ALTA GEOSCIENCES, Inc.

Environmental & Geotechnical Solutions

SOIL STOCKPILE SAMPLING AND ANALYSIS REPORT

FORMER COASTAL DRILLING SITE SOLDOTNA, ALASKA

ADEC FILE NO. 2333.38.013
EPA ID NO. AKD 982 820 235

Prepared for:
Kenai Spur Investments, LLC.

September 2018

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SOIL STOCKPILE SAMPLING AND ANALYSIS REPORT
FORMER COASTAL DRILLING SITE
SOLDOTNA, ALASKA

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Date:
September 13, 2018

The field work described herein was performed and this report prepared under the direct supervision of:

Alex Tula, L.G.
Principal Consultant, Alta Geosciences, Inc.

Source: Google Earth

FORMER COASTAL DRILLING SITE

TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
BGS	Below Ground Surface
DQI	data quality indicator
DQO	data quality objective
DRO	Diesel-range organics
GRO	Gasoline-range organics
LCS	lab control sample
MRL	method reporting limits
MS/MSD	matrix spike/matrix spike duplicate
PCB	polychlorinated biphenyls
PQL	practical quantitation limit
QA	quality assurance
QC	quality control
RPD	relative percent difference
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This report documents soil sampling and analysis of the soil stockpile at the former Coastal Drilling site in Soldotna, Alaska.

The stockpile was characterized using the Incremental Sampling Methodology as described in ADEC's *Field Sampling Guidance* and the *Incremental Sampling Methodology Guidance* developed by the Interstate Technology & Regulatory Council.

A random grid system was used to select 30 sample points for incremental sampling. Primary, duplicate and triplicate samples were collected.

The three resultant samples were analyzed for DRO, GRO, PCBs, VOCs, and Lead. No VOCs, GRO, or PCBs were detected in any of the samples. Lead was detected in all three samples at concentrations ranging from 55 to 110 mg/kg. DRO was detected in all three samples at concentrations ranging from 99.1 to 108 mg/kg. Both of these are well below the ADEC cleanup levels.

It is the owner's intention to spread these soils on site for site grading and landscaping purposes. We recommend that ADEC approve such use with no further requirements beyond the institutional controls that may be applied to the site as a whole.

1.0 INTRODUCTION

This report has been prepared by ALTA Geosciences, Inc. (ALTA) of Bothell, Washington, on behalf of Kenai Spur Investments, LLC., to document soil sampling and analysis of the soil stockpile at the former Coastal Drilling Site in Soldotna, Alaska (Site).

A complete copy of this report is included on a CD is in PDF format attached to the back cover of this report.

This work was performed in accordance with the *Stockpile Sampling Work Plan, Former Coastal Drilling Site, Soldotna Alaska* (ALTA, July 16, 2018, hereafter referred to as the Work Plan). ADEC approved the Work Plan, by letter dated July 18, 2018.

All field work was performed under the direct supervision of a "qualified person" as required under 18 AAC 75.

1.1 SITE LOCATION

The former Coastal Drilling facility is located at mile 0.5 Kenai Spur Road, Soldotna, Alaska. The legal description of the Property is described as the eastern half of Section 29, T5N, R10W, Seward Meridian as shown on Figure 1. The entire property includes several adjacent parcels totaling approximately 7 acres as shown on Figure 2.

The report is documents site cleanup activities primarily on the area within the chain link fence also shown on Figure 2 as well as the "grate sump" area located adjacent to the southwest corner of the fenced area.

1.2 BACKGROUND

The site was first developed by Coastal Drilling Company in 1957. Coastal Drilling Company conducted their oil and gas well drilling business from the site. Operations at the site consisted of drill rig maintenance and cleaning. Drilling company operations at the site ceased about 1981, although various companies have continued to operate the machine shop (presently vacant). The Coastal Drilling Company has since gone bankrupt. Mr. Donald Jack acquired the property in 1988. Mr. Jack had no prior ownership or operational involvement with the Coastal Drilling Company.

Prior reports indicate that site development included digging a debris disposal pit and constructing a machine shop, a drilling shop, and an office building. During the time the drilling companies operated the site, scrap iron, engines, lumber, and other drilling rig junk were placed in the debris disposal pit. A grate and drain associated with the drilling shop (now demolished) is also reported to have received rig wash water which was conducted to the disposal pit via a 6-inch pipe (referred to as the "grate area"). This pit was subsequently filled and is referred to as the "covered pit". A second pit was excavated and remains open.

This second pit is referred to as the “open pit” and is visible on the air photo in the frontispiece to this report.

Soil remediation was performed at the site in 2014 and 2015 as described in *Soil Remediation Construction Completion Report, Former Coastal Drilling Site, Soldotna, Alaska* (ALTA, October 2015). In addition to the excavation and disposal work identified in the latter report, the approved *Site Cleanup Plan Former Coastal Drilling Site, Soldotna Alaska* (ALTA, April 2014) called for installation of an asphalt cap over the former covered pit area. The asphalt cap was placed in 2017. As a part of the asphalt cap installation, the soil in and around the cap area was graded to produce a level surface. This resulted in moving about 550 cubic yards of surface soil to a stockpile on the eastern side of the site (see Figure 2). ADEC requested that the stockpile be sampled and analyzed for contaminants of potential concern.

2.0 SAMPLING & ANALYSIS

After discussions with ADEC, it was decided to use the Incremental Sampling Methodology to characterize the stockpile soils. As discussed in the Work Plan, the sampling procedures were consistent with ADEC's *Field Sampling Guidance* (August 2017) and the *Incremental Sampling Methodology Guidance* (Interstate Technology & Regulatory Council, February 2012).

2.1 SAMPLING PROCEDURES

As discussed in the Work Plan, a 10 foot by 10 foot grid was then superimposed on the stockpile. The layout of the grid as determined in the field based on the actual size and shape of the stock pile is shown on Figure 3. The grid nodes to be sampled and the depth of the sample were then selected using a random number generator (Table 1) such that thirty (30) of the grid nodes were selected for sampling and analysis. The primary sample was collected from the grid node at the specified depth. The duplicate and triplicate samples were then collected from locations offset approximately three feet from the grid node, also from the same depth. The direction of the offsets for the duplicate and triplicate samples were randomly oriented by the field sampling personnel and were not recorded.

At each sampling location, a test hole was excavated by hand to the specified depth and the sample collected. A uniform volume of soil was collected at each sampling location.

In a few cases, the depth interval indicated by the random number generator and the Sample Depth Identifier table in the Work Plan exceeded the thickness of the stockpile at that location. In these cases, the sample was collected from the bottom of the stockpile.

The sample aliquots were then placed in separate buckets, one bucket for the primary sample and one each for the duplicate and triplicate samples.

The three resultant samples were then thoroughly mixed and sieved over a #10 (2 mm) sieve. The sieved samples were then spread on separate "cookie" baking sheets. The samples for laboratory analysis were then collected using a small spatula with 1 to 2 grams of material collected from 30 random locations on the "cookie" sheet resulting in three samples for laboratory analysis of 30 to 60 grams each. Samples for volatile analysis were prepared in the field using the field methanol extraction procedure.

Samples were then placed in a cooler with synthetic ice and shipped to the analytical laboratory under chain of custody procedures.

2.2 LABORATORY ANALYSIS

The samples were analyzed by SGS Environmental Services of Anchorage, Alaska.

The three samples were analyzed for the following:

- Diesel-range organics (DRO): AK102
- Gasoline-range organics (GRO): AK101
- Polychlorinated biphenyls (PCBs): EPA method 8082
- Lead: EPA method 6020
- Volatile Organic Compounds (VOCs): EPA method 8260B

Analysis results are summarized on Table 2. Laboratory analysis certificates are presented in Appendix A.

2.3 QUALITY ASSURANCE SUMMARY

This QA summary includes a review, where appropriate, of holding times, blanks, matrix spike (MS) and laboratory control sample (LCS) recoveries, duplicate sample relative percent differences (RPDs), reporting limits, and overall assessment of data in the sample event. Each analysis that was performed is evaluated in the following subsections.

ADEC's Laboratory Data Review Checklists is presented in Appendix B.

Field samples were reviewed to determine overall precision of sampling and analysis as well as matrix heterogeneity for PCBs.

Laboratory data were evaluated using laboratory-supplied control criteria. In the following method-specific discussions, only the criteria exceedances that impact data qualification or require assessment beyond laboratory documentation are discussed.

Samples were submitted to SGS Environmental Services (SGS) in Anchorage.

The following summary highlights the data evaluation findings for this sampling event:

- No data are rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, suggest that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are generally acceptable for the purpose of this project.

All other sample results are considered to be valid with no data qualifiers assigned.

3.0 DISCUSSION OF RESULTS

Results of this investigation can be summarized as follows:

- No GRO, VOCs, or PCBs were detected in any sample.
- Lead was detected in all three samples at concentrations ranging from 55 to 110 mg/kg. This is well below the ADEC cleanup level of XXX
- DRO was detected in all three samples at concentrations ranging from 99.1 to 108 mg/kg. This is well below the ADEC cleanup level of 250 mg/kg DRO.

It is the owner's intention to spread these soils on site for site grading and landscaping purposes. We recommend that ADEC approve such use with no further requirements beyond the institutional controls that may be applied to the site as a whole.

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4.0 REFERENCES

Alaska Department of Environmental Conservation, August 2017: Field Sampling Guidance

ALTA, April 2014: *Site Cleanup Plan, Former Coastal Drilling Site, Soldotna, Alaska*

ALTA, October 2015: *Soil Remediation Construction Completion Report, Former Coastal Drilling Site, Soldotna, Alaska*

ALTA, July 16, 2018: *Stockpile Sampling Work Plan, Former Coastal Drilling Site, Soldotna Alaska*

Interstate Technology & Regulatory Council, February 2012: *Incremental Sampling Methodology Guidance*

.

