-Dichloropropene	8.40	U	16.8	5.25	8.40	ug/kg	1		07/25/23 18:26
Dibromochloromethane	3.37	U	6.74	2.02	3.37	ug/kg	1		07/25/23 18:26
Dibromomethane	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Dichlorodifluoromethane	67.5	U	135	40.4	67.5	ug/kg	1		07/25/23 18:26
Ethylbenzene	16.3	J	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Freon-113	67.5	U	135	41.8	67.5	ug/kg	1		07/25/23 18:26
Hexachlorobutadiene	13.4	U	26.9	8.35	13.4	ug/kg	1		07/25/23 18:26
Isopropylbenzene (Cumene)	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Methylene chloride	67.5	U	135	41.8	67.5	ug/kg	1		07/25/23 18:26
Methyl-t-butyl ether	67.5	U	135	41.8	67.5	ug/kg	1		07/25/23 18:26
Naphthalene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
n-Butylbenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
n-Propylbenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
o-Xylene	17.1	J	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
P & M -Xylene	83.3		67.4	20.2	33.7	ug/kg	1		07/25/23 18:26
sec-Butylbenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Styrene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
tert-Butylbenzene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
Tetrachloroethene	8.40	U	16.8	5.25	8.40	ug/kg	1		07/25/23 18:26
Toluene	75.9		33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
trans-1,2-Dichloroethene	16.9	U	33.7	10.5	16.9	ug/kg	1		07/25/23 18:26
trans-1,3-Dichloropropene	8.40	U	16.8	5.25	8.40	ug/kg	1		07/25/23 18:26
Trichloroethene	6.75	U	13.5	4.31	6.75	ug/kg	1		07/25/23 18:26
Trichlorofluoromethane	33.7	U	67.4	20.2	33.7	ug/kg	1		07/25/23 18:26
Vinyl acetate	67.5	U	135	41.8	67.5	ug/kg	1		07/25/23 18:26
Vinyl chloride	0.540	U	1.08	0.337	0.540	ug/kg	1		07/25/23 18:26
Xylenes (total)	100	J	101	30.7	50.5	ug/kg	1		07/25/23 18:26
Surrogates									
1,2-Dichloroethane-D4 (surr)	104		71-136			%	1		07/25/23 18:26
4-Bromofluorobenzene (surr)	111		55-151			%	1		07/25/23 18:26
Toluene-d8 (surr)	100		85-116			%	1		07/25/23 18:26

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Results of **110918-TP1-2**

Client Sample ID: **110918-TP1-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738001
Lab Project ID: 1233738

Collection Date: 07/19/23 10:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):88.5
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 18:26
Container ID: 1233738001-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 10:20
Prep Initial Wt./Vol.: 52.025 g
Prep Extract Vol: 31.0032 mL

Results of **110918-TP2-2**

Client Sample ID: **110918-TP2-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738002
Lab Project ID: 1233738

Collection Date: 07/19/23 12:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):75.7
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual		LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	103			32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
2-Methylnaphthalene	65.7			32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Acenaphthene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Acenaphthylene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Anthracene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Benzo(a)Anthracene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Benzo[a]pyrene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Benzo[b]Fluoranthene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Benzo[g,h,i]perylene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Benzo[k]fluoranthene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Chrysene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Dibenzo[a,h]anthracene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Fluoranthene	22.3	J		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Fluorene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Indeno[1,2,3-c,d] pyrene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Naphthalene	29.6			26.0	6.51	13.0	ug/kg	1		08/03/23 20:25
Phenanthrene	16.3	U		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Pyrene	28.4	J		32.6	8.14	16.3	ug/kg	1		08/03/23 20:25
Surrogates										
2-Methylnaphthalene-d10 (surr)	155		*	58-103			%	1		08/03/23 20:25
Fluoranthene-d10 (surr)	107			54-113			%	1		08/03/23 20:25

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 20:25
Container ID: 1233738002-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.827 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP2-2**

Client Sample ID: **110918-TP2-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738002
Lab Project ID: 1233738

Collection Date: 07/19/23 12:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):75.7
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	4960		26.0	11.7	13.0	mg/kg	1		07/29/23 18:23
Surrogates									
5a Androstane (surr)	104		50-150			%	1		07/29/23 18:23

Batch Information

Analytical Batch: XFC16578
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/29/23 18:23
Container ID: 1233738002-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.827 g
Prep Extract Vol: 5 mL

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Results of **110918-TP2-2**

Client Sample ID: **110918-TP2-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738002
Lab Project ID: 1233738

Collection Date: 07/19/23 12:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):75.7
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	27.8		23.4	7.01	11.7	mg/kg	5		07/29/23 07:18
Surrogates									
4-Bromofluorobenzene (surr)	138		50-150			%	5		07/29/23 07:18

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 07:18
Container ID: 1233738002-B

Prep Batch: VXX40199
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:20
Prep Initial Wt./Vol.: 53.854 g
Prep Extract Vol: 38.0948 mL

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Results of **110918-TP2-2**

Client Sample ID: **110918-TP2-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738002
Lab Project ID: 1233738

Collection Date: 07/19/23 12:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):75.7
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	18.7	U	37.4	11.6	18.7	ug/kg	1		07/25/23 20:18
1,1,1-Trichloroethane	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,1,2,2-Tetrachloroethane	1.87	U	3.74	1.16	1.87	ug/kg	1		07/25/23 20:18
1,1,2-Trichloroethane	0.935	U	1.87	0.935	0.935	ug/kg	1		07/25/23 20:18
1,1-Dichloroethane	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,1-Dichloroethene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,1-Dichloropropene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,2,3-Trichlorobenzene	93.5	U	187	56.1	93.5	ug/kg	1		07/25/23 20:18
1,2,3-Trichloropropane	1.87	U	3.74	1.16	1.87	ug/kg	1		07/25/23 20:18
1,2,4-Trichlorobenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,2,4-Trimethylbenzene	176	J	187	56.1	93.5	ug/kg	1		07/25/23 20:18
1,2-Dibromo-3-chloropropane	93.5	U	187	57.9	93.5	ug/kg	1		07/25/23 20:18
1,2-Dibromoethane	1.40	U	2.80	1.40	1.40	ug/kg	1		07/25/23 20:18
1,2-Dichlorobenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,2-Dichloroethane	1.87	U	3.74	1.31	1.87	ug/kg	1		07/25/23 20:18
1,2-Dichloropropane	9.35	U	18.7	9.35	9.35	ug/kg	1		07/25/23 20:18
1,3,5-Trimethylbenzene	42.1	J	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,3-Dichlorobenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
1,3-Dichloropropane	9.35	U	18.7	5.79	9.35	ug/kg	1		07/25/23 20:18
1,4-Dichlorobenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
2,2-Dichloropropane	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
2-Butanone (MEK)	234	U	467	146	234	ug/kg	1		07/25/23 20:18
2-Chlorotoluene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
2-Hexanone	112	U	224	112	112	ug/kg	1		07/25/23 20:18
4-Chlorotoluene	18.7	U	37.4	18.7	18.7	ug/kg	1		07/25/23 20:18
4-Isopropyltoluene	153		150	74.8	75.0	ug/kg	1		07/25/23 20:18
4-Methyl-2-pentanone (MIBK)	234	U	467	146	234	ug/kg	1		07/25/23 20:18
Acetone	234	U	467	206	234	ug/kg	1		07/25/23 20:18
Benzene	11.7	U	23.4	7.29	11.7	ug/kg	1		07/25/23 20:18
Bromobenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Bromochloromethane	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Bromodichloromethane	1.87	U	3.74	1.16	1.87	ug/kg	1		07/25/23 20:18
Bromoform	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Bromomethane	18.7	U	37.4	15.0	18.7	ug/kg	1		07/25/23 20:18
Carbon disulfide	93.5	U	187	57.9	93.5	ug/kg	1		07/25/23 20:18
Carbon tetrachloride	11.7	U	23.4	7.29	11.7	ug/kg	1		07/25/23 20:18

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J flagging is activated

Results of **110918-TP2-2**

Client Sample ID: **110918-TP2-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738002
Lab Project ID: 1233738

Collection Date: 07/19/23 12:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):75.7
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Chloroethane	187	U	374	116	187	ug/kg	1		07/25/23 20:18
Chloroform	5.60	U	11.2	5.61	5.60	ug/kg	1		07/25/23 20:18
Chloromethane	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
cis-1,2-Dichloroethene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
cis-1,3-Dichloropropene	11.7	U	23.4	7.29	11.7	ug/kg	1		07/25/23 20:18
Dibromochloromethane	4.67	U	9.35	2.80	4.67	ug/kg	1		07/25/23 20:18
Dibromomethane	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Dichlorodifluoromethane	93.5	U	187	56.1	93.5	ug/kg	1		07/25/23 20:18
Ethylbenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Freon-113	93.5	U	187	57.9	93.5	ug/kg	1		07/25/23 20:18
Hexachlorobutadiene	18.7	U	37.4	11.6	18.7	ug/kg	1		07/25/23 20:18
Isopropylbenzene (Cumene)	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Methylene chloride	93.5	U	187	57.9	93.5	ug/kg	1		07/25/23 20:18
Methyl-t-butyl ether	93.5	U	187	57.9	93.5	ug/kg	1		07/25/23 20:18
Naphthalene	95.8		46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
n-Butylbenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
n-Propylbenzene	34.0	J	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
o-Xylene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
P & M -Xylene	46.8	U	93.5	28.0	46.8	ug/kg	1		07/25/23 20:18
sec-Butylbenzene	39.4	J	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Styrene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
tert-Butylbenzene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
Tetrachloroethene	11.7	U	23.4	7.29	11.7	ug/kg	1		07/25/23 20:18
Toluene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
trans-1,2-Dichloroethene	23.4	U	46.7	14.6	23.4	ug/kg	1		07/25/23 20:18
trans-1,3-Dichloropropene	11.7	U	23.4	7.29	11.7	ug/kg	1		07/25/23 20:18
Trichloroethene	9.35	U	18.7	5.98	9.35	ug/kg	1		07/25/23 20:18
Trichlorofluoromethane	46.8	U	93.5	28.0	46.8	ug/kg	1		07/25/23 20:18
Vinyl acetate	93.5	U	187	57.9	93.5	ug/kg	1		07/25/23 20:18
Vinyl chloride	0.750	U	1.50	0.467	0.750	ug/kg	1		07/25/23 20:18
Xylenes (total)	70.0	U	140	42.6	70.0	ug/kg	1		07/25/23 20:18
Surrogates									
1,2-Dichloroethane-D4 (surr)	107		71-136			%	1		07/25/23 20:18
4-Bromofluorobenzene (surr)	126		55-151			%	1		07/25/23 20:18
Toluene-d8 (surr)	98.3		85-116			%	1		07/25/23 20:18

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J flagging is activated

Results of **110918-TP2-2**

Client Sample ID: **110918-TP2-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738002
Lab Project ID: 1233738

Collection Date: 07/19/23 12:20
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):75.7
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 20:18
Container ID: 1233738002-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:20
Prep Initial Wt./Vol.: 53.854 g
Prep Extract Vol: 38.0948 mL

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Results of **110918-TP3-0**

Client Sample ID: **110918-TP3-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738003
Lab Project ID: 1233738

Collection Date: 07/19/23 12:40
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):86.3
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
2-Methylnaphthalene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Acenaphthene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Acenaphthylene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Anthracene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Benzo(a)Anthracene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Benzo[a]pyrene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Benzo[b]Fluoranthene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Benzo[g,h,i]perylene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Benzo[k]fluoranthene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Chrysene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Dibenzo[a,h]anthracene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Fluoranthene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Fluorene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Indeno[1,2,3-c,d] pyrene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Naphthalene	11.4	U	22.9	5.71	11.4	ug/kg	1		08/03/23 20:41
Phenanthrene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Pyrene	14.3	U	28.6	7.14	14.3	ug/kg	1		08/03/23 20:41
Surrogates									
2-Methylnaphthalene-d10 (surr)	78.9		58-103			%	1		08/03/23 20:41
Fluoranthene-d10 (surr)	82		54-113			%	1		08/03/23 20:41

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 20:41
Container ID: 1233738003-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.816 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP3-0**

Client Sample ID: **110918-TP3-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738003
Lab Project ID: 1233738

Collection Date: 07/19/23 12:40
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):86.3
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	42.5		22.9	10.3	11.4	mg/kg	1		07/29/23 18:34
Surrogates									
5a Androstane (surr)	100		50-150			%	1		07/29/23 18:34

Batch Information

Analytical Batch: XFC16578
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/29/23 18:34
Container ID: 1233738003-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.816 g
Prep Extract Vol: 5 mL

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Results of **110918-TP3-0**

Client Sample ID: **110918-TP3-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738003
Lab Project ID: 1233738

Collection Date: 07/19/23 12:40
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):86.3
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.01	J	3.46	1.04	1.73	mg/kg	1		07/29/23 03:03
Surrogates									
4-Bromofluorobenzene (surr)	94.6		50-150			%	1		07/29/23 03:03

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 03:03
Container ID: 1233738003-B

Prep Batch: VXX40197
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:40
Prep Initial Wt./Vol.: 54.34 g
Prep Extract Vol: 32.4444 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP3-0**

Client Sample ID: **110918-TP3-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738003
Lab Project ID: 1233738

Collection Date: 07/19/23 12:40
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):86.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	13.9	U	27.7	8.58	13.9	ug/kg	1		07/25/23 18:42
1,1,1-Trichloroethane	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,1,2,2-Tetrachloroethane	1.39	U	2.77	0.858	1.39	ug/kg	1		07/25/23 18:42
1,1,2-Trichloroethane	0.690	U	1.38	0.692	0.690	ug/kg	1		07/25/23 18:42
1,1-Dichloroethane	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,1-Dichloroethene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,1-Dichloropropene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,2,3-Trichlorobenzene	69.0	U	138	41.5	69.0	ug/kg	1		07/25/23 18:42
1,2,3-Trichloropropane	1.39	U	2.77	0.858	1.39	ug/kg	1		07/25/23 18:42
1,2,4-Trichlorobenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,2,4-Trimethylbenzene	69.0	U	138	41.5	69.0	ug/kg	1		07/25/23 18:42
1,2-Dibromo-3-chloropropane	69.0	U	138	42.9	69.0	ug/kg	1		07/25/23 18:42
1,2-Dibromoethane	1.04	U	2.08	1.04	1.04	ug/kg	1		07/25/23 18:42
1,2-Dichlorobenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,2-Dichloroethane	1.39	U	2.77	0.969	1.39	ug/kg	1		07/25/23 18:42
1,2-Dichloropropane	6.90	U	13.8	6.92	6.90	ug/kg	1		07/25/23 18:42
1,3,5-Trimethylbenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,3-Dichlorobenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
1,3-Dichloropropane	6.90	U	13.8	4.29	6.90	ug/kg	1		07/25/23 18:42
1,4-Dichlorobenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
2,2-Dichloropropane	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
2-Butanone (MEK)	173	U	346	108	173	ug/kg	1		07/25/23 18:42
2-Chlorotoluene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
2-Hexanone	83.0	U	166	83.0	83.0	ug/kg	1		07/25/23 18:42
4-Chlorotoluene	13.9	U	27.7	13.8	13.9	ug/kg	1		07/25/23 18:42
4-Isopropyltoluene	55.5	U	111	55.3	55.5	ug/kg	1		07/25/23 18:42
4-Methyl-2-pentanone (MIBK)	173	U	346	108	173	ug/kg	1		07/25/23 18:42
Acetone	173	U	346	152	173	ug/kg	1		07/25/23 18:42
Benzene	8.65	U	17.3	5.40	8.65	ug/kg	1		07/25/23 18:42
Bromobenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Bromochloromethane	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Bromodichloromethane	1.39	U	2.77	0.858	1.39	ug/kg	1		07/25/23 18:42
Bromoform	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Bromomethane	13.9	U	27.7	11.1	13.9	ug/kg	1		07/25/23 18:42
Carbon disulfide	69.0	U	138	42.9	69.0	ug/kg	1		07/25/23 18:42
Carbon tetrachloride	8.65	U	17.3	5.40	8.65	ug/kg	1		07/25/23 18:42

Results of **110918-TP3-0**

Client Sample ID: **110918-TP3-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738003
Lab Project ID: 1233738

Collection Date: 07/19/23 12:40
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):86.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Chloroethane	139	U	277	85.8	139	ug/kg	1		07/25/23 18:42
Chloroform	4.15	U	8.30	4.15	4.15	ug/kg	1		07/25/23 18:42
Chloromethane	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
cis-1,2-Dichloroethene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
cis-1,3-Dichloropropene	8.65	U	17.3	5.40	8.65	ug/kg	1		07/25/23 18:42
Dibromochloromethane	3.46	U	6.92	2.08	3.46	ug/kg	1		07/25/23 18:42
Dibromomethane	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Dichlorodifluoromethane	69.0	U	138	41.5	69.0	ug/kg	1		07/25/23 18:42
Ethylbenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Freon-113	69.0	U	138	42.9	69.0	ug/kg	1		07/25/23 18:42
Hexachlorobutadiene	13.9	U	27.7	8.58	13.9	ug/kg	1		07/25/23 18:42
Isopropylbenzene (Cumene)	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Methylene chloride	69.0	U	138	42.9	69.0	ug/kg	1		07/25/23 18:42
Methyl-t-butyl ether	69.0	U	138	42.9	69.0	ug/kg	1		07/25/23 18:42
Naphthalene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
n-Butylbenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
n-Propylbenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
o-Xylene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
P & M -Xylene	22.6	J	69.2	20.8	34.6	ug/kg	1		07/25/23 18:42
sec-Butylbenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Styrene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
tert-Butylbenzene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
Tetrachloroethene	8.65	U	17.3	5.40	8.65	ug/kg	1		07/25/23 18:42
Toluene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
trans-1,2-Dichloroethene	17.3	U	34.6	10.8	17.3	ug/kg	1		07/25/23 18:42
trans-1,3-Dichloropropene	8.65	U	17.3	5.40	8.65	ug/kg	1		07/25/23 18:42
Trichloroethene	6.90	U	13.8	4.43	6.90	ug/kg	1		07/25/23 18:42
Trichlorofluoromethane	34.6	U	69.2	20.8	34.6	ug/kg	1		07/25/23 18:42
Vinyl acetate	69.0	U	138	42.9	69.0	ug/kg	1		07/25/23 18:42
Vinyl chloride	0.555	U	1.11	0.346	0.555	ug/kg	1		07/25/23 18:42
Xylenes (total)	52.0	U	104	31.5	52.0	ug/kg	1		07/25/23 18:42
Surrogates									
1,2-Dichloroethane-D4 (surr)	108		71-136			%	1		07/25/23 18:42
4-Bromofluorobenzene (surr)	117		55-151			%	1		07/25/23 18:42
Toluene-d8 (surr)	100		85-116			%	1		07/25/23 18:42

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP3-0**

Client Sample ID: **110918-TP3-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738003
Lab Project ID: 1233738

Collection Date: 07/19/23 12:40
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):86.3
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 18:42
Container ID: 1233738003-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:40
Prep Initial Wt./Vol.: 54.34 g
Prep Extract Vol: 32.4444 mL

Results of **110918-TP4-0**

Client Sample ID: **110918-TP4-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738004
Lab Project ID: 1233738

Collection Date: 07/19/23 12:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.5
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.8	U	29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
2-Methylnaphthalene	8.09	J	29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Acenaphthene	15.2	J	29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Acenaphthylene	62.6		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Anthracene	72.5		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Benzo(a)Anthracene	124		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Benzo[a]pyrene	129		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Benzo[b]Fluoranthene	134		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Benzo[g,h,i]perylene	51.8		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Benzo[k]fluoranthene	51.8		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Chrysene	140		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Dibenzo[a,h]anthracene	13.2	J	29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Fluoranthene	280		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Fluorene	28.3	J	29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Indeno[1,2,3-c,d] pyrene	51.7		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Naphthalene	8.84	J	23.7	5.93	11.9	ug/kg	1		08/03/23 20:57
Phenanthrene	192		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Pyrene	279		29.6	7.41	14.8	ug/kg	1		08/03/23 20:57
Surrogates									
2-Methylnaphthalene-d10 (surr)	82.5		58-103			%	1		08/03/23 20:57
Fluoranthene-d10 (surr)	84.5		54-113			%	1		08/03/23 20:57

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 20:57
Container ID: 1233738004-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.72 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP4-0**

Client Sample ID: **110918-TP4-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738004
Lab Project ID: 1233738

Collection Date: 07/19/23 12:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.5
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	56.2		23.7	10.7	11.9	mg/kg	1		07/29/23 18:45
Surrogates									
5a Androstane (surr)	98.4		50-150			%	1		07/29/23 18:45

Batch Information

Analytical Batch: XFC16578
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/29/23 18:45
Container ID: 1233738004-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.72 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP4-0**

Client Sample ID: **110918-TP4-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738004
Lab Project ID: 1233738

Collection Date: 07/19/23 12:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.5
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.16	J	4.02	1.20	2.01	mg/kg	1		07/29/23 03:21
Surrogates									
4-Bromofluorobenzene (surr)	84.2		50-150			%	1		07/29/23 03:21

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 03:21
Container ID: 1233738004-B

Prep Batch: VXX40197
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:55
Prep Initial Wt./Vol.: 49.426 g
Prep Extract Vol: 33.1546 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP4-0**

Client Sample ID: **110918-TP4-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738004
Lab Project ID: 1233738

Collection Date: 07/19/23 12:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.5
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	16.1	U	32.1	9.96	16.1	ug/kg	1		07/25/23 18:58
1,1,1-Trichloroethane	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,1,2,2-Tetrachloroethane	1.61	U	3.21	0.996	1.61	ug/kg	1		07/25/23 18:58
1,1,2-Trichloroethane	0.805	U	1.61	0.803	0.805	ug/kg	1		07/25/23 18:58
1,1-Dichloroethane	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,1-Dichloroethene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,1-Dichloropropene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,2,3-Trichlorobenzene	80.5	U	161	48.2	80.5	ug/kg	1		07/25/23 18:58
1,2,3-Trichloropropane	1.61	U	3.21	0.996	1.61	ug/kg	1		07/25/23 18:58
1,2,4-Trichlorobenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,2,4-Trimethylbenzene	80.5	U	161	48.2	80.5	ug/kg	1		07/25/23 18:58
1,2-Dibromo-3-chloropropane	80.5	U	161	49.8	80.5	ug/kg	1		07/25/23 18:58
1,2-Dibromoethane	1.21	U	2.41	1.20	1.21	ug/kg	1		07/25/23 18:58
1,2-Dichlorobenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,2-Dichloroethane	1.61	U	3.21	1.12	1.61	ug/kg	1		07/25/23 18:58
1,2-Dichloropropane	8.05	U	16.1	8.03	8.05	ug/kg	1		07/25/23 18:58
1,3,5-Trimethylbenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,3-Dichlorobenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
1,3-Dichloropropane	8.05	U	16.1	4.98	8.05	ug/kg	1		07/25/23 18:58
1,4-Dichlorobenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
2,2-Dichloropropane	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
2-Butanone (MEK)	201	U	402	125	201	ug/kg	1		07/25/23 18:58
2-Chlorotoluene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
2-Hexanone	96.5	U	193	96.4	96.5	ug/kg	1		07/25/23 18:58
4-Chlorotoluene	16.1	U	32.1	16.1	16.1	ug/kg	1		07/25/23 18:58
4-Isopropyltoluene	64.5	U	129	64.3	64.5	ug/kg	1		07/25/23 18:58
4-Methyl-2-pentanone (MIBK)	201	U	402	125	201	ug/kg	1		07/25/23 18:58
Acetone	201	U	402	177	201	ug/kg	1		07/25/23 18:58
Benzene	10.1	U	20.1	6.27	10.1	ug/kg	1		07/25/23 18:58
Bromobenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Bromochloromethane	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Bromodichloromethane	1.61	U	3.21	0.996	1.61	ug/kg	1		07/25/23 18:58
Bromoform	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Bromomethane	16.1	U	32.1	12.9	16.1	ug/kg	1		07/25/23 18:58
Carbon disulfide	80.5	U	161	49.8	80.5	ug/kg	1		07/25/23 18:58
Carbon tetrachloride	10.1	U	20.1	6.27	10.1	ug/kg	1		07/25/23 18:58

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP4-0**

Client Sample ID: **110918-TP4-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738004
Lab Project ID: 1233738