TABLES

Table 1 - Sample nodes and depths for increment samples

INCREMENT COUNT	SAMPLE NODE	DEPTH IDENTIFIER	SAMPLE DEPTH (in)
1	4	4	12
2	7	7	21
3	8	5	15
4	12	9	27
5	15	2	6
6	17	6	18
7	25	5	15
8	25	3	9
9	27	2	6
10	34	4	12
11	38	1	3
12	39	5	15
13	44	9	27
14	47	9	27
15	51	2	6
16	51	9	27
17	55	6	18
18	58	9	27
19	63	4	12
20	64	5	15
21	65	8	24
22	66	6	18
23	70	6	18
24	77	6	18
25	79	8	24
26	84	9	27
27	87	2	6
28	90	4	12
29	95	3	9
30	96	6	18

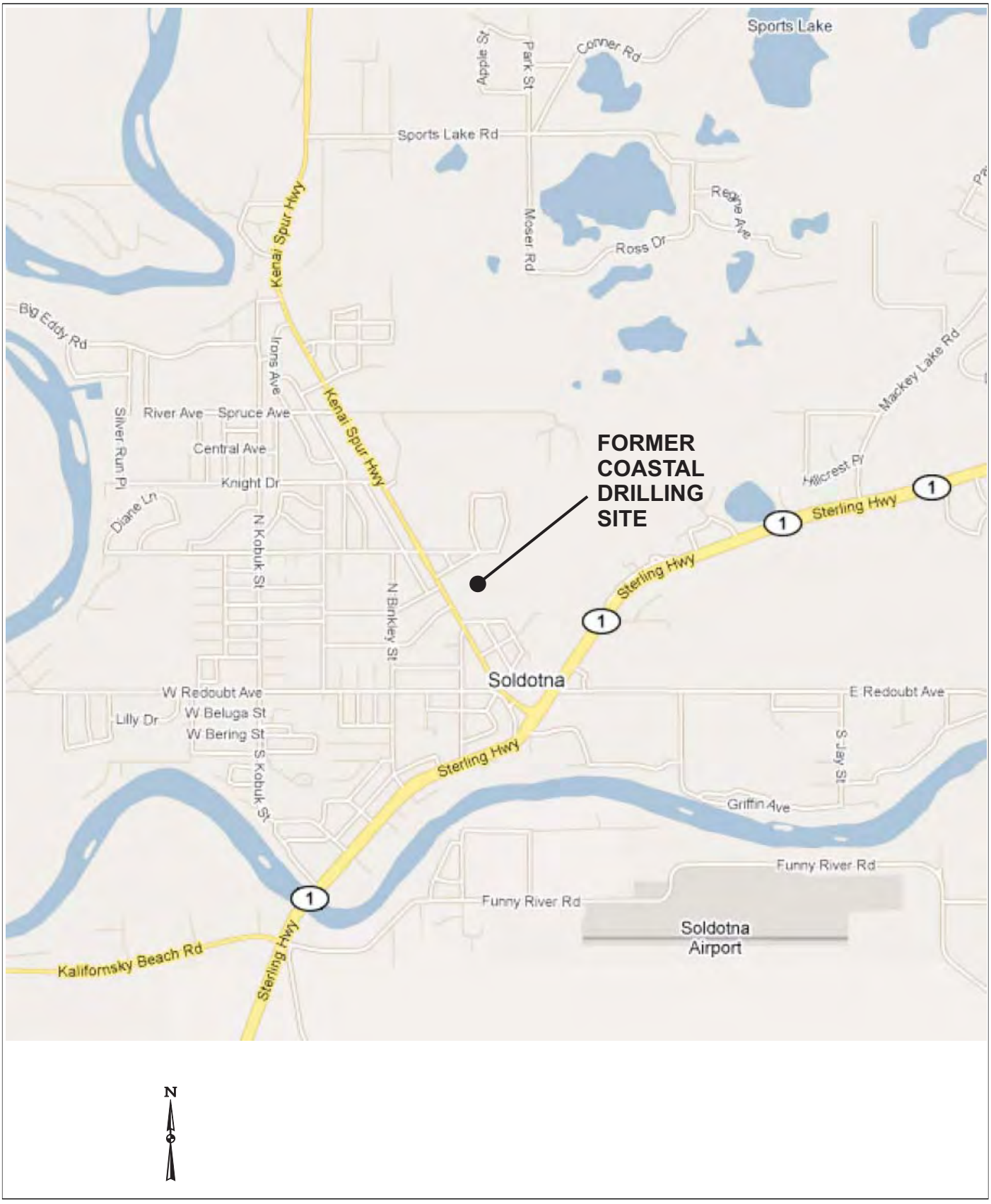
Note: If specified sample depth exceeds stockpile thickness, collect sample from base of stockpile

Table 2 – Summary of Soil Analytical Results (mg/kg)

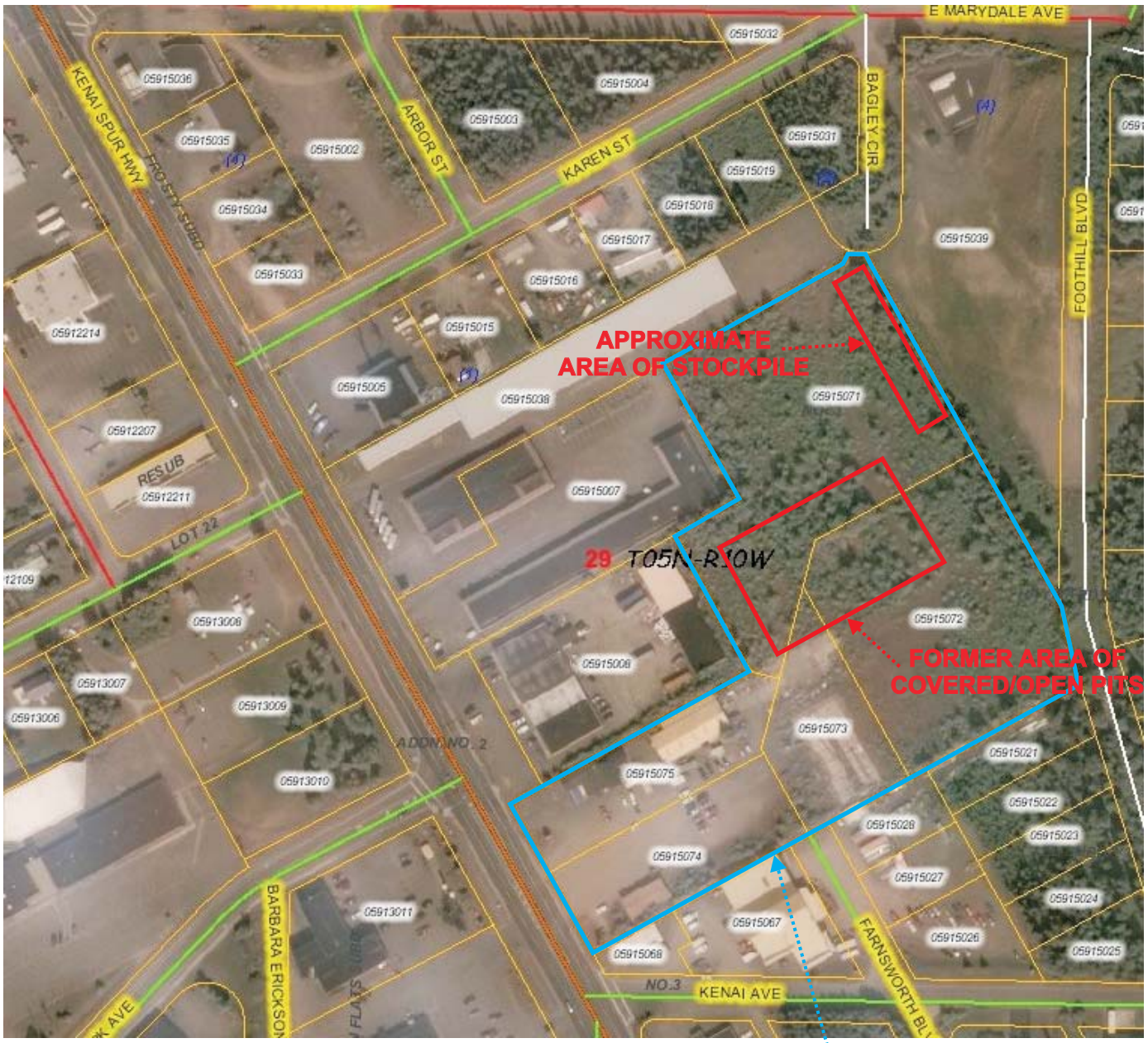
Analyte	**SP-1**	**SP-2**	**SP-3**
DRO	108	99.1	106
Lead	110	55	55.3

Note: Only positive detections are shown

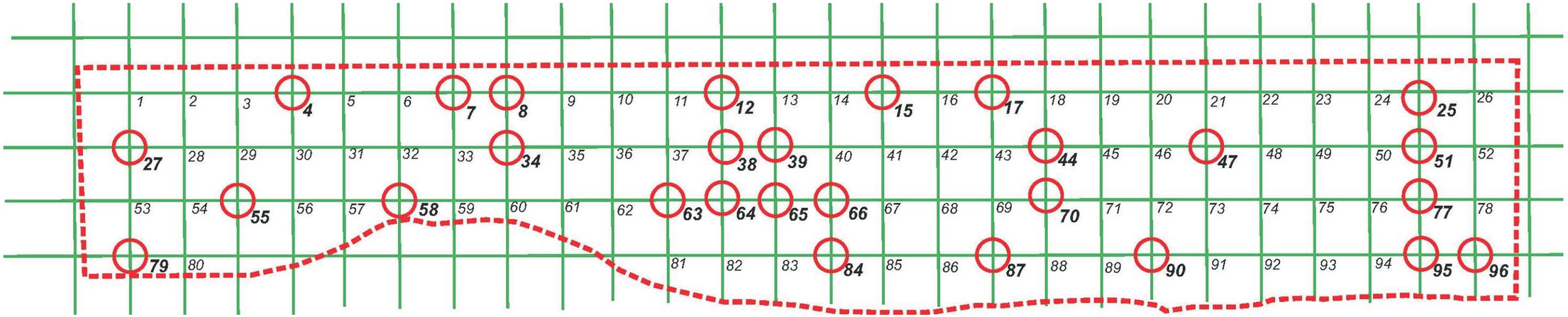
FIGURES



ALTA GEOSCIENCES, INC. Bothell, Washington *Prepared For:* *Reeves Amodio LLC*	**FORMER COASTAL DRILLING SITE** **SOLDOTNA, ALASKA** **SITE LOCATION**	**FIGURE** **1**



ALTA GEOSCIENCES, INC. Bothell, Washington *Prepared For:* *Alaska Homesteads Inc.*	**FORMER COASTAL DRILLING SITE** **SOLDOTNA, ALASKA** **SITE PLAN**	**FIGURE** **1**



EXPLANATION

Approximate stockpile boundary

6 Grid node and number

58 Grid node and number selected for sampling based on random number generator

Approximate scale 1 inch = 20 feet

ALTA GEOSCIENCES, Inc.
Environmental & Geotechnical Solutions
Bothell, Washington
Prepared For:
Alaska Homesteads, Inc.

SAMPLING GRID

FORMER COASTAL DRILLING SITE
Soldotna, Alaska

FIGURE
3

APPENDIX A
LABORATORY ANALYSIS CERTIFICATES

Laboratory Report of Analysis

To: ALTA Geosciences, INC
2020 Maltby Rd Ste 7 #197
Bothell, WA 98021
(206)979-8282

Report Number: **1183984**

Client Project: **Coastal**

Dear Alex Tula,

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 Chuck 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.

_____

Chuck Homestead Date
Project Manager
Charles.Homestead@sgs.com

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

Case Narrative

SGS Client: **ALTA Geosciences, INC**
SGS Project: **1183984**
Project Name/Site: **Coastal**
Project Contact: **Alex Tula**

Refer to sample receipt form for information on sample condition.

LCS for HBN 1783303 [VXX/32735 (1462997) LCS

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

LCS for HBN 1783307 [VXX/32736 (1463013) LCS

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

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

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
SW8082A				
1183875008	LABREFQC	XGC10168	Aroclor-1254	BLC
1183984001	SP-1	XGC10176	Aroclor-1254	BLC
1183984002	SP-2	XGC10176	Aroclor-1254	BLC
1183984003	SP-3	XGC10176	Aroclor-1254	BLC
1462673	LCS for HBN 1783231 [XXX/40026	XGC10174	Aroclor-1016	BLC
1462673	LCS for HBN 1783231 [XXX/40026	XGC10174	Aroclor-1260	BLC
1462674	1183875008MS	XGC10168	Aroclor-1016	SP
1462674	1183875008MS	XGC10168	Aroclor-1254	BLC
1462674	1183875008MS	XGC10168	Aroclor-1260	SP
1462675	1183875008MSD	XGC10168	Aroclor-1016	SP

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.