Collection Date: 07/19/23 12:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.5
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Chloroethane	161	U	321	99.6	161	ug/kg	1		07/25/23 18:58
Chloroform	4.82	U	9.64	4.82	4.82	ug/kg	1		07/25/23 18:58
Chloromethane	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
cis-1,2-Dichloroethene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
cis-1,3-Dichloropropene	10.1	U	20.1	6.27	10.1	ug/kg	1		07/25/23 18:58
Dibromochloromethane	4.01	U	8.03	2.41	4.01	ug/kg	1		07/25/23 18:58
Dibromomethane	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Dichlorodifluoromethane	80.5	U	161	48.2	80.5	ug/kg	1		07/25/23 18:58
Ethylbenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Freon-113	80.5	U	161	49.8	80.5	ug/kg	1		07/25/23 18:58
Hexachlorobutadiene	16.1	U	32.1	9.96	16.1	ug/kg	1		07/25/23 18:58
Isopropylbenzene (Cumene)	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Methylene chloride	80.5	U	161	49.8	80.5	ug/kg	1		07/25/23 18:58
Methyl-t-butyl ether	80.5	U	161	49.8	80.5	ug/kg	1		07/25/23 18:58
Naphthalene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
n-Butylbenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
n-Propylbenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
o-Xylene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
P & M -Xylene	40.1	U	80.3	24.1	40.1	ug/kg	1		07/25/23 18:58
sec-Butylbenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Styrene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
tert-Butylbenzene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
Tetrachloroethene	10.1	U	20.1	6.27	10.1	ug/kg	1		07/25/23 18:58
Toluene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
trans-1,2-Dichloroethene	20.1	U	40.2	12.5	20.1	ug/kg	1		07/25/23 18:58
trans-1,3-Dichloropropene	10.1	U	20.1	6.27	10.1	ug/kg	1		07/25/23 18:58
Trichloroethene	8.05	U	16.1	5.14	8.05	ug/kg	1		07/25/23 18:58
Trichlorofluoromethane	40.1	U	80.3	24.1	40.1	ug/kg	1		07/25/23 18:58
Vinyl acetate	80.5	U	161	49.8	80.5	ug/kg	1		07/25/23 18:58
Vinyl chloride	0.645	U	1.29	0.402	0.645	ug/kg	1		07/25/23 18:58
Xylenes (total)	60.0	U	120	36.6	60.0	ug/kg	1		07/25/23 18:58
Surrogates									
1,2-Dichloroethane-D4 (surr)	107		71-136			%	1		07/25/23 18:58
4-Bromofluorobenzene (surr)	110		55-151			%	1		07/25/23 18:58
Toluene-d8 (surr)	99.8		85-116			%	1		07/25/23 18:58

Results of **110918-TP4-0**

Client Sample ID: **110918-TP4-0**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738004
Lab Project ID: 1233738

Collection Date: 07/19/23 12:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.5
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 18:58
Container ID: 1233738004-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:55
Prep Initial Wt./Vol.: 49.426 g
Prep Extract Vol: 33.1546 mL

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Results of **110918-TP5-6**

Client Sample ID: **110918-TP5-6**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738005
Lab Project ID: 1233738

Collection Date: 07/19/23 13:15
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.2
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.9	U	29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
2-Methylnaphthalene	14.9	U	29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Acenaphthene	14.9	U	29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Acenaphthylene	63.3		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Anthracene	46.8		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Benzo(a)Anthracene	122		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Benzo[a]pyrene	147		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Benzo[b]Fluoranthene	152		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Benzo[g,h,i]perylene	66.8		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Benzo[k]fluoranthene	55.0		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Chrysene	141		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Dibenzo[a,h]anthracene	14.4	J	29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Fluoranthene	274		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Fluorene	18.1	J	29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Indeno[1,2,3-c,d] pyrene	61.6		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Naphthalene	9.85	J	23.9	5.97	11.9	ug/kg	1		08/03/23 21:13
Phenanthrene	170		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Pyrene	295		29.8	7.46	14.9	ug/kg	1		08/03/23 21:13
Surrogates									
2-Methylnaphthalene-d10 (surr)	87.1		58-103			%	1		08/03/23 21:13
Fluoranthene-d10 (surr)	89.2		54-113			%	1		08/03/23 21:13

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 21:13
Container ID: 1233738005-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.642 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP5-6**

Client Sample ID: **110918-TP5-6**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738005
Lab Project ID: 1233738

Collection Date: 07/19/23 13:15
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.2
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	40.0		23.9	10.7	11.9	mg/kg	1		07/29/23 18:56
Surrogates									
5a Androstane (surr)	107		50-150			%	1		07/29/23 18:56

Batch Information

Analytical Batch: XFC16578
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/29/23 18:56
Container ID: 1233738005-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.642 g
Prep Extract Vol: 5 mL

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Results of **110918-TP5-6**

Client Sample ID: **110918-TP5-6**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738005
Lab Project ID: 1233738

Collection Date: 07/19/23 13:15
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.2
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.41	J	4.45	1.34	2.23	mg/kg	1		07/29/23 07:54
Surrogates									
4-Bromofluorobenzene (surr)	89.2		50-150			%	1		07/29/23 07:54

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 07:54
Container ID: 1233738005-B

Prep Batch: VXX40199
Prep Method: SW5035A
Prep Date/Time: 07/19/23 13:15
Prep Initial Wt./Vol.: 43.571 g
Prep Extract Vol: 32.3075 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP5-6**

Client Sample ID: **110918-TP5-6**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738005
Lab Project ID: 1233738

Collection Date: 07/19/23 13:15
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.2
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	17.8	U	35.6	11.0	17.8	ug/kg	1		07/25/23 19:14
1,1,1-Trichloroethane	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,1,2,2-Tetrachloroethane	1.78	U	3.56	1.10	1.78	ug/kg	1		07/25/23 19:14
1,1,2-Trichloroethane	0.890	U	1.78	0.891	0.890	ug/kg	1		07/25/23 19:14
1,1-Dichloroethane	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,1-Dichloroethene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,1-Dichloropropene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,2,3-Trichlorobenzene	89.0	U	178	53.5	89.0	ug/kg	1		07/25/23 19:14
1,2,3-Trichloropropane	1.78	U	3.56	1.10	1.78	ug/kg	1		07/25/23 19:14
1,2,4-Trichlorobenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,2,4-Trimethylbenzene	89.0	U	178	53.5	89.0	ug/kg	1		07/25/23 19:14
1,2-Dibromo-3-chloropropane	89.0	U	178	55.2	89.0	ug/kg	1		07/25/23 19:14
1,2-Dibromoethane	1.34	U	2.67	1.34	1.34	ug/kg	1		07/25/23 19:14
1,2-Dichlorobenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,2-Dichloroethane	1.78	U	3.56	1.25	1.78	ug/kg	1		07/25/23 19:14
1,2-Dichloropropane	8.90	U	17.8	8.91	8.90	ug/kg	1		07/25/23 19:14
1,3,5-Trimethylbenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,3-Dichlorobenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
1,3-Dichloropropane	8.90	U	17.8	5.52	8.90	ug/kg	1		07/25/23 19:14
1,4-Dichlorobenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
2,2-Dichloropropane	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
2-Butanone (MEK)	223	U	445	139	223	ug/kg	1		07/25/23 19:14
2-Chlorotoluene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
2-Hexanone	107	U	214	107	107	ug/kg	1		07/25/23 19:14
4-Chlorotoluene	17.8	U	35.6	17.8	17.8	ug/kg	1		07/25/23 19:14
4-Isopropyltoluene	71.5	U	143	71.3	71.5	ug/kg	1		07/25/23 19:14
4-Methyl-2-pentanone (MIBK)	223	U	445	139	223	ug/kg	1		07/25/23 19:14
Acetone	223	U	445	196	223	ug/kg	1		07/25/23 19:14
Benzene	11.2	U	22.3	6.95	11.2	ug/kg	1		07/25/23 19:14
Bromobenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Bromochloromethane	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Bromodichloromethane	1.44	J	3.56	1.10	1.78	ug/kg	1		07/25/23 19:14
Bromoform	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Bromomethane	17.8	U	35.6	14.3	17.8	ug/kg	1		07/25/23 19:14
Carbon disulfide	89.0	U	178	55.2	89.0	ug/kg	1		07/25/23 19:14
Carbon tetrachloride	11.2	U	22.3	6.95	11.2	ug/kg	1		07/25/23 19:14

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J flagging is activated

Results of **110918-TP5-6**

Client Sample ID: **110918-TP5-6**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738005
Lab Project ID: 1233738

Collection Date: 07/19/23 13:15
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.2
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Chloroethane	178	U	356	110	178	ug/kg	1		07/25/23 19:14
Chloroform	7.41	J	10.7	5.35	5.35	ug/kg	1		07/25/23 19:14
Chloromethane	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
cis-1,2-Dichloroethene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
cis-1,3-Dichloropropene	11.2	U	22.3	6.95	11.2	ug/kg	1		07/25/23 19:14
Dibromochloromethane	4.46	U	8.91	2.67	4.46	ug/kg	1		07/25/23 19:14
Dibromomethane	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Dichlorodifluoromethane	89.0	U	178	53.5	89.0	ug/kg	1		07/25/23 19:14
Ethylbenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Freon-113	89.0	U	178	55.2	89.0	ug/kg	1		07/25/23 19:14
Hexachlorobutadiene	17.8	U	35.6	11.0	17.8	ug/kg	1		07/25/23 19:14
Isopropylbenzene (Cumene)	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Methylene chloride	89.0	U	178	55.2	89.0	ug/kg	1		07/25/23 19:14
Methyl-t-butyl ether	89.0	U	178	55.2	89.0	ug/kg	1		07/25/23 19:14
Naphthalene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
n-Butylbenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
n-Propylbenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
o-Xylene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
P & M -Xylene	44.5	U	89.1	26.7	44.5	ug/kg	1		07/25/23 19:14
sec-Butylbenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Styrene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
tert-Butylbenzene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
Tetrachloroethene	11.2	U	22.3	6.95	11.2	ug/kg	1		07/25/23 19:14
Toluene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
trans-1,2-Dichloroethene	22.3	U	44.5	13.9	22.3	ug/kg	1		07/25/23 19:14
trans-1,3-Dichloropropene	11.2	U	22.3	6.95	11.2	ug/kg	1		07/25/23 19:14
Trichloroethene	8.90	U	17.8	5.70	8.90	ug/kg	1		07/25/23 19:14
Trichlorofluoromethane	44.5	U	89.1	26.7	44.5	ug/kg	1		07/25/23 19:14
Vinyl acetate	89.0	U	178	55.2	89.0	ug/kg	1		07/25/23 19:14
Vinyl chloride	0.715	U	1.43	0.445	0.715	ug/kg	1		07/25/23 19:14
Xylenes (total)	67.0	U	134	40.6	67.0	ug/kg	1		07/25/23 19:14
Surrogates									
1,2-Dichloroethane-D4 (surr)	106		71-136			%	1		07/25/23 19:14
4-Bromofluorobenzene (surr)	111		55-151			%	1		07/25/23 19:14
Toluene-d8 (surr)	99.8		85-116			%	1		07/25/23 19:14

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Results of **110918-TP5-6**

Client Sample ID: **110918-TP5-6**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738005
Lab Project ID: 1233738

Collection Date: 07/19/23 13:15
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):83.2
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 19:14
Container ID: 1233738005-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 13:15
Prep Initial Wt./Vol.: 43.571 g
Prep Extract Vol: 32.3075 mL

Results of **110918-TP5-16**

Client Sample ID: **110918-TP5-16**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738006
Lab Project ID: 1233738

Collection Date: 07/19/23 13:30
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):82.6
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.9	U	29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
2-Methylnaphthalene	14.9	U	29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Acenaphthene	14.9	U	29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Acenaphthylene	47.9		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Anthracene	36.4		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Benzo(a)Anthracene	89.6		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Benzo[a]pyrene	111		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Benzo[b]Fluoranthene	123		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Benzo[g,h,i]perylene	52.9		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Benzo[k]fluoranthene	37.6		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Chrysene	99.4		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Dibenzo[a,h]anthracene	11.7	J	29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Fluoranthene	172		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Fluorene	8.53	J	29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Indeno[1,2,3-c,d] pyrene	48.9		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Naphthalene	7.43	J	24.0	5.99	12.0	ug/kg	1		08/03/23 21:30
Phenanthrene	74.1		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Pyrene	191		29.9	7.49	14.9	ug/kg	1		08/03/23 21:30
Surrogates									
2-Methylnaphthalene-d10 (surr)	87.8		58-103			%	1		08/03/23 21:30
Fluoranthene-d10 (surr)	88.5		54-113			%	1		08/03/23 21:30