Print Date: 08/10/2018 1:14:24PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. 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 (Provisionally Certified as of 06/11/2018 for Mercury by EPA245.1,Beryllium and Copper by EPA200.8) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

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

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

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

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

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
SP-1	1183984001	07/25/2018	07/26/2018	Soil/Solid (dry weight)
SP-2	1183984002	07/25/2018	07/26/2018	Soil/Solid (dry weight)
SP-3	1183984003	07/25/2018	07/26/2018	Soil/Solid (dry weight)
Trip Blank	1183984004	07/25/2018	07/26/2018	Soil/Solid (dry weight)

Method	Method Description
AK102	Diesel Range Organics (S)
AK101	Gasoline Range Organics (S)
SW6020A	Metals by ICP-MS (S)
SM21 2540G	Percent Solids SM2540G
SW8082A	SW8082 PCB's
SW8260C	VOC 8260 (S) Field Extracted

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Detectable Results Summary

Client Sample ID: **SP-1**
Lab Sample ID: 1183984001

	Parameter	Result	Units
Metals by ICP/MS	Lead	110	mg/Kg
Semivolatile Organic Fuels	Diesel Range Organics	108	mg/Kg

Client Sample ID: **SP-2**
Lab Sample ID: 1183984002

	Parameter	Result	Units
Metals by ICP/MS	Lead	55.0	mg/Kg
Semivolatile Organic Fuels	Diesel Range Organics	99.1	mg/Kg

Client Sample ID: **SP-3**
Lab Sample ID: 1183984003

	Parameter	Result	Units
Metals by ICP/MS	Lead	55.3	mg/Kg
Semivolatile Organic Fuels	Diesel Range Organics	106	mg/Kg

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Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	110		1.10	0.341	mg/Kg	50		07/30/18 21:34

Batch Information

Analytical Batch: MMS10260
Analytical Method: SW6020A
Analyst: DSH
Analytical Date/Time: 07/30/18 21:34
Container ID: 1183984001-A

Prep Batch: MXX31784
Prep Method: SW3050B
Prep Date/Time: 07/30/18 09:55
Prep Initial Wt./Vol.: 1.066 g
Prep Extract Vol: 50 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	58.3	U	58.3	14.6	ug/Kg	1		07/30/18 20:28
Aroclor-1221	233	U	233	58.3	ug/Kg	1		07/30/18 20:28
Aroclor-1232	58.3	U	58.3	14.6	ug/Kg	1		07/30/18 20:28
Aroclor-1242	58.3	U	58.3	14.6	ug/Kg	1		07/30/18 20:28
Aroclor-1248	58.3	U	58.3	14.6	ug/Kg	1		07/30/18 20:28
Aroclor-1254	58.3	U	58.3	14.6	ug/Kg	1		07/30/18 20:28
Aroclor-1260	58.3	U	58.3	14.6	ug/Kg	1		07/30/18 20:28
Surrogates								
Decachlorobiphenyl (surr)	92.4		60-125		%	1		07/30/18 20:28

Batch Information

Analytical Batch: XGC10176
Analytical Method: SW8082A
Analyst: CMC
Analytical Date/Time: 07/30/18 20:28
Container ID: 1183984001-A

Prep Batch: XXX40026
Prep Method: SW3550C
Prep Date/Time: 07/30/18 07:52
Prep Initial Wt./Vol.: 22.609 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	108		23.3	7.24	mg/Kg	1		08/02/18 02:39
Surrogates								
5a Androstane (surr)	93.6		50-150		%	1		08/02/18 02:39

Batch Information

Analytical Batch: XFC14434
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 08/02/18 02:39
Container ID: 1183984001-A

Prep Batch: XXX40018
Prep Method: SW3550C
Prep Date/Time: 07/28/18 09:16
Prep Initial Wt./Vol.: 30.133 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	6.11	U	6.11	1.83	mg/Kg	1		07/27/18 19:58
Surrogates								
4-Bromofluorobenzene (surr)	67		50-150		%	1		07/27/18 19:58

Batch Information

Analytical Batch: VFC14305
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/27/18 19:58
Container ID: 1183984001-B

Prep Batch: VXX32715
Prep Method: SW5035A
Prep Date/Time: 07/25/18 11:30
Prep Initial Wt./Vol.: 27.944 g
Prep Extract Vol: 29.1118 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 **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	48.9	U	48.9	15.1	ug/Kg	1		07/29/18 17:32
1,1,1-Trichloroethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,1,2,2-Tetrachloroethane	30.5	U	30.5	9.53	ug/Kg	1		07/29/18 17:32
1,1,2-Trichloroethane	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
1,1-Dichloroethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,1-Dichloroethene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,1-Dichloropropene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,2,3-Trichlorobenzene	122	U	122	36.6	ug/Kg	1		07/29/18 17:32
1,2,3-Trichloropropane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,2,4-Trichlorobenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,2,4-Trimethylbenzene	122	U	122	36.6	ug/Kg	1		07/29/18 17:32
1,2-Dibromo-3-chloropropane	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
1,2-Dibromoethane	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
1,2-Dichlorobenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,2-Dichloroethane	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
1,2-Dichloropropane	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
1,3,5-Trimethylbenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,3-Dichlorobenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
1,3-Dichloropropane	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
1,4-Dichlorobenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
2,2-Dichloropropane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
2-Butanone (MEK)	611	U	611	191	ug/Kg	1		07/29/18 17:32
2-Chlorotoluene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
2-Hexanone	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
4-Chlorotoluene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
4-Isopropyltoluene	244	U	244	61.1	ug/Kg	1		07/29/18 17:32
4-Methyl-2-pentanone (MIBK)	611	U	611	191	ug/Kg	1		07/29/18 17:32
Acetone	611	U	611	191	ug/Kg	1		07/29/18 17:32
Benzene	30.5	U	30.5	9.53	ug/Kg	1		07/29/18 17:32
Bromobenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Bromochloromethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Bromodichloromethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Bromoform	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Bromomethane	489	U	489	151	ug/Kg	1		07/29/18 17:32
Carbon disulfide	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
Carbon tetrachloride	30.5	U	30.5	9.53	ug/Kg	1		07/29/18 17:32
Chlorobenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32

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Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	489	U	489	151	ug/Kg	1		07/29/18 17:32
Chloroform	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Chloromethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
cis-1,2-Dichloroethene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
cis-1,3-Dichloropropene	30.5	U	30.5	9.53	ug/Kg	1		07/29/18 17:32
Dibromochloromethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Dibromomethane	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Dichlorodifluoromethane	122	U	122	36.6	ug/Kg	1		07/29/18 17:32
Ethylbenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Freon-113	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
Hexachlorobutadiene	48.9	U	48.9	15.1	ug/Kg	1		07/29/18 17:32
Isopropylbenzene (Cumene)	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Methylene chloride	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
Methyl-t-butyl ether	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
Naphthalene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
n-Butylbenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
n-Propylbenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
o-Xylene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
P & M -Xylene	122	U	122	36.6	ug/Kg	1		07/29/18 17:32
sec-Butylbenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Styrene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
tert-Butylbenzene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
Tetrachloroethene	30.5	U	30.5	9.53	ug/Kg	1		07/29/18 17:32
Toluene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
trans-1,2-Dichloroethene	61.1	U	61.1	19.1	ug/Kg	1		07/29/18 17:32
trans-1,3-Dichloropropene	30.5	U	30.5	9.53	ug/Kg	1		07/29/18 17:32
Trichloroethene	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
Trichlorofluoromethane	122	U	122	36.6	ug/Kg	1		07/29/18 17:32
Vinyl acetate	244	U	244	75.7	ug/Kg	1		07/29/18 17:32
Vinyl chloride	24.4	U	24.4	7.57	ug/Kg	1		07/29/18 17:32
Xylenes (total)	183	U	183	55.7	ug/Kg	1		07/29/18 17:32
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		71-136		%	1		07/29/18 17:32
4-Bromofluorobenzene (surr)	97.6		55-151		%	1		07/29/18 17:32
Toluene-d8 (surr)	98.2		85-116		%	1		07/29/18 17:32

Print Date: 08/10/2018 1:14:29PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **Coastal**
Lab Sample ID: 1183984001
Lab Project ID: 1183984

Collection Date: 07/25/18 11:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):85.3
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS18078
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 07/29/18 17:32
Container ID: 1183984001-B

Prep Batch: VXX32735
Prep Method: SW5035A
Prep Date/Time: 07/25/18 11:30
Prep Initial Wt./Vol.: 27.944 g
Prep Extract Vol: 29.1118 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	55.0		1.13	0.350	mg/Kg	50		07/30/18 22:12

Batch Information

Analytical Batch: MMS10260
Analytical Method: SW6020A
Analyst: DSH
Analytical Date/Time: 07/30/18 22:12
Container ID: 1183984002-A

Prep Batch: MXX31784
Prep Method: SW3050B
Prep Date/Time: 07/30/18 09:55
Prep Initial Wt./Vol.: 1.043 g
Prep Extract Vol: 50 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:39
Aroclor-1221	234	U	234	58.5	ug/Kg	1		07/30/18 20:39
Aroclor-1232	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:39
Aroclor-1242	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:39
Aroclor-1248	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:39
Aroclor-1254	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:39
Aroclor-1260	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:39
Surrogates								
Decachlorobiphenyl (surr)	89.5		60-125		%	1		07/30/18 20:39

Batch Information

Analytical Batch: XGC10176
Analytical Method: SW8082A
Analyst: CMC
Analytical Date/Time: 07/30/18 20:39
Container ID: 1183984002-A

Prep Batch: XXX40026
Prep Method: SW3550C
Prep Date/Time: 07/30/18 07:52
Prep Initial Wt./Vol.: 22.662 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	99.1		23.5	7.30	mg/Kg	1		08/02/18 02:49
Surrogates								
5a Androstane (surr)	92.8		50-150		%	1		08/02/18 02:49

Batch Information

Analytical Batch: XFC14434
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 08/02/18 02:49
Container ID: 1183984002-A

Prep Batch: XXX40018
Prep Method: SW3550C
Prep Date/Time: 07/28/18 09:16
Prep Initial Wt./Vol.: 30.05 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	5.31	U	5.31	1.59	mg/Kg	1		07/27/18 20:16
Surrogates								
4-Bromofluorobenzene (surr)	68.2		50-150		%	1		07/27/18 20:16

Batch Information

Analytical Batch: VFC14305
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/27/18 20:16
Container ID: 1183984002-B

Prep Batch: VXX32715
Prep Method: SW5035A
Prep Date/Time: 07/25/18 11:50
Prep Initial Wt./Vol.: 33.358 g
Prep Extract Vol: 30.0648 mL