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 21:30
Container ID: 1233738006-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.73 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

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Results of **110918-TP5-16**

Client Sample ID: **110918-TP5-16**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738006
Lab Project ID: 1233738

Collection Date: 07/19/23 13:30
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):82.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	58.3		24.0	10.8	12.0	mg/kg	1		07/29/23 19:07
Surrogates									
5a Androstane (surr)	104		50-150			%	1		07/29/23 19:07

Batch Information

Analytical Batch: XFC16578
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 07/29/23 19:07
Container ID: 1233738006-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.73 g
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

Results of **110918-TP5-16**

Client Sample ID: **110918-TP5-16**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738006
Lab Project ID: 1233738

Collection Date: 07/19/23 13:30
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):82.6
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.23	J	4.54	1.36	2.27	mg/kg	1		07/29/23 09:07
Surrogates									
4-Bromofluorobenzene (surr)	83.6		50-150			%	1		07/29/23 09:07

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 09:07
Container ID: 1233738006-B

Prep Batch: VXX40199
Prep Method: SW5035A
Prep Date/Time: 07/19/23 13:30
Prep Initial Wt./Vol.: 43.365 g
Prep Extract Vol: 32.5329 mL

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Results of **110918-TP5-16**

Client Sample ID: **110918-TP5-16**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738006
Lab Project ID: 1233738

Collection Date: 07/19/23 13:30
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):82.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	18.1	U	36.3	11.3	18.1	ug/kg	1		07/25/23 19:30
1,1,1-Trichloroethane	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,1,2,2-Tetrachloroethane	1.81	U	3.63	1.13	1.81	ug/kg	1		07/25/23 19:30
1,1,2-Trichloroethane	0.910	U	1.82	0.908	0.910	ug/kg	1		07/25/23 19:30
1,1-Dichloroethane	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,1-Dichloroethene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,1-Dichloropropene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,2,3-Trichlorobenzene	91.0	U	182	54.5	91.0	ug/kg	1		07/25/23 19:30
1,2,3-Trichloropropane	1.81	U	3.63	1.13	1.81	ug/kg	1		07/25/23 19:30
1,2,4-Trichlorobenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,2,4-Trimethylbenzene	91.0	U	182	54.5	91.0	ug/kg	1		07/25/23 19:30
1,2-Dibromo-3-chloropropane	91.0	U	182	56.3	91.0	ug/kg	1		07/25/23 19:30
1,2-Dibromoethane	1.36	U	2.72	1.36	1.36	ug/kg	1		07/25/23 19:30
1,2-Dichlorobenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,2-Dichloroethane	1.81	U	3.63	1.27	1.81	ug/kg	1		07/25/23 19:30
1,2-Dichloropropane	9.10	U	18.2	9.08	9.10	ug/kg	1		07/25/23 19:30
1,3,5-Trimethylbenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,3-Dichlorobenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
1,3-Dichloropropane	9.10	U	18.2	5.63	9.10	ug/kg	1		07/25/23 19:30
1,4-Dichlorobenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
2,2-Dichloropropane	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
2-Butanone (MEK)	227	U	454	142	227	ug/kg	1		07/25/23 19:30
2-Chlorotoluene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
2-Hexanone	109	U	218	109	109	ug/kg	1		07/25/23 19:30
4-Chlorotoluene	18.1	U	36.3	18.2	18.1	ug/kg	1		07/25/23 19:30
4-Isopropyltoluene	72.5	U	145	72.6	72.5	ug/kg	1		07/25/23 19:30
4-Methyl-2-pentanone (MIBK)	227	U	454	142	227	ug/kg	1		07/25/23 19:30
Acetone	227	U	454	200	227	ug/kg	1		07/25/23 19:30
Benzene	11.4	U	22.7	7.08	11.4	ug/kg	1		07/25/23 19:30
Bromobenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Bromochloromethane	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Bromodichloromethane	1.35	J	3.63	1.13	1.81	ug/kg	1		07/25/23 19:30
Bromoform	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Bromomethane	18.1	U	36.3	14.5	18.1	ug/kg	1		07/25/23 19:30
Carbon disulfide	91.0	U	182	56.3	91.0	ug/kg	1		07/25/23 19:30
Carbon tetrachloride	11.4	U	22.7	7.08	11.4	ug/kg	1		07/25/23 19:30

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Results of **110918-TP5-16**

Client Sample ID: **110918-TP5-16**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738006
Lab Project ID: 1233738

Collection Date: 07/19/23 13:30
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):82.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Chloroethane	182	U	363	113	182	ug/kg	1		07/25/23 19:30
Chloroform	7.24	J	10.9	5.45	5.45	ug/kg	1		07/25/23 19:30
Chloromethane	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
cis-1,2-Dichloroethene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
cis-1,3-Dichloropropene	11.4	U	22.7	7.08	11.4	ug/kg	1		07/25/23 19:30
Dibromochloromethane	4.54	U	9.08	2.72	4.54	ug/kg	1		07/25/23 19:30
Dibromomethane	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Dichlorodifluoromethane	91.0	U	182	54.5	91.0	ug/kg	1		07/25/23 19:30
Ethylbenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Freon-113	91.0	U	182	56.3	91.0	ug/kg	1		07/25/23 19:30
Hexachlorobutadiene	18.1	U	36.3	11.3	18.1	ug/kg	1		07/25/23 19:30
Isopropylbenzene (Cumene)	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Methylene chloride	91.0	U	182	56.3	91.0	ug/kg	1		07/25/23 19:30
Methyl-t-butyl ether	91.0	U	182	56.3	91.0	ug/kg	1		07/25/23 19:30
Naphthalene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
n-Butylbenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
n-Propylbenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
o-Xylene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
P & M -Xylene	45.4	U	90.8	27.2	45.4	ug/kg	1		07/25/23 19:30
sec-Butylbenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Styrene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
tert-Butylbenzene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
Tetrachloroethene	11.4	U	22.7	7.08	11.4	ug/kg	1		07/25/23 19:30
Toluene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
trans-1,2-Dichloroethene	22.7	U	45.4	14.2	22.7	ug/kg	1		07/25/23 19:30
trans-1,3-Dichloropropene	11.4	U	22.7	7.08	11.4	ug/kg	1		07/25/23 19:30
Trichloroethene	9.10	U	18.2	5.81	9.10	ug/kg	1		07/25/23 19:30
Trichlorofluoromethane	45.4	U	90.8	27.2	45.4	ug/kg	1		07/25/23 19:30
Vinyl acetate	91.0	U	182	56.3	91.0	ug/kg	1		07/25/23 19:30
Vinyl chloride	0.725	U	1.45	0.454	0.725	ug/kg	1		07/25/23 19:30
Xylenes (total)	68.0	U	136	41.4	68.0	ug/kg	1		07/25/23 19:30
Surrogates									
1,2-Dichloroethane-D4 (surr)	106		71-136			%	1		07/25/23 19:30
4-Bromofluorobenzene (surr)	105		55-151			%	1		07/25/23 19:30
Toluene-d8 (surr)	98.2		85-116			%	1		07/25/23 19:30

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP5-16**

Client Sample ID: **110918-TP5-16**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738006
Lab Project ID: 1233738

Collection Date: 07/19/23 13:30
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):82.6
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 19:30
Container ID: 1233738006-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 13:30
Prep Initial Wt./Vol.: 43.365 g
Prep Extract Vol: 32.5329 mL

Results of **110918-TP6-2**

Client Sample ID: **110918-TP6-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738007
Lab Project ID: 1233738

Collection Date: 07/19/23 13:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
2-Methylnaphthalene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Acenaphthene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Acenaphthylene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Anthracene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Benzo(a)Anthracene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Benzo[a]pyrene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Benzo[b]Fluoranthene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Benzo[g,h,i]perylene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Benzo[k]fluoranthene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Chrysene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Dibenzo[a,h]anthracene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Fluoranthene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Fluorene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Indeno[1,2,3-c,d] pyrene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Naphthalene	11.6	U	23.1	5.77	11.6	ug/kg	1		08/03/23 21:46
Phenanthrene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Pyrene	14.4	U	28.8	7.21	14.4	ug/kg	1		08/03/23 21:46
Surrogates									
2-Methylnaphthalene-d10 (surr)	85.2		58-103			%	1		08/03/23 21:46
Fluoranthene-d10 (surr)	87.6		54-113			%	1		08/03/23 21:46

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Analyst: HMW
Analytical Date/Time: 08/03/23 21:46
Container ID: 1233738007-A

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:06
Prep Initial Wt./Vol.: 22.731 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP6-2**

Client Sample ID: **110918-TP6-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738007
Lab Project ID: 1233738

Collection Date: 07/19/23 13:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	14.9	J	23.1	10.4	11.6	mg/kg	1		08/04/23 21:10
Surrogates									
5a Androstane (surr)	110		50-150			%	1		08/04/23 21:10

Batch Information

Analytical Batch: XFC16597
Analytical Method: AK102
Analyst: T.L
Analytical Date/Time: 08/04/23 21:10
Container ID: 1233738007-A

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 07/26/23 15:00
Prep Initial Wt./Vol.: 22.731 g
Prep Extract Vol: 5 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TP6-2**

Client Sample ID: **110918-TP6-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738007
Lab Project ID: 1233738

Collection Date: 07/19/23 13:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.33	J	3.90	1.17	1.95	mg/kg	1		07/29/23 09:25
Surrogates									
4-Bromofluorobenzene (surr)	95.7		50-150			%	1		07/29/23 09:25

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/29/23 09:25
Container ID: 1233738007-B

Prep Batch: VXX40199
Prep Method: SW5035A
Prep Date/Time: 07/19/23 13:55
Prep Initial Wt./Vol.: 47.402 g
Prep Extract Vol: 31.7168 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

SGS

Results of **110918-TP6-2**

Client Sample ID: **110918-TP6-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738007
Lab Project ID: 1233738

Collection Date: 07/19/23 13:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	15.6	U	31.2	9.67	15.6	ug/kg	1		07/25/23 19:46
1,1,1-Trichloroethane	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,1,2,2-Tetrachloroethane	1.56	U	3.12	0.967	1.56	ug/kg	1		07/25/23 19:46
1,1,2-Trichloroethane	0.780	U	1.56	0.780	0.780	ug/kg	1		07/25/23 19:46
1,1-Dichloroethane	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,1-Dichloroethene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,1-Dichloropropene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,2,3-Trichlorobenzene	78.0	U	156	46.8	78.0	ug/kg	1		07/25/23 19:46
1,2,3-Trichloropropane	1.56	U	3.12	0.967	1.56	ug/kg	1		07/25/23 19:46
1,2,4-Trichlorobenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,2,4-Trimethylbenzene	78.0	U	156	46.8	78.0	ug/kg	1		07/25/23 19:46
1,2-Dibromo-3-chloropropane	78.0	U	156	48.3	78.0	ug/kg	1		07/25/23 19:46
1,2-Dibromoethane	1.17	U	2.34	1.17	1.17	ug/kg	1		07/25/23 19:46
1,2-Dichlorobenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,2-Dichloroethane	1.56	U	3.12	1.09	1.56	ug/kg	1		07/25/23 19:46
1,2-Dichloropropane	7.80	U	15.6	7.80	7.80	ug/kg	1		07/25/23 19:46
1,3,5-Trimethylbenzene	12.9	J	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,3-Dichlorobenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
1,3-Dichloropropane	7.80	U	15.6	4.83	7.80	ug/kg	1		07/25/23 19:46
1,4-Dichlorobenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
2,2-Dichloropropane	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
2-Butanone (MEK)	195	U	390	122	195	ug/kg	1		07/25/23 19:46
2-Chlorotoluene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
2-Hexanone	93.5	U	187	93.5	93.5	ug/kg	1		07/25/23 19:46
4-Chlorotoluene	15.6	U	31.2	15.6	15.6	ug/kg	1		07/25/23 19:46
4-Isopropyltoluene	62.5	U	125	62.4	62.5	ug/kg	1		07/25/23 19:46
4-Methyl-2-pentanone (MIBK)	195	U	390	122	195	ug/kg	1		07/25/23 19:46
Acetone	195	U	390	172	195	ug/kg	1		07/25/23 19:46
Benzene	9.75	U	19.5	6.08	9.75	ug/kg	1		07/25/23 19:46
Bromobenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Bromochloromethane	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Bromodichloromethane	1.56	U	3.12	0.967	1.56	ug/kg	1		07/25/23 19:46
Bromoform	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Bromomethane	15.6	U	31.2	12.5	15.6	ug/kg	1		07/25/23 19:46
Carbon disulfide	78.0	U	156	48.3	78.0	ug/kg	1		07/25/23 19:46
Carbon tetrachloride	9.75	U	19.5	6.08	9.75	ug/kg	1		07/25/23 19:46