Print Date: 08/10/2018 1:14:29PM

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Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	42.5	U	42.5	13.2	ug/Kg	1		07/29/18 17:49
1,1,1-Trichloroethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,1,2,2-Tetrachloroethane	26.6	U	26.6	8.29	ug/Kg	1		07/29/18 17:49
1,1,2-Trichloroethane	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
1,1-Dichloroethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,1-Dichloroethene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,1-Dichloropropene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,2,3-Trichlorobenzene	106	U	106	31.9	ug/Kg	1		07/29/18 17:49
1,2,3-Trichloropropane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,2,4-Trichlorobenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,2,4-Trimethylbenzene	106	U	106	31.9	ug/Kg	1		07/29/18 17:49
1,2-Dibromo-3-chloropropane	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
1,2-Dibromoethane	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
1,2-Dichlorobenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,2-Dichloroethane	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
1,2-Dichloropropane	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
1,3,5-Trimethylbenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,3-Dichlorobenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
1,3-Dichloropropane	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
1,4-Dichlorobenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
2,2-Dichloropropane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
2-Butanone (MEK)	531	U	531	166	ug/Kg	1		07/29/18 17:49
2-Chlorotoluene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
2-Hexanone	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
4-Chlorotoluene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
4-Isopropyltoluene	213	U	213	53.1	ug/Kg	1		07/29/18 17:49
4-Methyl-2-pentanone (MIBK)	531	U	531	166	ug/Kg	1		07/29/18 17:49
Acetone	531	U	531	166	ug/Kg	1		07/29/18 17:49
Benzene	26.6	U	26.6	8.29	ug/Kg	1		07/29/18 17:49
Bromobenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Bromochloromethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Bromodichloromethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Bromoform	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Bromomethane	425	U	425	132	ug/Kg	1		07/29/18 17:49
Carbon disulfide	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
Carbon tetrachloride	26.6	U	26.6	8.29	ug/Kg	1		07/29/18 17:49
Chlorobenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49

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Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	425	U	425	132	ug/Kg	1		07/29/18 17:49
Chloroform	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Chloromethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
cis-1,2-Dichloroethene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
cis-1,3-Dichloropropene	26.6	U	26.6	8.29	ug/Kg	1		07/29/18 17:49
Dibromochloromethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Dibromomethane	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Dichlorodifluoromethane	106	U	106	31.9	ug/Kg	1		07/29/18 17:49
Ethylbenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Freon-113	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
Hexachlorobutadiene	42.5	U	42.5	13.2	ug/Kg	1		07/29/18 17:49
Isopropylbenzene (Cumene)	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Methylene chloride	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
Methyl-t-butyl ether	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
Naphthalene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
n-Butylbenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
n-Propylbenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
o-Xylene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
P & M -Xylene	106	U	106	31.9	ug/Kg	1		07/29/18 17:49
sec-Butylbenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Styrene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
tert-Butylbenzene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
Tetrachloroethene	26.6	U	26.6	8.29	ug/Kg	1		07/29/18 17:49
Toluene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
trans-1,2-Dichloroethene	53.1	U	53.1	16.6	ug/Kg	1		07/29/18 17:49
trans-1,3-Dichloropropene	26.6	U	26.6	8.29	ug/Kg	1		07/29/18 17:49
Trichloroethene	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
Trichlorofluoromethane	106	U	106	31.9	ug/Kg	1		07/29/18 17:49
Vinyl acetate	213	U	213	65.9	ug/Kg	1		07/29/18 17:49
Vinyl chloride	21.3	U	21.3	6.59	ug/Kg	1		07/29/18 17:49
Xylenes (total)	159	U	159	48.5	ug/Kg	1		07/29/18 17:49
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		71-136		%	1		07/29/18 17:49
4-Bromofluorobenzene (surr)	99.8		55-151		%	1		07/29/18 17:49
Toluene-d8 (surr)	99.3		85-116		%	1		07/29/18 17:49

Print Date: 08/10/2018 1:14:29PM

Results of **SP-2**

Client Sample ID: **SP-2**
Client Project ID: **Coastal**
Lab Sample ID: 1183984002
Lab Project ID: 1183984

Collection Date: 07/25/18 11:50
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.8
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS18078
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 07/29/18 17:49
Container ID: 1183984002-B

Prep Batch: VXX32735
Prep Method: SW5035A
Prep Date/Time: 07/25/18 11:50
Prep Initial Wt./Vol.: 33.358 g
Prep Extract Vol: 30.0648 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	55.3		1.09	0.339	mg/Kg	50		07/30/18 22:21

Batch Information

Analytical Batch: MMS10260
Analytical Method: SW6020A
Analyst: DSH
Analytical Date/Time: 07/30/18 22:21
Container ID: 1183984003-A

Prep Batch: MXX31784
Prep Method: SW3050B
Prep Date/Time: 07/30/18 09:55
Prep Initial Wt./Vol.: 1.079 g
Prep Extract Vol: 50 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:49
Aroclor-1221	234	U	234	58.5	ug/Kg	1		07/30/18 20:49
Aroclor-1232	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:49
Aroclor-1242	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:49
Aroclor-1248	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:49
Aroclor-1254	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:49
Aroclor-1260	58.5	U	58.5	14.6	ug/Kg	1		07/30/18 20:49
Surrogates								
Decachlorobiphenyl (surr)	89.4		60-125		%	1		07/30/18 20:49

Batch Information

Analytical Batch: XGC10176
Analytical Method: SW8082A
Analyst: CMC
Analytical Date/Time: 07/30/18 20:49
Container ID: 1183984003-A

Prep Batch: XXX40026
Prep Method: SW3550C
Prep Date/Time: 07/30/18 07:52
Prep Initial Wt./Vol.: 22.702 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	106		23.6	7.31	mg/Kg	1		08/02/18 02:59
Surrogates								
5a Androstane (surr)	92.7		50-150		%	1		08/02/18 02:59

Batch Information

Analytical Batch: XFC14434
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 08/02/18 02:59
Container ID: 1183984003-A

Prep Batch: XXX40018
Prep Method: SW3550C
Prep Date/Time: 07/28/18 09:16
Prep Initial Wt./Vol.: 30.061 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:29PM

Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	5.77	U	5.77	1.73	mg/Kg	1		07/27/18 20:34
Surrogates								
4-Bromofluorobenzene (surr)	66.1		50-150		%	1		07/27/18 20:34

Batch Information

Analytical Batch: VFC14305
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/27/18 20:34
Container ID: 1183984003-B

Prep Batch: VXX32715
Prep Method: SW5035A
Prep Date/Time: 07/25/18 12:30
Prep Initial Wt./Vol.: 30.348 g
Prep Extract Vol: 29.6609 mL

Print Date: 08/10/2018 1:14:29PM

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Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	46.2	U	46.2	14.3	ug/Kg	1		07/29/18 18:06
1,1,1-Trichloroethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,1,2,2-Tetrachloroethane	28.9	U	28.9	9.01	ug/Kg	1		07/29/18 18:06
1,1,2-Trichloroethane	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
1,1-Dichloroethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,1-Dichloroethene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,1-Dichloropropene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,2,3-Trichlorobenzene	115	U	115	34.6	ug/Kg	1		07/29/18 18:06
1,2,3-Trichloropropane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,2,4-Trichlorobenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,2,4-Trimethylbenzene	115	U	115	34.6	ug/Kg	1		07/29/18 18:06
1,2-Dibromo-3-chloropropane	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
1,2-Dibromoethane	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
1,2-Dichlorobenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,2-Dichloroethane	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
1,2-Dichloropropane	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
1,3,5-Trimethylbenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,3-Dichlorobenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
1,3-Dichloropropane	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
1,4-Dichlorobenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
2,2-Dichloropropane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
2-Butanone (MEK)	577	U	577	180	ug/Kg	1		07/29/18 18:06
2-Chlorotoluene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
2-Hexanone	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
4-Chlorotoluene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
4-Isopropyltoluene	231	U	231	57.7	ug/Kg	1		07/29/18 18:06
4-Methyl-2-pentanone (MIBK)	577	U	577	180	ug/Kg	1		07/29/18 18:06
Acetone	577	U	577	180	ug/Kg	1		07/29/18 18:06
Benzene	28.9	U	28.9	9.01	ug/Kg	1		07/29/18 18:06
Bromobenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Bromochloromethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Bromodichloromethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Bromoform	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Bromomethane	462	U	462	143	ug/Kg	1		07/29/18 18:06
Carbon disulfide	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
Carbon tetrachloride	28.9	U	28.9	9.01	ug/Kg	1		07/29/18 18:06
Chlorobenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06

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Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	462	U	462	143	ug/Kg	1		07/29/18 18:06
Chloroform	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Chloromethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
cis-1,2-Dichloroethene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
cis-1,3-Dichloropropene	28.9	U	28.9	9.01	ug/Kg	1		07/29/18 18:06
Dibromochloromethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Dibromomethane	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Dichlorodifluoromethane	115	U	115	34.6	ug/Kg	1		07/29/18 18:06
Ethylbenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Freon-113	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
Hexachlorobutadiene	46.2	U	46.2	14.3	ug/Kg	1		07/29/18 18:06
Isopropylbenzene (Cumene)	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Methylene chloride	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
Methyl-t-butyl ether	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
Naphthalene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
n-Butylbenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
n-Propylbenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
o-Xylene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
P & M -Xylene	115	U	115	34.6	ug/Kg	1		07/29/18 18:06
sec-Butylbenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Styrene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
tert-Butylbenzene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
Tetrachloroethene	28.9	U	28.9	9.01	ug/Kg	1		07/29/18 18:06
Toluene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
trans-1,2-Dichloroethene	57.7	U	57.7	18.0	ug/Kg	1		07/29/18 18:06
trans-1,3-Dichloropropene	28.9	U	28.9	9.01	ug/Kg	1		07/29/18 18:06
Trichloroethene	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
Trichlorofluoromethane	115	U	115	34.6	ug/Kg	1		07/29/18 18:06
Vinyl acetate	231	U	231	71.6	ug/Kg	1		07/29/18 18:06
Vinyl chloride	23.1	U	23.1	7.16	ug/Kg	1		07/29/18 18:06
Xylenes (total)	173	U	173	52.7	ug/Kg	1		07/29/18 18:06
Surrogates								
1,2-Dichloroethane-D4 (surr)	108		71-136		%	1		07/29/18 18:06
4-Bromofluorobenzene (surr)	97.8		55-151		%	1		07/29/18 18:06
Toluene-d8 (surr)	96.2		85-116		%	1		07/29/18 18:06

Print Date: 08/10/2018 1:14:29PM

Results of **SP-3**

Client Sample ID: **SP-3**
Client Project ID: **Coastal**
Lab Sample ID: 1183984003
Lab Project ID: 1183984

Collection Date: 07/25/18 12:30
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):84.6
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS18078
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 07/29/18 18:06
Container ID: 1183984003-B

Prep Batch: VXX32735
Prep Method: SW5035A
Prep Date/Time: 07/25/18 12:30
Prep Initial Wt./Vol.: 30.348 g
Prep Extract Vol: 29.6609 mL

Print Date: 08/10/2018 1:14:29PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Coastal**
Lab Sample ID: 1183984004
Lab Project ID: 1183984

Collection Date: 07/25/18 11:00
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.48	U	2.48	0.744	mg/Kg	1		07/27/18 19:40
Surrogates								
4-Bromofluorobenzene (surr)	65.9		50-150		%	1		07/27/18 19:40

Batch Information

Analytical Batch: VFC14305
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/27/18 19:40
Container ID: 1183984004-A

Prep Batch: VXX32715
Prep Method: SW5035A
Prep Date/Time: 07/25/18 11:00
Prep Initial Wt./Vol.: 50.411 g
Prep Extract Vol: 25 mL

Print Date: 08/10/2018 1:14:29PM

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Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Coastal**
Lab Sample ID: 1183984004
Lab Project ID: 1183984