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J flagging is activated

Results of **110918-TP6-2**

Client Sample ID: **110918-TP6-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738007
Lab Project ID: 1233738

Collection Date: 07/19/23 13:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Chloroethane	156	U	312	96.7	156	ug/kg	1		07/25/23 19:46
Chloroform	4.67	U	9.35	4.68	4.67	ug/kg	1		07/25/23 19:46
Chloromethane	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
cis-1,2-Dichloroethene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
cis-1,3-Dichloropropene	9.75	U	19.5	6.08	9.75	ug/kg	1		07/25/23 19:46
Dibromochloromethane	3.90	U	7.80	2.34	3.90	ug/kg	1		07/25/23 19:46
Dibromomethane	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Dichlorodifluoromethane	78.0	U	156	46.8	78.0	ug/kg	1		07/25/23 19:46
Ethylbenzene	16.0	J	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Freon-113	78.0	U	156	48.3	78.0	ug/kg	1		07/25/23 19:46
Hexachlorobutadiene	15.6	U	31.2	9.67	15.6	ug/kg	1		07/25/23 19:46
Isopropylbenzene (Cumene)	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Methylene chloride	78.0	U	156	48.3	78.0	ug/kg	1		07/25/23 19:46
Methyl-t-butyl ether	78.0	U	156	48.3	78.0	ug/kg	1		07/25/23 19:46
Naphthalene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
n-Butylbenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
n-Propylbenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
o-Xylene	23.7	J	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
P & M -Xylene	93.8		78.0	23.4	39.0	ug/kg	1		07/25/23 19:46
sec-Butylbenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Styrene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
tert-Butylbenzene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
Tetrachloroethene	9.75	U	19.5	6.08	9.75	ug/kg	1		07/25/23 19:46
Toluene	49.3		39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
trans-1,2-Dichloroethene	19.5	U	39.0	12.2	19.5	ug/kg	1		07/25/23 19:46
trans-1,3-Dichloropropene	9.75	U	19.5	6.08	9.75	ug/kg	1		07/25/23 19:46
Trichloroethene	7.80	U	15.6	4.99	7.80	ug/kg	1		07/25/23 19:46
Trichlorofluoromethane	39.0	U	78.0	23.4	39.0	ug/kg	1		07/25/23 19:46
Vinyl acetate	78.0	U	156	48.3	78.0	ug/kg	1		07/25/23 19:46
Vinyl chloride	0.625	U	1.25	0.390	0.625	ug/kg	1		07/25/23 19:46
Xylenes (total)	117		117	35.5	58.5	ug/kg	1		07/25/23 19:46
Surrogates									
1,2-Dichloroethane-D4 (surr)	108		71-136			%	1		07/25/23 19:46
4-Bromofluorobenzene (surr)	122		55-151			%	1		07/25/23 19:46
Toluene-d8 (surr)	98.8		85-116			%	1		07/25/23 19:46

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J flagging is activated

Results of **110918-TP6-2**

Client Sample ID: **110918-TP6-2**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738007
Lab Project ID: 1233738

Collection Date: 07/19/23 13:55
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):85.8
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 19:46
Container ID: 1233738007-B

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 13:55
Prep Initial Wt./Vol.: 47.402 g
Prep Extract Vol: 31.7168 mL

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

Results of **110918-TB**

Client Sample ID: **110918-TB**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738008
Lab Project ID: 1233738

Collection Date: 07/19/23 12:00
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	1.16	J	2.62	0.787	1.31	mg/kg	1		07/28/23 20:24
Surrogates									
4-Bromofluorobenzene (surr)	81.1		50-150			%	1		07/28/23 20:24

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Analyst: CWD
Analytical Date/Time: 07/28/23 20:24
Container ID: 1233738008-A

Prep Batch: VXX40197
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:00
Prep Initial Wt./Vol.: 47.657 g
Prep Extract Vol: 25 mL

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TB**

Client Sample ID: **110918-TB**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738008
Lab Project ID: 1233738

Collection Date: 07/19/23 12:00
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	10.5	U	21.0	6.50	10.5	ug/kg	1		07/25/23 18:10
1,1,1-Trichloroethane	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,1,2,2-Tetrachloroethane	1.05	U	2.10	0.650	1.05	ug/kg	1		07/25/23 18:10
1,1,2-Trichloroethane	0.525	U	1.05	0.525	0.525	ug/kg	1		07/25/23 18:10
1,1-Dichloroethane	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,1-Dichloroethene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,1-Dichloropropene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,2,3-Trichlorobenzene	52.5	U	105	31.5	52.5	ug/kg	1		07/25/23 18:10
1,2,3-Trichloropropane	1.05	U	2.10	0.650	1.05	ug/kg	1		07/25/23 18:10
1,2,4-Trichlorobenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,2,4-Trimethylbenzene	52.5	U	105	31.5	52.5	ug/kg	1		07/25/23 18:10
1,2-Dibromo-3-chloropropane	52.5	U	105	32.5	52.5	ug/kg	1		07/25/23 18:10
1,2-Dibromoethane	0.785	U	1.57	0.787	0.785	ug/kg	1		07/25/23 18:10
1,2-Dichlorobenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,2-Dichloroethane	1.05	U	2.10	0.734	1.05	ug/kg	1		07/25/23 18:10
1,2-Dichloropropane	5.25	U	10.5	5.25	5.25	ug/kg	1		07/25/23 18:10
1,3,5-Trimethylbenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,3-Dichlorobenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
1,3-Dichloropropane	5.25	U	10.5	3.25	5.25	ug/kg	1		07/25/23 18:10
1,4-Dichlorobenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
2,2-Dichloropropane	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
2-Butanone (MEK)	131	U	262	81.8	131	ug/kg	1		07/25/23 18:10
2-Chlorotoluene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
2-Hexanone	63.0	U	126	62.9	63.0	ug/kg	1		07/25/23 18:10
4-Chlorotoluene	10.5	U	21.0	10.5	10.5	ug/kg	1		07/25/23 18:10
4-Isopropyltoluene	42.0	U	83.9	42.0	42.0	ug/kg	1		07/25/23 18:10
4-Methyl-2-pentanone (MIBK)	131	U	262	81.8	131	ug/kg	1		07/25/23 18:10
Acetone	131	U	262	115	131	ug/kg	1		07/25/23 18:10
Benzene	6.55	U	13.1	4.09	6.55	ug/kg	1		07/25/23 18:10
Bromobenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Bromochloromethane	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Bromodichloromethane	1.05	U	2.10	0.650	1.05	ug/kg	1		07/25/23 18:10
Bromoform	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Bromomethane	10.5	U	21.0	8.39	10.5	ug/kg	1		07/25/23 18:10
Carbon disulfide	52.5	U	105	32.5	52.5	ug/kg	1		07/25/23 18:10
Carbon tetrachloride	6.55	U	13.1	4.09	6.55	ug/kg	1		07/25/23 18:10

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TB**

Client Sample ID: **110918-TB**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738008
Lab Project ID: 1233738

Collection Date: 07/19/23 12:00
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	LOD	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Chloroethane	105	U	210	65.0	105	ug/kg	1		07/25/23 18:10
Chloroform	3.15	U	6.29	3.15	3.15	ug/kg	1		07/25/23 18:10
Chloromethane	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
cis-1,2-Dichloroethene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
cis-1,3-Dichloropropene	6.55	U	13.1	4.09	6.55	ug/kg	1		07/25/23 18:10
Dibromochloromethane	2.63	U	5.25	1.57	2.63	ug/kg	1		07/25/23 18:10
Dibromomethane	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Dichlorodifluoromethane	52.5	U	105	31.5	52.5	ug/kg	1		07/25/23 18:10
Ethylbenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Freon-113	52.5	U	105	32.5	52.5	ug/kg	1		07/25/23 18:10
Hexachlorobutadiene	10.5	U	21.0	6.50	10.5	ug/kg	1		07/25/23 18:10
Isopropylbenzene (Cumene)	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Methylene chloride	34.1	J	105	32.5	52.5	ug/kg	1		07/25/23 18:10
Methyl-t-butyl ether	52.5	U	105	32.5	52.5	ug/kg	1		07/25/23 18:10
Naphthalene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
n-Butylbenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
n-Propylbenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
o-Xylene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
P & M -Xylene	26.3	U	52.5	15.7	26.3	ug/kg	1		07/25/23 18:10
sec-Butylbenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Styrene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
tert-Butylbenzene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
Tetrachloroethene	6.55	U	13.1	4.09	6.55	ug/kg	1		07/25/23 18:10
Toluene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
trans-1,2-Dichloroethene	13.1	U	26.2	8.18	13.1	ug/kg	1		07/25/23 18:10
trans-1,3-Dichloropropene	6.55	U	13.1	4.09	6.55	ug/kg	1		07/25/23 18:10
Trichloroethene	5.25	U	10.5	3.36	5.25	ug/kg	1		07/25/23 18:10
Trichlorofluoromethane	26.3	U	52.5	15.7	26.3	ug/kg	1		07/25/23 18:10
Vinyl acetate	52.5	U	105	32.5	52.5	ug/kg	1		07/25/23 18:10
Vinyl chloride	0.419	U	0.839	0.262	0.419	ug/kg	1		07/25/23 18:10
Xylenes (total)	39.4	U	78.7	23.9	39.4	ug/kg	1		07/25/23 18:10
Surrogates									
1,2-Dichloroethane-D4 (surr)	108		71-136			%	1		07/25/23 18:10
4-Bromofluorobenzene (surr)	111		55-151			%	1		07/25/23 18:10
Toluene-d8 (surr)	100		85-116			%	1		07/25/23 18:10

Print Date: 08/11/2023 5:52:13AM

J flagging is activated

Results of **110918-TB**

Client Sample ID: **110918-TB**
Client Project ID: **110918-TP**
Lab Sample ID: 1233738008
Lab Project ID: 1233738

Collection Date: 07/19/23 12:00
Received Date: 07/21/23 11:06
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/25/23 18:10
Container ID: 1233738008-A

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 07/19/23 12:00
Prep Initial Wt./Vol.: 47.657 g
Prep Extract Vol: 25 mL

Method Blank

Blank ID: MB for HBN 1859857 [SPT/11850]
Blank Lab ID: 1724458

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	LOD	Units
Total Solids	100				%

Batch Information

Analytical Batch: SPT11850
Analytical Method: SM21 2540G
Instrument:
Analyst: APS
Analytical Date/Time: 7/25/2023 7:15:00PM

Print Date: 08/11/2023 5:52:16AM

Duplicate Sample Summary

Original Sample ID: 1233735009
Duplicate Sample ID: 1724460
QC for Samples:
1233738001, 1233738002, 1233738003, 1233738004

Analysis Date: 07/25/2023 19:15
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	93.8	93.4	%	0.42	(< 15)

Batch Information

Analytical Batch: SPT11850
Analytical Method: SM21 2540G
Instrument:
Analyst: APS

Print Date: 08/11/2023 5:52:17AM

Duplicate Sample Summary

Original Sample ID: 1233738004
Duplicate Sample ID: 1724461
Analysis Date: 07/25/2023 19:15
Matrix: Soil/Solid (dry weight)

QC for Samples:

1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	83.5	84.4	%	1.10	(< 15)

Batch Information

Analytical Batch: SPT11850
Analytical Method: SM21 2540G
Instrument:
Analyst: APS

Print Date: 08/11/2023 5:52:17AM

Duplicate Sample Summary

Original Sample ID: 1233738006
Duplicate Sample ID: 1724462
QC for Samples:
1233738005, 1233738006, 1233738007

Analysis Date: 07/25/2023 19:15
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	82.6	83.7	%	1.20	(< 15)

Batch Information

Analytical Batch: SPT11850
Analytical Method: SM21 2540G
Instrument:
Analyst: APS

Print Date: 08/11/2023 5:52:17AM

Method Blank

Blank ID: MB for HBN 1859909 [VXX/40174]
Blank Lab ID: 1724688

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	10.0	ug/kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	12.5	ug/kg
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	1.00	ug/kg
1,1,2-Trichloroethane	0.500U	1.00	0.500	0.500	ug/kg
1,1-Dichloroethane	12.5U	25.0	7.80	12.5	ug/kg
1,1-Dichloroethene	12.5U	25.0	7.80	12.5	ug/kg
1,1-Dichloropropene	12.5U	25.0	7.80	12.5	ug/kg
1,2,3-Trichlorobenzene	50.0U	100	30.0	50.0	ug/kg
1,2,3-Trichloropropane	1.00U	2.00	0.620	1.00	ug/kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
1,2,4-Trimethylbenzene	50.0U	100	30.0	50.0	ug/kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	50.0	ug/kg
1,2-Dibromoethane	0.750U	1.50	0.750	0.750	ug/kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
1,2-Dichloroethane	1.00U	2.00	0.700	1.00	ug/kg
1,2-Dichloropropane	5.00U	10.0	5.00	5.00	ug/kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	12.5	ug/kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
1,3-Dichloropropane	5.00U	10.0	3.10	5.00	ug/kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
2,2-Dichloropropane	12.5U	25.0	7.80	12.5	ug/kg
2-Butanone (MEK)	125U	250	78.0	125	ug/kg
2-Chlorotoluene	12.5U	25.0	7.80	12.5	ug/kg
2-Hexanone	60.0U	120	60.0	60.0	ug/kg
4-Chlorotoluene	10.0U	20.0	10.0	10.0	ug/kg
4-Isopropyltoluene	40.0U	80.0	40.0	40.0	ug/kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	125	ug/kg
Acetone	125U	250	110	125	ug/kg
Benzene	6.25U	12.5	3.90	6.25	ug/kg
Bromobenzene	12.5U	25.0	7.80	12.5	ug/kg
Bromochloromethane	12.5U	25.0	7.80	12.5	ug/kg
Bromodichloromethane	1.00U	2.00	0.620	1.00	ug/kg
Bromoform	12.5U	25.0	7.80	12.5	ug/kg
Bromomethane	10.0U	20.0	8.00	10.0	ug/kg
Carbon disulfide	50.0U	100	31.0	50.0	ug/kg
Carbon tetrachloride	6.25U	12.5	3.90	6.25	ug/kg
Chlorobenzene	12.5U	25.0	7.80	12.5	ug/kg
Chloroethane	100U	200	62.0	100	ug/kg
Chloroform	3.00U	6.00	3.00	3.00	ug/kg
Chloromethane	12.5U	25.0	7.80	12.5	ug/kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	12.5	ug/kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	6.25	ug/kg

Method Blank

Blank ID: MB for HBN 1859909 [VXX/40174]
Blank Lab ID: 1724688

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	LOD	Units
Dibromochloromethane	2.50U	5.00	1.50	2.50	ug/kg
Dibromomethane	12.5U	25.0	7.80	12.5	ug/kg
Dichlorodifluoromethane	50.0U	100	30.0	50.0	ug/kg
Ethylbenzene	12.5U	25.0	7.80	12.5	ug/kg
Freon-113	50.0U	100	31.0	50.0	ug/kg
Hexachlorobutadiene	10.0U	20.0	6.20	10.0	ug/kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	12.5	ug/kg
Methylene chloride	50.0U	100	31.0	50.0	ug/kg
Methyl-t-butyl ether	50.0U	100	31.0	50.0	ug/kg
Naphthalene	12.5U	25.0	7.80	12.5	ug/kg
n-Butylbenzene	12.5U	25.0	7.80	12.5	ug/kg
n-Propylbenzene	12.5U	25.0	7.80	12.5	ug/kg
o-Xylene	12.5U	25.0	7.80	12.5	ug/kg
P & M -Xylene	25.0U	50.0	15.0	25.0	ug/kg
sec-Butylbenzene	12.5U	25.0	7.80	12.5	ug/kg
Styrene	12.5U	25.0	7.80	12.5	ug/kg
tert-Butylbenzene	12.5U	25.0	7.80	12.5	ug/kg
Tetrachloroethene	6.25U	12.5	3.90	6.25	ug/kg
Toluene	12.5U	25.0	7.80	12.5	ug/kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	12.5	ug/kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	6.25	ug/kg
Trichloroethene	5.00U	10.0	3.20	5.00	ug/kg
Trichlorofluoromethane	25.0U	50.0	15.0	25.0	ug/kg
Vinyl acetate	50.0U	100	31.0	50.0	ug/kg
Vinyl chloride	0.400U	0.800	0.250	0.400	ug/kg
Xylenes (total)	37.5U	75.0	22.8	37.5	ug/kg
Surrogates					
1,2-Dichloroethane-D4 (surr)	110	71-136		0	%
4-Bromofluorobenzene (surr)	105	55-151		0	%
Toluene-d8 (surr)	99.7	85-116		0	%

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 7/25/2023 11:30:00AM

Prep Batch: VXX40174
Prep Method: SW5035A
Prep Date/Time: 7/25/2023 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [VXX40174]
Blank Spike Lab ID: 1724689
Date Analyzed: 07/25/2023 11:46

Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	778	104	(78-125)
1,1,1-Trichloroethane	750	755	101	(73-130)
1,1,2,2-Tetrachloroethane	750	786	105	(70-124)
1,1,2-Trichloroethane	750	783	104	(78-121)
1,1-Dichloroethane	750	731	97	(76-125)
1,1-Dichloroethene	750	728	97	(70-131)
1,1-Dichloropropene	750	725	97	(76-125)
1,2,3-Trichlorobenzene	750	738	98	(66-130)
1,2,3-Trichloropropane	750	769	103	(73-125)
1,2,4-Trichlorobenzene	750	760	101	(67-129)
1,2,4-Trimethylbenzene	750	756	101	(75-123)
1,2-Dibromo-3-chloropropane	750	795	106	(61-132)
1,2-Dibromoethane	750	811	108	(78-122)
1,2-Dichlorobenzene	750	720	96	(78-121)
1,2-Dichloroethane	750	728	97	(73-128)
1,2-Dichloropropane	750	763	102	(76-123)
1,3,5-Trimethylbenzene	750	754	101	(73-124)
1,3-Dichlorobenzene	750	725	97	(77-121)
1,3-Dichloropropane	750	757	101	(77-121)
1,4-Dichlorobenzene	750	734	98	(75-120)
2,2-Dichloropropane	750	774	103	(67-133)
2-Butanone (MEK)	2250	2550	113	(51-148)
2-Chlorotoluene	750	744	99	(75-122)
2-Hexanone	2250	2490	111	(53-145)
4-Chlorotoluene	750	717	96	(72-124)
4-Isopropyltoluene	750	773	103	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2450	109	(65-135)
Acetone	2250	2230	99	(36-164)
Benzene	750	735	98	(77-121)
Bromobenzene	750	776	103	(78-121)
Bromochloromethane	750	738	98	(78-125)
Bromodichloromethane	750	834	111	(75-127)
Bromoform	750	768	102	(67-132)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [VXX40174]
Blank Spike Lab ID: 1724689
Date Analyzed: 07/25/2023 11:46

Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Bromomethane	750	639	85	(53-143)
Carbon disulfide	1130	1210	108	(63-132)
Carbon tetrachloride	750	697	93	(70-135)
Chlorobenzene	750	738	99	(79-120)
Chloroethane	750	689	92	(59-139)
Chloroform	750	714	95	(78-123)
Chloromethane	750	680	91	(50-136)
cis-1,2-Dichloroethene	750	743	99	(77-123)
cis-1,3-Dichloropropene	750	843	112	(74-126)
Dibromochloromethane	750	768	102	(74-126)
Dibromomethane	750	782	104	(78-125)
Dichlorodifluoromethane	750	699	93	(29-149)
Ethylbenzene	750	733	98	(76-122)
Freon-113	1130	1120	100	(66-136)
Hexachlorobutadiene	750	854	114	(61-135)
Isopropylbenzene (Cumene)	750	737	98	(68-134)
Methylene chloride	750	708	94	(70-128)
Methyl-t-butyl ether	1130	1160	103	(73-125)
Naphthalene	750	780	104	(62-129)
n-Butylbenzene	750	759	101	(70-128)
n-Propylbenzene	750	750	100	(73-125)
o-Xylene	750	737	98	(77-123)
P & M -Xylene	1500	1450	97	(77-124)
sec-Butylbenzene	750	756	101	(73-126)
Styrene	750	759	101	(76-124)
tert-Butylbenzene	750	764	102	(73-125)
Tetrachloroethene	750	747	100	(73-128)
Toluene	750	713	95	(77-121)
trans-1,2-Dichloroethene	750	757	101	(74-125)
trans-1,3-Dichloropropene	750	849	113	(71-130)
Trichloroethene	750	735	98	(77-123)
Trichlorofluoromethane	750	693	92	(62-140)
Vinyl acetate	750	886	118	(50-151)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [VXX40174]
Blank Spike Lab ID: 1724689
Date Analyzed: 07/25/2023 11:46

Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Vinyl chloride	750	734	98	(56-135)
Xylenes (total)	2250	2190	97	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		98	(71-136)
4-Bromofluorobenzene (surr)	750		106	(55-151)
Toluene-d8 (surr)	750		100	(85-116)

Batch Information

Analytical Batch: **VMS22599**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **S.S**

Prep Batch: **VXX40174**
Prep Method: **SW5035A**
Prep Date/Time: **07/25/2023 06:00**
Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1724690
MS Sample ID: 1724691 MS
MSD Sample ID: 1724692 MSD

Analysis Date: 07/25/2023 14:12
Analysis Date: 07/25/2023 12:53
Analysis Date: 07/25/2023 13:09
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)						
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)		CL	RPD (%)		RPD CL
1,1,1,2-Tetrachloroethane	10.7U	798	844	106	798	836	105		78-125	0.96		(< 20)
1,1,1-Trichloroethane	13.3U	798	823	103	798	871	109		73-130	5.60		(< 20)
1,1,2,2-Tetrachloroethane	1.06U	798	840	105	798	841	105		70-124	0.05		(< 20)
1,1,2-Trichloroethane	0.530U	798	817	102	798	835	105		78-121	2.10		(< 20)
1,1-Dichloroethane	13.3U	798	803	101	798	801	100		76-125	0.33		(< 20)
1,1-Dichloroethene	13.3U	798	810	102	798	813	102		70-131	0.39		(< 20)
1,1-Dichloropropene	13.3U	798	789	99	798	797	100		76-125	1.00		(< 20)
1,2,3-Trichlorobenzene	53.0U	798	764	96	798	1120	140	*	66-130	37.60	*	(< 20)
1,2,3-Trichloropropane	1.06U	798	810	102	798	799	100		73-125	1.40		(< 20)
1,2,4-Trichlorobenzene	13.3U	798	792	99	798	942	118		67-129	17.30		(< 20)
1,2,4-Trimethylbenzene	53.0U	798	833	104	798	833	104		75-123	0.03		(< 20)
1,2-Dibromo-3-chloropropane	53.0U	798	832	104	798	852	107		61-132	2.30		(< 20)
1,2-Dibromoethane	0.800U	798	856	107	798	865	108		78-122	1.00		(< 20)
1,2-Dichlorobenzene	13.3U	798	796	100	798	788	99		78-121	1.10		(< 20)
1,2-Dichloroethane	1.06U	798	772	97	798	857	107		73-128	10.50		(< 20)
1,2-Dichloropropane	5.30U	798	824	103	798	818	102		76-123	0.80		(< 20)
1,3,5-Trimethylbenzene	13.3U	798	836	105	798	825	103		73-124	1.40		(< 20)
1,3-Dichlorobenzene	13.3U	798	792	99	798	796	100		77-121	0.49		(< 20)
1,3-Dichloropropane	5.30U	798	803	101	798	808	101		77-121	0.68		(< 20)
1,4-Dichlorobenzene	13.3U	798	796	100	798	799	100		75-120	0.29		(< 20)
2,2-Dichloropropane	13.3U	798	886	111	798	942	118		67-133	6.10		(< 20)
2-Butanone (MEK)	133U	2390	2570	107	2390	2580	108		51-148	0.43		(< 20)
2-Chlorotoluene	13.3U	798	807	101	798	809	101		75-122	0.26		(< 20)
2-Hexanone	64.0U	2390	2540	106	2390	2490	104		53-145	2.10		(< 20)
4-Chlorotoluene	10.7U	798	811	102	798	801	100		72-124	1.20		(< 20)
4-Isopropyltoluene	42.6U	798	840	105	798	861	108		73-127	2.50		(< 20)
4-Methyl-2-pentanone (MIBK)	133U	2390	2500	105	2390	2560	107		65-135	2.40		(< 20)
Acetone	133U	2390	2220	93	2390	2140	90		36-164	3.50		(< 20)
Benzene	6.65U	798	800	100	798	785	98		77-121	1.80		(< 20)
Bromobenzene	13.3U	798	841	105	798	842	106		78-121	0.20		(< 20)
Bromochloromethane	13.3U	798	807	101	798	816	102		78-125	1.10		(< 20)
Bromodichloromethane	1.06U	798	914	114	798	953	119		75-127	4.30		(< 20)
Bromoform	13.3U	798	821	103	798	825	103		67-132	0.52		(< 20)
Bromomethane	10.7U	798	759	95	798	798	100		53-143	5.10		(< 20)
Carbon disulfide	53.0U	1200	1440	120	1200	1480	123		63-132	2.90		(< 20)
Carbon tetrachloride	6.65U	798	778	98	798	842	105		70-135	7.90		(< 20)
Chlorobenzene	13.3U	798	796	100	798	790	99		79-120	0.67		(< 20)