Collection Date: 07/25/18 11:00
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	19.8	U	19.8	6.15	ug/Kg	1		07/30/18 11:59
1,1,1-Trichloroethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,1,2,2-Tetrachloroethane	12.4	U	12.4	3.87	ug/Kg	1		07/30/18 11:59
1,1,2-Trichloroethane	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
1,1-Dichloroethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,1-Dichloroethene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,1-Dichloropropene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,2,3-Trichlorobenzene	49.6	U	49.6	14.9	ug/Kg	1		07/30/18 11:59
1,2,3-Trichloropropane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,2,4-Trichlorobenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,2,4-Trimethylbenzene	49.6	U	49.6	14.9	ug/Kg	1		07/30/18 11:59
1,2-Dibromo-3-chloropropane	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
1,2-Dibromoethane	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
1,2-Dichlorobenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,2-Dichloroethane	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
1,2-Dichloropropane	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
1,3,5-Trimethylbenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,3-Dichlorobenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
1,3-Dichloropropane	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
1,4-Dichlorobenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
2,2-Dichloropropane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
2-Butanone (MEK)	248	U	248	77.4	ug/Kg	1		07/30/18 11:59
2-Chlorotoluene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
2-Hexanone	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
4-Chlorotoluene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
4-Isopropyltoluene	99.2	U	99.2	24.8	ug/Kg	1		07/30/18 11:59
4-Methyl-2-pentanone (MIBK)	248	U	248	77.4	ug/Kg	1		07/30/18 11:59
Acetone	248	U	248	77.4	ug/Kg	1		07/30/18 11:59
Benzene	12.4	U	12.4	3.87	ug/Kg	1		07/30/18 11:59
Bromobenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Bromochloromethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Bromodichloromethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Bromoform	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Bromomethane	198	U	198	61.5	ug/Kg	1		07/30/18 11:59
Carbon disulfide	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
Carbon tetrachloride	12.4	U	12.4	3.87	ug/Kg	1		07/30/18 11:59
Chlorobenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59

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Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Coastal**
Lab Sample ID: 1183984004
Lab Project ID: 1183984

Collection Date: 07/25/18 11:00
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroethane	198	U	198	61.5	ug/Kg	1		07/30/18 11:59
Chloroform	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Chloromethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
cis-1,2-Dichloroethene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
cis-1,3-Dichloropropene	12.4	U	12.4	3.87	ug/Kg	1		07/30/18 11:59
Dibromochloromethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Dibromomethane	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Dichlorodifluoromethane	49.6	U	49.6	14.9	ug/Kg	1		07/30/18 11:59
Ethylbenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Freon-113	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
Hexachlorobutadiene	19.8	U	19.8	6.15	ug/Kg	1		07/30/18 11:59
Isopropylbenzene (Cumene)	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Methylene chloride	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
Methyl-t-butyl ether	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
Naphthalene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
n-Butylbenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
n-Propylbenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
o-Xylene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
P & M -Xylene	49.6	U	49.6	14.9	ug/Kg	1		07/30/18 11:59
sec-Butylbenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Styrene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
tert-Butylbenzene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
Tetrachloroethene	12.4	U	12.4	3.87	ug/Kg	1		07/30/18 11:59
Toluene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
trans-1,2-Dichloroethene	24.8	U	24.8	7.74	ug/Kg	1		07/30/18 11:59
trans-1,3-Dichloropropene	12.4	U	12.4	3.87	ug/Kg	1		07/30/18 11:59
Trichloroethene	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
Trichlorofluoromethane	49.6	U	49.6	14.9	ug/Kg	1		07/30/18 11:59
Vinyl acetate	99.2	U	99.2	30.7	ug/Kg	1		07/30/18 11:59
Vinyl chloride	9.92	U	9.92	3.07	ug/Kg	1		07/30/18 11:59
Xylenes (total)	74.4	U	74.4	22.6	ug/Kg	1		07/30/18 11:59
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		71-136		%	1		07/30/18 11:59
4-Bromofluorobenzene (surr)	95.9		55-151		%	1		07/30/18 11:59
Toluene-d8 (surr)	98.5		85-116		%	1		07/30/18 11:59

Print Date: 08/10/2018 1:14:29PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Coastal**
Lab Sample ID: 1183984004
Lab Project ID: 1183984

Collection Date: 07/25/18 11:00
Received Date: 07/26/18 15:35
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS18088
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 07/30/18 11:59
Container ID: 1183984004-A

Prep Batch: VXX32736
Prep Method: SW5035A
Prep Date/Time: 07/25/18 11:00
Prep Initial Wt./Vol.: 50.411 g
Prep Extract Vol: 25 mL

Print Date: 08/10/2018 1:14:29PM

Method Blank

Blank ID: MB for HBN 1783236 [MXX/31784]
Blank Lab ID: 1462683

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **SW6020A**

Parameter	Results	LOQ/CL	DL	Units
Lead	0.100U	0.200	0.0620	mg/Kg

Batch Information

Analytical Batch: MMS10260
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: DSH
Analytical Date/Time: 7/30/2018 9:25:26PM

Prep Batch: MXX31784
Prep Method: SW3050B
Prep Date/Time: 7/30/2018 9:55:07AM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Print Date: 08/10/2018 1:14:32PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [MXX31784]
Blank Spike Lab ID: 1462684
Date Analyzed: 07/30/2018 21:30

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW6020A**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Lead	50	51.4	103	(84-118)

Batch Information

Analytical Batch: **MMS10260**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexion P5**
Analyst: **DSH**

Prep Batch: **MXX31784**
Prep Method: **SW3050B**
Prep Date/Time: **07/30/2018 09:55**
Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1462685
MS Sample ID: 1462688 MS
MSD Sample ID: 1462689 MSD

Analysis Date: 07/30/2018 21:48
Analysis Date: 07/30/2018 21:53
Analysis Date: 07/30/2018 21:58
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW6020A**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Lead	12.3	48.3	58.6	96	49.0	63.7	105	84-118	8.23	(< 20)

Batch Information

Analytical Batch: MMS10260
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: DSH
Analytical Date/Time: 7/30/2018 9:53:38PM

Prep Batch: MXX31784
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 7/30/2018 9:55:07AM
Prep Initial Wt./Vol.: 1.04g
Prep Extract Vol: 50.00mL

Print Date: 08/10/2018 1:14:36PM

Method Blank

Blank ID: MB for HBN 1783159 [SPT/10558]
Blank Lab ID: 1462380

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	Units
Total Solids	100			%

Batch Information

Analytical Batch: SPT10558
Analytical Method: SM21 2540G
Instrument:
Analyst: E.M
Analytical Date/Time: 7/26/2018 11:28:00PM

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Duplicate Sample Summary

Original Sample ID: 1183978010
Duplicate Sample ID: 1462385
QC for Samples:

Analysis Date: 07/26/2018 23:28
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	95.7	95.1	%	0.59	(< 15)

Batch Information

Analytical Batch: SPT10558
Analytical Method: SM21 2540G
Instrument:
Analyst: E.M

Print Date: 08/10/2018 1:14:38PM

Duplicate Sample Summary

Original Sample ID: 1183979006
Duplicate Sample ID: 1462386
QC for Samples:
1183984001, 1183984002, 1183984003

Analysis Date: 07/26/2018 23:28
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	98.7	98.8	%	0.09	(< 15)

Batch Information

Analytical Batch: SPT10558
Analytical Method: SM21 2540G
Instrument:
Analyst: E.M

Print Date: 08/10/2018 1:14:38PM

Method Blank

Blank ID: MB for HBN 1783220 [VXX/32715]
Blank Lab ID: 1462632

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003, 1183984004

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	1.25U	2.50	0.750	mg/Kg
Surrogates				
4-Bromofluorobenzene (surr)	77.7	50-150		%

Batch Information

Analytical Batch: VFC14305
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 7/27/2018 6:46:00PM

Prep Batch: VXX32715
Prep Method: SW5035A
Prep Date/Time: 7/27/2018 8:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [VXX32715]
Blank Spike Lab ID: 1462633
Date Analyzed: 07/27/2018 19:04

Spike Duplicate ID: LCSD for HBN 1183984 [VXX32715]
Spike Duplicate Lab ID: 1462634
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003, 1183984004

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	11.7	94	12.5	11.7	94	(60-120)	0.32	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25	80.3	80	1.25	80.6	81	(50-150)	0.32	

Batch Information

Analytical Batch: **VFC14305**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **ST**

Prep Batch: **VXX32715**
Prep Method: **SW5035A**
Prep Date/Time: **07/27/2018 08:00**
Spike Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1783303 [VXX/32735]
Blank Lab ID: 1462996

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	ug/Kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1,2,2-Tetrachloroethane	6.25U	12.5	3.90	ug/Kg
1,1,2-Trichloroethane	5.00U	10.0	3.10	ug/Kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/Kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/Kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/Kg
1,2,3-Trichloropropane	12.5U	25.0	7.80	ug/Kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/Kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/Kg
1,2-Dibromoethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
2-Butanone (MEK)	125U	250	78.0	ug/Kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
2-Hexanone	50.0U	100	31.0	ug/Kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
4-Isopropyltoluene	50.0U	100	25.0	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Acetone	125U	250	78.0	ug/Kg
Benzene	6.25U	12.5	3.90	ug/Kg
Bromobenzene	12.5U	25.0	7.80	ug/Kg
Bromochloromethane	12.5U	25.0	7.80	ug/Kg
Bromodichloromethane	12.5U	25.0	7.80	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	100U	200	62.0	ug/Kg
Carbon disulfide	50.0U	100	31.0	ug/Kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/Kg
Chlorobenzene	12.5U	25.0	7.80	ug/Kg
Chloroethane	100U	200	62.0	ug/Kg

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Method Blank

Blank ID: MB for HBN 1783303 [VXX/32735]
Blank Lab ID: 1462996

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Chloroform	12.5U	25.0	7.80	ug/Kg
Chloromethane	12.5U	25.0	7.80	ug/Kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Dibromochloromethane	12.5U	25.0	7.80	ug/Kg
Dibromomethane	12.5U	25.0	7.80	ug/Kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
Freon-113	50.0U	100	31.0	ug/Kg
Hexachlorobutadiene	10.0U	20.0	6.20	ug/Kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/Kg
Methylene chloride	50.0U	100	31.0	ug/Kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/Kg
Naphthalene	12.5U	25.0	7.80	ug/Kg
n-Butylbenzene	12.5U	25.0	7.80	ug/Kg
n-Propylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Styrene	12.5U	25.0	7.80	ug/Kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Tetrachloroethene	6.25U	12.5	3.90	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Trichloroethene	5.00U	10.0	3.10	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	103	71-136		%
4-Bromofluorobenzene (surr)	119	55-151		%
Toluene-d8 (surr)	99.9	85-116		%

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Method Blank

Blank ID: MB for HBN 1783303 [VXX/32735]
Blank Lab ID: 1462996

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS18078
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 7/29/2018 1:21:00PM