Print Date: 08/11/2023 5:52:24AM

Matrix Spike Summary

Original Sample ID: 1724690
MS Sample ID: 1724691 MS
MSD Sample ID: 1724692 MSD

Analysis Date: 07/25/2023 14:12
Analysis Date: 07/25/2023 12:53
Analysis Date: 07/25/2023 13:09
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chloroethane	107U	798	799	100	798	839	105	59-139	4.90	(< 20)
Chloroform	3.19U	798	774	97	798	800	100	78-123	3.40	(< 20)
Chloromethane	13.3U	798	663	83	798	663	83	50-136	0.01	(< 20)
cis-1,2-Dichloroethene	13.3U	798	797	100	798	796	100	77-123	0.13	(< 20)
cis-1,3-Dichloropropene	6.65U	798	924	116	798	933	117	74-126	0.94	(< 20)
Dibromochloromethane	2.66U	798	826	104	798	843	106	74-126	2.00	(< 20)
Dibromomethane	13.3U	798	832	104	798	853	107	78-125	2.50	(< 20)
Dichlorodifluoromethane	53.0U	798	623	78	798	600	75	29-149	3.80	(< 20)
Ethylbenzene	13.3U	798	796	100	798	787	99	76-122	1.10	(< 20)
Freon-113	53.0U	1200	1260	105	1200	1260	105	66-136	0.20	(< 20)
Hexachlorobutadiene	10.7U	798	1010	127	798	1140	143 *	61-135	12.20	(< 20)
Isopropylbenzene (Cumene)	13.3U	798	789	99	798	789	99	68-134	0.00	(< 20)
Methylene chloride	53.0U	798	761	95	798	767	96	70-128	0.85	(< 20)
Methyl-t-butyl ether	53.0U	1200	1200	101	1200	1220	102	73-125	1.20	(< 20)
Naphthalene	13.3U	798	803	101	798	953	119	62-129	17.00	(< 20)
n-Butylbenzene	13.3U	798	865	108	798	881	110	70-128	1.80	(< 20)
n-Propylbenzene	13.3U	798	829	104	798	821	103	73-125	0.97	(< 20)
o-Xylene	13.3U	798	799	100	798	794	100	77-123	0.59	(< 20)
P & M -Xylene	26.6U	1600	1570	99	1600	1560	98	77-124	0.84	(< 20)
sec-Butylbenzene	13.3U	798	837	105	798	837	105	73-126	0.02	(< 20)
Styrene	13.3U	798	820	103	798	813	102	76-124	0.82	(< 20)
tert-Butylbenzene	13.3U	798	835	105	798	841	105	73-125	0.72	(< 20)
Tetrachloroethene	6.65U	798	819	103	798	820	103	73-128	0.10	(< 20)
Toluene	13.3U	798	771	97	798	756	95	77-121	1.90	(< 20)
trans-1,2-Dichloroethene	13.3U	798	807	101	798	813	102	74-125	0.76	(< 20)
trans-1,3-Dichloropropene	6.65U	798	916	115	798	947	119	71-130	3.30	(< 20)
Trichloroethene	5.30U	798	803	101	798	803	101	77-123	0.01	(< 20)
Trichlorofluoromethane	26.6U	798	841	105	798	1750	220 *	62-140	70.30 *	(< 20)
Vinyl acetate	53.0U	798	990	124	798	993	124	50-151	0.28	(< 20)
Vinyl chloride	0.426U	798	759	95	798	767	96	56-135	1.10	(< 20)
Xylenes (total)	40.0U	2390	2370	99	2390	2350	98	78-124	0.75	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		798	778	98	798	858	107	71-136	9.70	
4-Bromofluorobenzene (surr)		1010	1200	119	1010	1180	117	55-151	1.50	
Toluene-d8 (surr)		798	799	100	798	780	98	85-116	2.40	

Print Date: 08/11/2023 5:52:24AM

Matrix Spike Summary

Original Sample ID: 1724690
MS Sample ID: 1724691 MS
MSD Sample ID: 1724692 MSD

Analysis Date:
Analysis Date: 07/25/2023 12:53
Analysis Date: 07/25/2023 13:09
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007, 1233738008

Results by **SW8260D**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS22599
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 7/25/2023 12:53:00PM

Prep Batch: VXX40174
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/25/2023 6:00:00AM
Prep Initial Wt./Vol.: 62.03g
Prep Extract Vol: 33.02mL

Print Date: 08/11/2023 5:52:24AM

Method Blank

Blank ID: MB for HBN 1860333 [VXX/40197]
Blank Lab ID: 1725636

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738003, 1233738004, 1233738008

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.10J	2.50	0.750	1.25	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	80.2	50-150		0	%

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: CWD
Analytical Date/Time: 7/28/2023 4:23:00PM

Prep Batch: VXX40197
Prep Method: SW5035A
Prep Date/Time: 7/28/2023 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 08/11/2023 5:52:26AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [VXX40197]
Blank Spike Lab ID: 1725639
Date Analyzed: 07/28/2023 15:47

Spike Duplicate ID: LCSD for HBN 1233738 [VXX40197]
Spike Duplicate Lab ID: 1725640
Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738003, 1233738004, 1233738008

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	12.2	98	12.5	12.6	101	(60-120)	3.50	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		82	1.25		83	(50-150)	1.50	

Batch Information

Analytical Batch: **VFC16546**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **CWD**

Prep Batch: **VXX40197**
Prep Method: **SW5035A**
Prep Date/Time: **07/28/2023 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1860335 [VXX/40199]
Blank Lab ID: 1725649

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738001, 1233738002, 1233738005, 1233738006, 1233738007

Results by **AK101**

Parameter	Results	LOQ/CL	DL	LOD	Units
Gasoline Range Organics	1.26J	2.50	0.750	1.25	mg/kg
Surrogates					
4-Bromofluorobenzene (surr)	79.9	50-150		0	%

Batch Information

Analytical Batch: VFC16546
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: CWD
Analytical Date/Time: 7/29/2023 4:52:00AM

Prep Batch: VXX40199
Prep Method: SW5035A
Prep Date/Time: 7/28/2023 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [VXX40199]
Blank Spike Lab ID: 1725650
Date Analyzed: 07/29/2023 04:16

Spike Duplicate ID: LCSD for HBN 1233738 [VXX40199]
Spike Duplicate Lab ID: 1725651
Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738005, 1233738006, 1233738007

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	12.5	100	12.5	12.1	97	(60-120)	2.70	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		80	1.25		84	(50-150)	5.00	

Batch Information

Analytical Batch: **VFC16546**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **CWD**

Prep Batch: **VXX40199**
Prep Method: **SW5035A**
Prep Date/Time: **07/28/2023 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1859901 [XXX/48282]
Blank Lab ID: 1724641

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007

Results by **AK102**

Parameter	Results	LOQ/CL	DL	LOD	Units
Diesel Range Organics	10.0U	20.0	9.00	10.0	mg/kg
Surrogates					
5a Androstane (surr)	98.4	60-120		0	%

Batch Information

Analytical Batch: XFC16585
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: T.L
Analytical Date/Time: 7/31/2023 11:14:00AM

Prep Batch: XXX48282
Prep Method: SW3550C
Prep Date/Time: 7/26/2023 3:00:37PM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [XXX48282]
Blank Spike Lab ID: 1724642
Date Analyzed: 07/31/2023 11:24

Spike Duplicate ID: LCSD for HBN 1233738 [XXX48282]
Spike Duplicate Lab ID: 1724643
Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007

Results by **AK102**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	1110	1170	105	1110	1090	98	(75-125)	6.70	(< 20)
Surrogates									
5a Androstane (surr)	22.2		109	22.2		101	(60-120)	7.00	

Batch Information

Analytical Batch: **XFC16585**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **T.L**

Prep Batch: **XXX48282**
Prep Method: **SW3550C**
Prep Date/Time: **07/26/2023 15:00**
Spike Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 22.2 mg/kg Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1859902 [XXX/48283]
Blank Lab ID: 1724654

Matrix: Soil/Solid (dry weight)

QC for Samples:
1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007

Results by **8270D SIM (PAH)**

Parameter	Results	LOQ/CL	DL	LOD	Units
1-Methylnaphthalene	12.5U	25.0	6.25	12.5	ug/kg
2-Methylnaphthalene	12.5U	25.0	6.25	12.5	ug/kg
Acenaphthene	12.5U	25.0	6.25	12.5	ug/kg
Acenaphthylene	12.5U	25.0	6.25	12.5	ug/kg
Anthracene	12.5U	25.0	6.25	12.5	ug/kg
Benzo(a)Anthracene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[a]pyrene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[b]Fluoranthene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[g,h,i]perylene	12.5U	25.0	6.25	12.5	ug/kg
Benzo[k]fluoranthene	12.5U	25.0	6.25	12.5	ug/kg
Chrysene	12.5U	25.0	6.25	12.5	ug/kg
Dibenzo[a,h]anthracene	12.5U	25.0	6.25	12.5	ug/kg
Fluoranthene	12.5U	25.0	6.25	12.5	ug/kg
Fluorene	12.5U	25.0	6.25	12.5	ug/kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	6.25	12.5	ug/kg
Naphthalene	10.0U	20.0	5.00	10.0	ug/kg
Phenanthrene	12.5U	25.0	6.25	12.5	ug/kg
Pyrene	12.5U	25.0	6.25	12.5	ug/kg
Surrogates					
2-Methylnaphthalene-d10 (surr)	85	58-103		0	%
Fluoranthene-d10 (surr)	92.3	54-113		0	%

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent 8890 GC/MS SYA
Analyst: HMW
Analytical Date/Time: 8/3/2023 7:03:00PM

Prep Batch: XXX48283
Prep Method: SW3550C
Prep Date/Time: 7/26/2023 3:06:01PM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1233738 [XXX48283]
Blank Spike Lab ID: 1724655
Date Analyzed: 08/03/2023 19:20

Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007

Results by **8270D SIM (PAH)**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	99.6	90	(43-111)
2-Methylnaphthalene	111	98.2	88	(39-114)
Acenaphthene	111	110	99	(44-111)
Acenaphthylene	111	105	95	(39-116)
Anthracene	111	113	102	(50-114)
Benzo(a)Anthracene	111	112	100	(54-122)
Benzo[a]pyrene	111	106	95	(50-125)
Benzo[b]Fluoranthene	111	108	97	(53-128)
Benzo[g,h,i]perylene	111	71.2	64	(49-127)
Benzo[k]fluoranthene	111	111	100	(56-123)
Chrysene	111	114	102	(57-118)
Dibenzo[a,h]anthracene	111	81.2	73	(50-129)
Fluoranthene	111	112	101	(55-119)
Fluorene	111	114	102	(47-114)
Indeno[1,2,3-c,d] pyrene	111	80.1	72	(49-130)
Naphthalene	111	93.2	84	(38-111)
Phenanthrene	111	111	100	(49-113)
Pyrene	111	114	102	(55-117)
Surrogates				
2-Methylnaphthalene-d10 (surr)	111		96	(58-103)
Fluoranthene-d10 (surr)	111		103	(54-113)

Batch Information

Analytical Batch: **XMS13796**
Analytical Method: **8270D SIM (PAH)**
Instrument: **Agilent 8890 GC/MS SYA**
Analyst: **HMW**