Prep Batch: VXX32735
Prep Method: SW5035A
Prep Date/Time: 7/29/2018 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 1183984 [VXX32735]
Blank Spike Lab ID: 1462997
Date Analyzed: 07/29/2018 13:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	845	113	(78-125)
1,1,1-Trichloroethane	750	777	104	(73-130)
1,1,2,2-Tetrachloroethane	750	800	107	(70-124)
1,1,2-Trichloroethane	750	827	110	(78-121)
1,1-Dichloroethane	750	751	100	(76-125)
1,1-Dichloroethene	750	781	104	(70-131)
1,1-Dichloropropene	750	802	107	(76-125)
1,2,3-Trichlorobenzene	750	708	94	(66-130)
1,2,3-Trichloropropane	750	754	100	(73-125)
1,2,4-Trichlorobenzene	750	737	98	(67-129)
1,2,4-Trimethylbenzene	750	792	106	(75-123)
1,2-Dibromo-3-chloropropane	750	758	101	(61-132)
1,2-Dibromoethane	750	788	105	(78-122)
1,2-Dichlorobenzene	750	786	105	(78-121)
1,2-Dichloroethane	750	786	105	(73-128)
1,2-Dichloropropane	750	795	106	(76-123)
1,3,5-Trimethylbenzene	750	813	108	(73-124)
1,3-Dichlorobenzene	750	791	105	(77-121)
1,3-Dichloropropane	750	846	113	(77-121)
1,4-Dichlorobenzene	750	803	107	(75-120)
2,2-Dichloropropane	750	786	105	(67-133)
2-Butanone (MEK)	2250	2170	96	(51-148)
2-Chlorotoluene	750	813	108	(75-122)
2-Hexanone	2250	2390	106	(53-145)
4-Chlorotoluene	750	814	108	(72-124)
4-Isopropyltoluene	750	808	108	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2390	106	(65-135)
Acetone	2250	2180	97	(36-164)
Benzene	750	783	104	(77-121)
Bromobenzene	750	802	107	(78-121)
Bromochloromethane	750	750	100	(78-125)
Bromodichloromethane	750	798	106	(75-127)
Bromoform	750	863	115	(67-132)
Bromomethane	750	807	108	(53-143)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [VXX32735]
Blank Spike Lab ID: 1462997
Date Analyzed: 07/29/2018 13:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)		CL
Carbon disulfide	1130	1160	103		(63-132)
Carbon tetrachloride	750	815	109		(70-135)
Chlorobenzene	750	805	107		(79-120)
Chloroethane	750	886	118		(59-139)
Chloroform	750	741	99		(78-123)
Chloromethane	750	759	101		(50-136)
cis-1,2-Dichloroethene	750	770	103		(77-123)
cis-1,3-Dichloropropene	750	841	112		(74-126)
Dibromochloromethane	750	873	116		(74-126)
Dibromomethane	750	757	101		(78-125)
Dichlorodifluoromethane	750	784	104		(29-149)
Ethylbenzene	750	795	106		(76-122)
Freon-113	1130	1180	105		(66-136)
Hexachlorobutadiene	750	763	102		(61-135)
Isopropylbenzene (Cumene)	750	812	108		(68-134)
Methylene chloride	750	793	106		(70-128)
Methyl-t-butyl ether	1130	1160	103		(73-125)
Naphthalene	750	764	102		(62-129)
n-Butylbenzene	750	803	107		(70-128)
n-Propylbenzene	750	826	110		(73-125)
o-Xylene	750	798	106		(77-123)
P & M -Xylene	1500	1590	106		(77-124)
sec-Butylbenzene	750	795	106		(73-126)
Styrene	750	812	108		(76-124)
tert-Butylbenzene	750	802	107		(73-125)
Tetrachloroethene	750	840	112		(73-128)
Toluene	750	762	102		(77-121)
trans-1,2-Dichloroethene	750	770	103		(74-125)
trans-1,3-Dichloropropene	750	882	118		(71-130)
Trichloroethene	750	800	107		(77-123)
Trichlorofluoromethane	750	1640	219	*	(62-140)
Vinyl acetate	750	802	107		(50-151)
Vinyl chloride	750	785	105		(56-135)
Xylenes (total)	2250	2390	106		(78-124)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [VXX32735]
Blank Spike Lab ID: 1462997
Date Analyzed: 07/29/2018 13:38

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	94.1	94	(71-136)
4-Bromofluorobenzene (surr)	750	106	106	(55-151)
Toluene-d8 (surr)	750	102	102	(85-116)

Batch Information

Analytical Batch: **VMS18078**
Analytical Method: **SW8260C**
Instrument: **VSA Agilent GC/MS 7890B/5977A**
Analyst: **NRO**

Prep Batch: **VXX32735**
Prep Method: **SW5035A**
Prep Date/Time: **07/29/2018 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: 1183978007
MS Sample ID: 1462998 MS
MSD Sample ID: 1462999 MSD

Analysis Date: 07/29/2018 16:24
Analysis Date: 07/29/2018 14:24
Analysis Date: 07/29/2018 14:41
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8260C**

		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	22.0U	1653	1568	95	1653	1684	102	78-125	7.10	(< 20)
1,1,1-Trichloroethane	27.5U	1653	1600	97	1653	1632	99	73-130	1.80	(< 20)
1,1,2,2-Tetrachloroethane	13.8U	1653	1495	91	1653	1653	100	70-124	9.90	(< 20)
1,1,2-Trichloroethane	11.0U	1653	1579	96	1653	1705	103	78-121	7.40	(< 20)
1,1-Dichloroethane	27.5U	1653	1526	92	1653	1547	94	76-125	1.70	(< 20)
1,1-Dichloroethene	27.5U	1653	1632	98	1653	1642	100	70-131	1.20	(< 20)
1,1-Dichloropropene	27.5U	1653	1632	98	1653	1663	101	76-125	2.10	(< 20)
1,2,3-Trichlorobenzene	55.0U	1653	1253	76	1653	1379	84	66-130	9.40	(< 20)
1,2,3-Trichloropropane	27.5U	1653	1432	86	1653	1589	96	73-125	10.70	(< 20)
1,2,4-Trichlorobenzene	27.5U	1653	1316	80	1653	1400	85	67-129	6.50	(< 20)
1,2,4-Trimethylbenzene	55.0U	1653	1463	88	1653	1568	95	75-123	7.50	(< 20)
1,2-Dibromo-3-chloropropane	110U	1653	1474	89	1653	1579	95	61-132	6.50	(< 20)
1,2-Dibromoethane	11.0U	1653	1516	92	1653	1632	99	78-122	7.00	(< 20)
1,2-Dichlorobenzene	27.5U	1653	1484	90	1653	1579	96	78-121	6.60	(< 20)
1,2-Dichloroethane	11.0U	1653	1558	94	1653	1621	98	73-128	4.30	(< 20)
1,2-Dichloropropane	11.0U	1653	1558	95	1653	1632	99	76-123	4.10	(< 20)
1,3,5-Trimethylbenzene	27.5U	1653	1474	89	1653	1568	95	73-124	6.70	(< 20)
1,3-Dichlorobenzene	27.5U	1653	1516	92	1653	1600	97	77-121	5.30	(< 20)
1,3-Dichloropropane	11.0U	1653	1621	98	1653	1726	104	77-121	6.50	(< 20)
1,4-Dichlorobenzene	27.5U	1653	1516	92	1653	1611	98	75-120	6.10	(< 20)
2,2-Dichloropropane	27.5U	1653	1568	95	1653	1579	96	67-133	1.00	(< 20)
2-Butanone (MEK)	275U	4958	4074	82	4958	4547	92	51-148	11.00	(< 20)
2-Chlorotoluene	27.5U	1653	1579	96	1653	1632	99	75-122	3.20	(< 20)
2-Hexanone	110U	4958	4305	87	4958	4937	100	53-145	13.80	(< 20)
4-Chlorotoluene	27.5U	1653	1600	97	1653	1642	99	72-124	2.50	(< 20)
4-Isopropyltoluene	110U	1653	1421	86	1653	1526	92	73-127	7.10	(< 20)
4-Methyl-2-pentanone (MIBK)	275U	4958	4274	86	4958	4905	99	65-135	13.60	(< 20)
Acetone	275U	4958	4189	84	4958	4768	96	36-164	12.90	(< 20)
Benzene	13.8U	1653	1526	93	1653	1600	97	77-121	4.50	(< 20)
Bromobenzene	27.5U	1653	1568	95	1653	1632	99	78-121	3.90	(< 20)
Bromochloromethane	27.5U	1653	1505	91	1653	1558	94	78-125	3.40	(< 20)
Bromodichloromethane	27.5U	1653	1568	95	1653	1632	99	75-127	4.00	(< 20)
Bromoform	27.5U	1653	1611	98	1653	1758	106	67-132	8.20	(< 20)
Bromomethane	220U	1653	1726	104	1653	1674	101	53-143	3.10	(< 20)
Carbon disulfide	110U	2484	2516	102	2484	2453	99	63-132	2.50	(< 20)
Carbon tetrachloride	13.8U	1653	1674	101	1653	1695	103	70-135	1.40	(< 20)
Chlorobenzene	27.5U	1653	1537	93	1653	1632	99	79-120	5.50	(< 20)

Print Date: 08/10/2018 1:14:47PM

Matrix Spike Summary

Original Sample ID: 1183978007
MS Sample ID: 1462998 MS
MSD Sample ID: 1462999 MSD

Analysis Date: 07/29/2018 16:24
Analysis Date: 07/29/2018 14:24
Analysis Date: 07/29/2018 14:41
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8260C**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chloroethane	220U	1653	1863	113	1653	1779	107	59-139	4.70	(< 20)
Chloroform	27.5U	1653	1474	89	1653	1526	92	78-123	3.20	(< 20)
Chloromethane	27.5U	1653	1611	97	1653	1611	97	50-136	0.10	(< 20)
cis-1,2-Dichloroethene	27.5U	1653	1547	94	1653	1558	94	77-123	0.62	(< 20)
cis-1,3-Dichloropropene	13.8U	1653	1632	99	1653	1684	102	74-126	3.10	(< 20)
Dibromochloromethane	27.5U	1653	1663	101	1653	1789	108	74-126	7.10	(< 20)
Dibromomethane	27.5U	1653	1516	91	1653	1579	95	78-125	4.10	(< 20)
Dichlorodifluoromethane	55.0U	1653	1642	99	1653	1611	97	29-149	2.40	(< 20)
Ethylbenzene	27.5U	1653	1526	92	1653	1589	96	76-122	3.90	(< 20)
Freon-113	110U	2484	2411	97	2484	2442	99	66-136	1.50	(< 20)
Hexachlorobutadiene	22.0U	1653	1811	109	1653	1737	105	61-135	4.30	(< 20)
Isopropylbenzene (Cumene)	27.5U	1653	1526	92	1653	1600	97	68-134	4.60	(< 20)
Methylene chloride	110U	1653	1653	100	1653	1695	102	70-128	2.50	(< 20)
Methyl-t-butyl ether	110U	2484	2263	91	2484	2432	98	73-125	7.20	(< 20)
Naphthalene	27.5U	1653	1411	85	1653	1537	93	62-129	8.40	(< 20)
n-Butylbenzene	27.5U	1653	1379	83	1653	1495	90	70-128	7.80	(< 20)
n-Propylbenzene	27.5U	1653	1547	94	1653	1632	98	73-125	4.80	(< 20)
o-Xylene	27.5U	1653	1589	96	1653	1621	98	77-123	2.10	(< 20)
P & M -Xylene	55.0U	3305	3126	95	3305	3221	97	77-124	3.00	(< 20)
sec-Butylbenzene	27.5U	1653	1442	88	1653	1558	94	73-126	7.30	(< 20)
Styrene	27.5U	1653	1621	98	1653	1653	100	76-124	2.00	(< 20)
tert-Butylbenzene	27.5U	1653	1495	90	1653	1579	95	73-125	5.40	(< 20)
Tetrachloroethene	13.8U	1653	1558	94	1653	1684	102	73-128	7.90	(< 20)
Toluene	27.5U	1653	1453	88	1653	1537	93	77-121	5.30	(< 20)
trans-1,2-Dichloroethene	27.5U	1653	1611	98	1653	1589	96	74-125	1.70	(< 20)
trans-1,3-Dichloropropene	13.8U	1653	1695	102	1653	1789	108	71-130	5.80	(< 20)
Trichloroethene	11.0U	1653	1568	95	1653	1642	99	77-123	4.30	(< 20)
Trichlorofluoromethane	55.0U	1653	3200	193 *	1653	2011	122	62-140	45.70	* (< 20)
Vinyl acetate	110U	1653	1516	92	1653	1632	99	50-151	7.50	(< 20)
Vinyl chloride	11.0U	1653	1674	101	1653	1632	99	56-135	2.50	(< 20)
Xylenes (total)	82.5U	4958	4705	95	4958	4842	98	78-124	2.70	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		1653	1579	95	1653	1579	96	71-136	0.37	
4-Bromofluorobenzene (surr)		2621	2274	87	2621	2337	89	55-151	2.40	
Toluene-d8 (surr)		1653	1684	102	1653	1695	103	85-116	0.64	

Print Date: 08/10/2018 1:14:47PM

Matrix Spike Summary

Original Sample ID: 1183978007
MS Sample ID: 1462998 MS
MSD Sample ID: 1462999 MSD

QC for Samples: 1183984001, 1183984002, 1183984003

Analysis Date:
Analysis Date: 07/29/2018 14:24
Analysis Date: 07/29/2018 14:41
Matrix: Soil/Solid (dry weight)

Results by **SW8260C**

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

Batch Information

Analytical Batch: VMS18078
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 7/29/2018 2:24:00PM

Prep Batch: VXX32735
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/29/2018 6:00:00AM
Prep Initial Wt./Vol.: 50.30g
Prep Extract Vol: 52.52mL

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Method Blank

Blank ID: MB for HBN 1783307 [VXX/32736]
Blank Lab ID: 1463012

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984004

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	ug/Kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1,2,2-Tetrachloroethane	6.25U	12.5	3.90	ug/Kg
1,1,2-Trichloroethane	5.00U	10.0	3.10	ug/Kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/Kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/Kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/Kg
1,2,3-Trichloropropane	12.5U	25.0	7.80	ug/Kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/Kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/Kg
1,2-Dibromoethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
2-Butanone (MEK)	125U	250	78.0	ug/Kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
2-Hexanone	50.0U	100	31.0	ug/Kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
4-Isopropyltoluene	50.0U	100	25.0	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Acetone	125U	250	78.0	ug/Kg
Benzene	6.25U	12.5	3.90	ug/Kg
Bromobenzene	12.5U	25.0	7.80	ug/Kg
Bromochloromethane	12.5U	25.0	7.80	ug/Kg
Bromodichloromethane	12.5U	25.0	7.80	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	100U	200	62.0	ug/Kg
Carbon disulfide	50.0U	100	31.0	ug/Kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/Kg
Chlorobenzene	12.5U	25.0	7.80	ug/Kg
Chloroethane	100U	200	62.0	ug/Kg

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Method Blank

Blank ID: MB for HBN 1783307 [VXX/32736]
Blank Lab ID: 1463012

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984004

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units
Chloroform	12.5U	25.0	7.80	ug/Kg
Chloromethane	12.5U	25.0	7.80	ug/Kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Dibromochloromethane	12.5U	25.0	7.80	ug/Kg
Dibromomethane	12.5U	25.0	7.80	ug/Kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
Freon-113	50.0U	100	31.0	ug/Kg
Hexachlorobutadiene	10.0U	20.0	6.20	ug/Kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/Kg
Methylene chloride	50.0U	100	31.0	ug/Kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/Kg
Naphthalene	12.5U	25.0	7.80	ug/Kg
n-Butylbenzene	12.5U	25.0	7.80	ug/Kg
n-Propylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Styrene	12.5U	25.0	7.80	ug/Kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Tetrachloroethene	6.25U	12.5	3.90	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Trichloroethene	5.00U	10.0	3.10	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	71-136		%
4-Bromofluorobenzene (surr)	117	55-151		%
Toluene-d8 (surr)	99.9	85-116		%

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Method Blank

Blank ID: MB for HBN 1783307 [VXX/32736]
Blank Lab ID: 1463012

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984004

Results by **SW8260C**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS18088
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 7/30/2018 9:48:00AM

Prep Batch: VXX32736
Prep Method: SW5035A
Prep Date/Time: 7/30/2018 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 1183984 [VXX32736]
Blank Spike Lab ID: 1463013
Date Analyzed: 07/30/2018 10:05

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984004

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	816	109	(78-125)
1,1,1-Trichloroethane	750	749	100	(73-130)
1,1,2,2-Tetrachloroethane	750	804	107	(70-124)
1,1,2-Trichloroethane	750	810	108	(78-121)
1,1-Dichloroethane	750	721	96	(76-125)
1,1-Dichloroethene	750	758	101	(70-131)
1,1-Dichloropropene	750	776	103	(76-125)
1,2,3-Trichlorobenzene	750	699	93	(66-130)
1,2,3-Trichloropropane	750	768	102	(73-125)
1,2,4-Trichlorobenzene	750	725	97	(67-129)
1,2,4-Trimethylbenzene	750	781	104	(75-123)
1,2-Dibromo-3-chloropropane	750	755	101	(61-132)
1,2-Dibromoethane	750	772	103	(78-122)
1,2-Dichlorobenzene	750	775	103	(78-121)
1,2-Dichloroethane	750	766	102	(73-128)
1,2-Dichloropropane	750	775	103	(76-123)
1,3,5-Trimethylbenzene	750	792	106	(73-124)
1,3-Dichlorobenzene	750	783	104	(77-121)
1,3-Dichloropropane	750	825	110	(77-121)
1,4-Dichlorobenzene	750	790	105	(75-120)
2,2-Dichloropropane	750	755	101	(67-133)
2-Butanone (MEK)	2250	2060	92	(51-148)
2-Chlorotoluene	750	794	106	(75-122)
2-Hexanone	2250	2270	101	(53-145)
4-Chlorotoluene	750	806	108	(72-124)
4-Isopropyltoluene	750	796	106	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2280	101	(65-135)
Acetone	2250	2070	92	(36-164)
Benzene	750	756	101	(77-121)
Bromobenzene	750	799	107	(78-121)
Bromochloromethane	750	720	96	(78-125)
Bromodichloromethane	750	771	103	(75-127)
Bromoform	750	841	112	(67-132)
Bromomethane	750	762	102	(53-143)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [VXX32736]
Blank Spike Lab ID: 1463013
Date Analyzed: 07/30/2018 10:05

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984004

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)		CL
Carbon disulfide	1130	1110	99		(63-132)
Carbon tetrachloride	750	781	104		(70-135)
Chlorobenzene	750	782	104		(79-120)
Chloroethane	750	815	109		(59-139)
Chloroform	750	715	95		(78-123)
Chloromethane	750	747	100		(50-136)
cis-1,2-Dichloroethene	750	720	96		(77-123)
cis-1,3-Dichloropropene	750	811	108		(74-126)
Dibromochloromethane	750	850	113		(74-126)
Dibromomethane	750	750	100		(78-125)
Dichlorodifluoromethane	750	746	99		(29-149)
Ethylbenzene	750	771	103		(76-122)
Freon-113	1130	1140	102		(66-136)
Hexachlorobutadiene	750	717	96		(61-135)
Isopropylbenzene (Cumene)	750	770	103		(68-134)
Methylene chloride	750	756	101		(70-128)
Methyl-t-butyl ether	1130	1140	101		(73-125)
Naphthalene	750	756	101		(62-129)
n-Butylbenzene	750	780	104		(70-128)
n-Propylbenzene	750	817	109		(73-125)
o-Xylene	750	768	102		(77-123)
P & M -Xylene	1500	1540	103		(77-124)
sec-Butylbenzene	750	789	105		(73-126)
Styrene	750	792	106		(76-124)
tert-Butylbenzene	750	783	104		(73-125)
Tetrachloroethene	750	819	109		(73-128)
Toluene	750	735	98		(77-121)
trans-1,2-Dichloroethene	750	737	98		(74-125)
trans-1,3-Dichloropropene	750	862	115		(71-130)
Trichloroethene	750	774	103		(77-123)
Trichlorofluoromethane	750	1060	141	*	(62-140)
Vinyl acetate	750	739	99		(50-151)
Vinyl chloride	750	746	100		(56-135)
Xylenes (total)	2250	2310	103		(78-124)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [VXX32736]
Blank Spike Lab ID: 1463013
Date Analyzed: 07/30/2018 10:05

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984004

Results by **SW8260C**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	92.9	93	(71-136)
4-Bromofluorobenzene (surr)	750	108	108	(55-151)
Toluene-d8 (surr)	750	102	102	(85-116)

Batch Information

Analytical Batch: **VMS18088**
Analytical Method: **SW8260C**
Instrument: **VSA Agilent GC/MS 7890B/5977A**
Analyst: **NRO**

Prep Batch: **VXX32736**
Prep Method: **SW5035A**
Prep Date/Time: **07/30/2018 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: 1183979007
MS Sample ID: 1463014 MS
MSD Sample ID: 1463015 MSD

Analysis Date: 07/30/2018 12:34
Analysis Date: 07/30/2018 10:51
Analysis Date: 07/30/2018 11:08
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984004