Prep Batch: **XXX48283**
Prep Method: **SW3550C**
Prep Date/Time: **07/26/2023 15:06**
Spike Init Wt./Vol.: 111 ug/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1233738001
MS Sample ID: 1724656 MS
MSD Sample ID: 1724657 MSD

Analysis Date: 08/03/2023 19:36
Analysis Date: 08/03/2023 19:52
Analysis Date: 08/03/2023 20:08
Matrix: Soil/Solid (dry weight)

QC for Samples: 1233738001, 1233738002, 1233738003, 1233738004, 1233738005, 1233738006, 1233738007

Results by **8270D SIM (PAH)**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	7.05J	125	110	83	125	109	82	43-111	1.20	(< 20)
2-Methylnaphthalene	9.97J	125	116	85	125	116	85	39-114	0.17	(< 20)
Acenaphthene	14.1U	125	120	96	125	111	89	44-111	7.50	(< 20)
Acenaphthylene	18.3J	125	121	82	125	129	88	39-116	6.60	(< 20)
Anthracene	11.0J	125	128	94	125	120	87	50-114	6.90	(< 20)
Benzo(a)Anthracene	15.4J	125	144	103	125	128	90	54-122	11.50	(< 20)
Benzo[a]pyrene	21.6J	125	141	96	125	134	90	50-125	5.00	(< 20)
Benzo[b]Fluoranthene	22.3J	125	145	98	125	140	94	53-128	3.40	(< 20)
Benzo[g,h,i]perylene	15.8J	125	84.7	55	125	84.9	55	49-127	0.11	(< 20)
Benzo[k]fluoranthene	8.06J	125	119	88	125	113	84	56-123	4.30	(< 20)
Chrysene	18.3J	125	146	102	125	138	96	57-118	5.60	(< 20)
Dibenzo[a,h]anthracene	14.1U	125	71.2	57	125	74.4	60	50-129	4.20	(< 20)
Fluoranthene	22.3J	125	203	145 *	125	175	122 *	55-119	15.00	(< 20)
Fluorene	14.1U	125	115	92	125	112	89	47-114	2.80	(< 20)
Indeno[1,2,3-c,d] pyrene	11.4J	125	87.9	61	125	87.6	61	49-130	0.31	(< 20)
Naphthalene	7.11J	125	110	82	125	113	85	38-111	3.20	(< 20)
Phenanthrene	18.3J	125	193	140 *	125	165	117 *	49-113	15.70	(< 20)
Pyrene	35.0	125	209	140 *	125	183	118 *	55-117	13.60	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		125	110	88	125	108	86	58-103	2.00	
Fluoranthene-d10 (surr)		125	111	89	125	109	87	54-113	1.90	

Batch Information

Analytical Batch: XMS13796
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent 8890 GC/MS SYA
Analyst: HMW
Analytical Date/Time: 8/3/2023 7:52:00PM

Prep Batch: XXX48283
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 7/26/2023 3:06:01PM
Prep Initial Wt./Vol.: 22.61g
Prep Extract Vol: 5.00mL

Print Date: 08/11/2023 5:52:42AM

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CHAIN OF CUSTODY RECORD

1233738

profile # 369968 IG

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: Shannon & Wilson	
CONTACT: Alex Geilich	PHONE #: 907-433-3217
PROJECT NAME:	PROJECT/ PWSID/ PERMIT#:
REPORTS TO:	E-MAIL: alex.geilich@shanwil.com Profile #:
INVOICE TO: Shannon&Wilson	QUOTE #: P.O. #: 110918

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Preservative: None	MeOH	MeOH	None	Analysis*										NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS
							DRO AK102	VOC 8260D	GRO AK 101	PAH- 8270SIM											REMARKS/LOC ID
1AB	110918-TP1-2	7/19/2023	1020	S	2	Grab	X	X	X	X											
2AB	110918-TP2-2	7/19/2023	1220	S	2	Grab	X	X	X	X											
3AB	110918-TP3-0	7/19/2023	1240	S	2	Grab	X	X	X	X											
4AB	110918-TP4-0	7/19/2023	1255	S	2	Grab	X	X	X	X											
5AB	110918-TP5-6	7/19/2023	1315	S	2	Grab	X	X	X	X											
6AB	110918-TP5-16	7/19/2023	1330	S	2	Grab	X	X	X	X											
7AB	110918-TP6-2	7/19/2023	1355	S	2	Grab	X	X	X	X											
8A	110918-TB	7/19/2023	1200	S	1	Grab		X	X												trip blank

Section 5

	Date	Time	
Relinquished By: (1)	7/21/23	1030	Received By:
Relinquished By: (2)			Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)	7/21/23	11:06	Received For Laboratory By:

Section 4

DOD Project? Yes No

Data Deliverable Requirements:

Cooler ID:

Requested Turnaround Time and/or Special Instructions:

Standard

Temp Blank °C: 2.0

or Ambient [ ] D55

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery [ ]

http://www.sgs.com/terms-and-conditions

SGS

1233738

SAMPLE RECEIPT FORM

Project Manager Completion				
Was all necessary information recorded on the COC upon receipt? (temperature, COC seals, etc.?)	Yes	No	N/A	
Was temperature between 0-6° C?	Yes	No	N/A	If "No", are the samples either exempt* or sampled <8 hours prior to receipt?
Were all analyses received within holding time*?	Yes	No	N/A	
Was a method specified for each analysis, where applicable? If no, please note correct methods.	Yes	No	N/A	
Are compound lists specified, where applicable? For project specific or special compound lists please note correct analysis code.	Yes	No	N/A	
If rush was requested by the client, was the requested TAT approved?	Yes	No	N/A	If "NO", what is the approved TAT?
If SEDD Deliverables are required, were Location ID's and an NPDL Number provided?	Yes	No	N/A	*If "NO", contact client for information.*
Sample Login Completion				
Do ID's on sample containers match COC?	Yes	No	N/A	
If provided on containers, do dates/times collected match COC?	Yes	No	N/A	Note: If times differ <1 hr., record details below and login per COC.
Were all sample containers received in good condition?	Yes	No	N/A	
Were proper containers (type/mass/volume/preservative) received for all samples? **See form F-083 "Sample Guide"*	Yes	No	N/A	*Note: If 200.8/6020 Total Metals are received unpreserved, preserve and note HNO3 lot here: If 200.8/6020 Dissolved Metals are received unpreserved, log in for LABFILTER and do not preserve. For all non-metals methods, inform Project Manager.*
Were Trip Blanks (VOC, GRO, Low-Level Hg, etc.) received with samples, where applicable*?	Yes	No	N/A	
Were all VOA vials free of headspace >6mm?	Yes	No	N/A	
Were all soil VOA samples received field extracted with Methanol?	Yes	No	N/A	
Did all soil VOA samples have an accompanying unpreserved container for % solids?	Yes	No	N/A	
If special handling is required, were containers labelled appropriately? e.g. MI/ISM, foreign soils, lab filter, Ref Lab, limited volume	Yes	No	N/A	
For Rush/Short Holding time, was the lab notified?	Yes	No	N/A	
For any question answered "NO", was the Project Manager notified?	Yes	No	N/A	PM Initials:
Was Peer Review of sample numbering/labelling completed?	Yes	No	N/A	Reviewer Initials:

Additional Notes/Clarification where Applicable, including resolution of "No" answers when a change order is not attached:

F102B_SRF_10202022

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1233738001-A	No Preservative Required	OK			
1233738001-B	Methanol field pres. 4 C	OK			
1233738002-A	No Preservative Required	OK			
1233738002-B	Methanol field pres. 4 C	OK			
1233738003-A	No Preservative Required	OK			
1233738003-B	Methanol field pres. 4 C	OK			
1233738004-A	No Preservative Required	OK			
1233738004-B	Methanol field pres. 4 C	OK			
1233738005-A	No Preservative Required	OK			
1233738005-B	Methanol field pres. 4 C	OK			
1233738006-A	No Preservative Required	OK			
1233738006-B	Methanol field pres. 4 C	OK			
1233738007-A	No Preservative Required	OK			
1233738007-B	Methanol field pres. 4 C	OK			
1233738008-A	Methanol field pres. 4 C	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.

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Alex Geilich	**CS Site Name:**	NA	**Lab Name:**	SGS
Title:	Senior Environmental Scientist	**ADEC File No.:**	NA	**Lab Report No.:**	1233738
Consulting Firm:	Shannon & Wilson	**Hazard ID No.:**	NA	**Lab Report Date:**	8/11/23

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

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) 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 CS-LAP approved?
   Yes ☐ No ☒ N/A ☐
   Comments:

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: GRO, DRO, VOC, PAH
   Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): 2.0 °C
   Sample temperature(s):

Comments:

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
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, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments:

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments:

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments:
The case narrative noted the following:

110918-TP2-2
8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.

1233738001MS (1724656) MS
8270D SIM - PAH MS recoveries for several analytes do not meet QC criteria. Refer to the LCS for accuracy requirements.

1233738001MSD (1724657) MSD
8270D SIM - PAH MSD recoveries for several analytes do not meet QC criteria. Refer to the LCS for accuracy requirements.

1233743003(1724690MSD) (1724692) MSD
8260D - MS/MSD RPDs for trichlorofluoromethane and 1,2,3-trichlorobenzene do not meet QC criteria. These analytes were not detected above the LOQ in the associated PS.
8260D - MSD recoveries for trichlorofluoromethane, hexachlorobutadiene, and 1,2,3-trichlorobenzene do not meet QC criteria. See LCS for accuracy requirements.

c. Were all the corrective actions documented?
Yes ☒ No ☐ N/A ☐
Comments:

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

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☒ No ☐ N/A ☐
Comments:

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☐ No ☒ N/A ☐
Comments: The LOQ for 1,2,3-trichloropropane, 1,2- dibromoethane, 2-hexanone, and dibromochloromethane exceeds the ADEC cleanup level in project samples

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: *There is a potential that the target analytes are present at concentrations greater than the ADEC cleanup levels, but less than the LOQ.*

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☐ No ☒
Comments: GRO was detected in method blanks at 1.10 J mg/kg and 1.26 J mg/ kg.

iii. If above LoQ or RL, what samples are affected?
Comments:
Samples Each soil sample is affected by the GRO method blank detections.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☒ No ☐ N/A ☐
Comments: Affected samples with detections of the associated analyte less than the LOQ are reported as not detected at the LOQ and are flagged “B” in Table 2. Affected samples with detections of the associated analyte between the LOQ and 5x the blank detection are reported as not detected at the detected result and are flagged “B” in Table 2.

v. Data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See above.

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

i. Organics – Are 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 – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are 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:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the 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:

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. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

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

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments:

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☒ N/A ☐
Comments: %R were above laboratory control limits in MS and MSD samples for several PAH and VOC analytes.

iv. Precision – Are 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.
Yes ☒ No ☐ N/A ☐
Comments: RPDs for 1,2,3 trichlorobenzene and trichlorofluoromethane were above laboratory control limits in an MS/MSD sample.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Each sample was affected by the %R and RPDs outside of control limits.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☒ N/A ☐
Comments: For the MS and MSDs with %R failures, the laboratory case narrative indicates the LCS should be used for accuracy requirements. For the RPD failures, the associated analytes were not detected above the LOQ in the associated samples. Additionally, the MS/MSD was taken from a separate work order. Therefore, flagging is not required.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above

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 – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☒ N/A ☐
Comments: The surrogate 2-methylnaphthalene-d10 was recovered above laboratory control limits in Sample TP2-2.

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: Detected analytes associated with the surrogate failure in Sample TP2-2 are considered estimated and biased high and are flagged “J+” in Table 2

iv. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: See above

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all results less than LoQ or RL?
Yes ☐ No ☒ N/A ☐
Comments: Although less than the LOQ, methylene chloride was detected in the trip blank.

iii. If above LoQ or RL, what samples are affected?
Comments: Each sample is affected. However, methylene chloride was not detected in other project samples and therefore no flagging is required.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments:

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Samples TP5-6 and TP5-16 are primary/duplicate samples.

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

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes ☒ No ☐ N/A ☐

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments:

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☒ N/A ☐
Comments: Decontamination and equipment blanks were not included in our ADEC-approved work plan.

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments:

iii. If above LoQ or RL, specify what samples are affected.
Comments:

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments:

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

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: A key is provided on page 5 of the SGS lab report.