Results by **SW8260C**

		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	7.95U	594	607	102	594	642	108	78-125	5.60	(< 20)
1,1,1-Trichloroethane	9.95U	594	605	102	594	611	103	73-130	1.10	(< 20)
1,1,2,2-Tetrachloroethane	4.97U	594	566	95	594	629	106	70-124	10.70	(< 20)
1,1,2-Trichloroethane	3.98U	594	602	101	594	640	108	78-121	6.00	(< 20)
1,1-Dichloroethane	9.95U	594	581	98	594	592	100	76-125	2.00	(< 20)
1,1-Dichloroethene	9.95U	594	615	104	594	619	104	70-131	0.54	(< 20)
1,1-Dichloropropene	9.95U	594	615	104	594	621	104	76-125	0.92	(< 20)
1,2,3-Trichlorobenzene	19.9U	594	484	81	594	530	89	66-130	9.20	(< 20)
1,2,3-Trichloropropane	9.95U	594	545	92	594	601	101	73-125	9.90	(< 20)
1,2,4-Trichlorobenzene	9.95U	594	503	85	594	540	91	67-129	7.20	(< 20)
1,2,4-Trimethylbenzene	19.9U	594	573	96	594	615	104	75-123	7.20	(< 20)
1,2-Dibromo-3-chloropropane	39.8U	594	567	95	594	617	104	61-132	8.70	(< 20)
1,2-Dibromoethane	3.98U	594	575	97	594	611	103	78-122	6.20	(< 20)
1,2-Dichlorobenzene	9.95U	594	578	97	594	603	102	78-121	4.30	(< 20)
1,2-Dichloroethane	3.98U	594	588	99	594	613	103	73-128	4.40	(< 20)
1,2-Dichloropropane	3.98U	594	600	101	594	626	105	76-123	4.20	(< 20)
1,3,5-Trimethylbenzene	9.95U	594	575	97	594	613	103	73-124	6.50	(< 20)
1,3-Dichlorobenzene	9.95U	594	590	99	594	603	102	77-121	2.30	(< 20)
1,3-Dichloropropane	3.98U	594	617	104	594	647	109	77-121	4.60	(< 20)
1,4-Dichlorobenzene	9.95U	594	585	99	594	611	103	75-120	4.40	(< 20)
2,2-Dichloropropane	9.95U	594	592	100	594	594	100	67-133	0.34	(< 20)
2-Butanone (MEK)	99.5U	1780	1506	84	1780	1709	96	51-148	12.70	(< 20)
2-Chlorotoluene	9.95U	594	612	103	594	636	107	75-122	3.70	(< 20)
2-Hexanone	39.8U	1780	1628	91	1780	1831	103	53-145	12.20	(< 20)
4-Chlorotoluene	9.95U	594	612	103	594	634	107	72-124	3.50	(< 20)
4-Isopropyltoluene	39.8U	594	555	93	594	593	100	73-127	6.60	(< 20)
4-Methyl-2-pentanone (MIBK)	99.5U	1780	1597	89	1780	1841	103	65-135	14.20	(< 20)
Acetone	99.5U	1780	1526	86	1780	1780	100	36-164	14.80	(< 20)
Benzene	4.97U	594	586	99	594	612	103	77-121	4.30	(< 20)
Bromobenzene	9.95U	594	602	101	594	637	107	78-121	5.60	(< 20)
Bromochloromethane	9.95U	594	574	97	594	583	98	78-125	1.50	(< 20)
Bromodichloromethane	9.95U	594	602	101	594	622	105	75-127	3.10	(< 20)
Bromoform	9.95U	594	609	103	594	661	111	67-132	8.10	(< 20)
Bromomethane	79.5U	594	617	104	594	595	100	53-143	3.70	(< 20)
Carbon disulfide	39.8U	891	950	107	891	919	103	63-132	3.40	(< 20)
Carbon tetrachloride	4.97U	594	636	107	594	632	106	70-135	0.68	(< 20)
Chlorobenzene	9.95U	594	596	100	594	615	103	79-120	3.20	(< 20)

Print Date: 08/10/2018 1:14:52PM

Matrix Spike Summary

Original Sample ID: 1183979007
MS Sample ID: 1463014 MS
MSD Sample ID: 1463015 MSD

Analysis Date: 07/30/2018 12:34
Analysis Date: 07/30/2018 10:51
Analysis Date: 07/30/2018 11:08
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984004

Results by **SW8260C**

		Matrix Spike (ug/Kg)				Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chloroethane	79.5U	594	659	111		594	628	106	59-139	4.90	(< 20)
Chloroform	9.95U	594	570	96		594	580	98	78-123	1.90	(< 20)
Chloromethane	9.95U	594	571	96		594	565	95	50-136	1.00	(< 20)
cis-1,2-Dichloroethene	9.95U	594	596	100		594	594	100	77-123	0.25	(< 20)
cis-1,3-Dichloropropene	4.97U	594	619	104		594	648	109	74-126	4.70	(< 20)
Dibromochloromethane	9.95U	594	645	109		594	672	113	74-126	4.20	(< 20)
Dibromomethane	9.95U	594	565	95		594	592	100	78-125	4.70	(< 20)
Dichlorodifluoromethane	19.9U	594	535	90		594	514	86	29-149	4.10	(< 20)
Ethylbenzene	9.95U	594	591	99		594	608	102	76-122	3.00	(< 20)
Freon-113	39.8U	891	911	102		891	908	102	66-136	0.28	(< 20)
Hexachlorobutadiene	7.95U	594	583	98		594	583	98	61-135	0.13	(< 20)
Isopropylbenzene (Cumene)	9.95U	594	592	100		594	615	104	68-134	3.90	(< 20)
Methylene chloride	39.8U	594	602	101		594	622	105	70-128	3.00	(< 20)
Methyl-t-butyl ether	39.8U	891	864	97		891	919	103	73-125	6.20	(< 20)
Naphthalene	9.95U	594	542	91		594	591	99	62-129	8.60	(< 20)
n-Butylbenzene	9.95U	594	530	89		594	566	95	70-128	6.50	(< 20)
n-Propylbenzene	9.95U	594	592	100		594	629	106	73-125	5.90	(< 20)
o-Xylene	9.95U	594	613	103		594	622	105	77-123	1.30	(< 20)
P & M -Xylene	19.9U	1190	1190	100		1190	1221	102	77-124	2.10	(< 20)
sec-Butylbenzene	9.95U	594	546	92		594	593	100	73-126	8.30	(< 20)
Styrene	9.95U	594	628	106		594	638	107	76-124	1.60	(< 20)
tert-Butylbenzene	9.95U	594	581	98		594	616	104	73-125	6.00	(< 20)
Tetrachloroethene	4.97U	594	596	100		594	611	103	73-128	2.50	(< 20)
Toluene	9.95U	594	560	94		594	580	98	77-121	3.60	(< 20)
trans-1,2-Dichloroethene	9.95U	594	603	102		594	598	101	74-125	0.97	(< 20)
trans-1,3-Dichloropropene	4.97U	594	641	108		594	671	113	71-130	4.70	(< 20)
Trichloroethene	3.98U	594	602	101		594	620	104	77-123	2.90	(< 20)
Trichlorofluoromethane	19.9U	594	1078	182	*	594	717	121	62-140	40.40	* (< 20)
Vinyl acetate	39.8U	594	545	92		594	583	98	50-151	6.70	(< 20)
Vinyl chloride	3.98U	594	594	100		594	567	95	56-135	4.60	(< 20)
Xylenes (total)	29.9U	1780	1801	101		1780	1841	103	78-124	1.80	(< 20)
Surrogates											
1,2-Dichloroethane-D4 (surr)		594	561	94		594	564	95	71-136	0.52	
4-Bromofluorobenzene (surr)		952	856	90		952	895	94	55-151	4.50	
Toluene-d8 (surr)		594	606	102		594	606	102	85-116	0.08	

Print Date: 08/10/2018 1:14:52PM

Matrix Spike Summary

Original Sample ID: 1183979007
MS Sample ID: 1463014 MS
MSD Sample ID: 1463015 MSD

QC for Samples: 1183984004

Analysis Date:
Analysis Date: 07/30/2018 10:51
Analysis Date: 07/30/2018 11:08
Matrix: Soil/Solid (dry weight)

Results by **SW8260C**

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

Batch Information

Analytical Batch: VMS18088
Analytical Method: SW8260C
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 7/30/2018 10:51:00AM

Prep Batch: VXX32736
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/30/2018 6:00:00AM
Prep Initial Wt./Vol.: 66.76g
Prep Extract Vol: 26.13mL

Print Date: 08/10/2018 1:14:52PM

Method Blank

Blank ID: MB for HBN 1783216 [XXX/40018]
Blank Lab ID: 1462611

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	9.49J	20.0	6.20	mg/Kg
Surrogates				
5a Androstane (surr)	93.1	60-120		%

Batch Information

Analytical Batch: XFC14434
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: CMS
Analytical Date/Time: 8/1/2018 11:25:00PM

Prep Batch: XXX40018
Prep Method: SW3550C
Prep Date/Time: 7/28/2018 9:16:24AM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

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t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [XXX40018]
Blank Spike Lab ID: 1462612
Date Analyzed: 08/01/2018 23:35

Spike Duplicate ID: LCSD for HBN 1183984 [XXX40018]
Spike Duplicate Lab ID: 1462613
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

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	833	816	98	833	823	99	(75-125)	0.83	(< 20)
Surrogates									
5a Androstane (surr)	16.7	102	102	16.7	103	103	(60-120)	0.88	

Batch Information

Analytical Batch: **XFC14434**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **CMS**

Prep Batch: **XXX40018**
Prep Method: **SW3550C**
Prep Date/Time: **07/28/2018 09:16**
Spike Init Wt./Vol.: 833 mg/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 833 mg/Kg Extract Vol: 5 mL

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Matrix Spike Summary

Original Sample ID: 1184019001
MS Sample ID: 1462614 MS
MSD Sample ID: 1462615 MSD

Analysis Date: 08/02/2018 1:51
Analysis Date: 08/02/2018 2:01
Analysis Date: 08/02/2018 2:10
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **AK102**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	64.6	1042	1014	91	1040	1049	95	60-140	3.30	(< 50)
Surrogates										
5a Androstane (surr)		20.8	20.0	96	20.8	20.3	97	50-150	0.89	

Batch Information

Analytical Batch: XFC14434
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: CMS
Analytical Date/Time: 8/2/2018 2:01:00AM

Prep Batch: XXX40018
Prep Method: Sonication Extraction Soil AK102
Prep Date/Time: 7/28/2018 9:16:24AM
Prep Initial Wt./Vol.: 30.24g
Prep Extract Vol: 5.00mL

Print Date: 08/10/2018 1:14:57PM

Method Blank

Blank ID: MB for HBN 1783231 [XXX/40026]
Blank Lab ID: 1462672

Matrix: Soil/Solid (dry weight)

QC for Samples:
1183984001, 1183984002, 1183984003

Results by **SW8082A**

Parameter	Results	LOQ/CL	DL	Units
Aroclor-1016	25.0U	50.0	12.5	ug/Kg
Aroclor-1221	100U	200	50.0	ug/Kg
Aroclor-1232	25.0U	50.0	12.5	ug/Kg
Aroclor-1242	25.0U	50.0	12.5	ug/Kg
Aroclor-1248	25.0U	50.0	12.5	ug/Kg
Aroclor-1254	25.0U	50.0	12.5	ug/Kg
Aroclor-1260	25.0U	50.0	12.5	ug/Kg
Surrogates				
Decachlorobiphenyl (surr)	110	60-125		%

Batch Information

Analytical Batch: XGC10174
Analytical Method: SW8082A
Instrument: Agilent 7890B GC ECD SW F
Analyst: CMC
Analytical Date/Time: 8/3/2018 8:53:00PM

Prep Batch: XXX40026
Prep Method: SW3550C
Prep Date/Time: 7/30/2018 7:52:00AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Print Date: 08/10/2018 1:14:58PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1183984 [XXX40026]
Blank Spike Lab ID: 1462673
Date Analyzed: 08/03/2018 21:03

Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8082A**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Aroclor-1016	222	164	74	(47-134)
Aroclor-1260	222	208	93	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	108	108	(60-125)

Batch Information

Analytical Batch: **XGC10174**
Analytical Method: **SW8082A**
Instrument: **Agilent 7890B GC ECD SW F**
Analyst: **CMC**

Prep Batch: **XXX40026**
Prep Method: **SW3550C**
Prep Date/Time: **07/30/2018 07:52**
Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1183875008
MS Sample ID: 1462674 MS
MSD Sample ID: 1462675 MSD

Analysis Date: 07/31/2018 13:24
Analysis Date: 07/31/2018 13:34
Analysis Date: 07/31/2018 13:44
Matrix: Soil/Solid (dry weight)

QC for Samples: 1183984001, 1183984002, 1183984003

Results by **SW8082A**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aroclor-1016	25.6U	229	156	68	227	160	70	47-134	2.45	(< 30)
Aroclor-1260	25.6U	229	189	83	227	192	84	53-140	0.74	(< 30)
Surrogates										
Decachlorobiphenyl (surr)		229	218	96	227	215	95	60-125	1.52	

Batch Information

Analytical Batch: XGC10168
Analytical Method: SW8082A
Instrument: Agilent 7890B GC ECD SW F
Analyst: CMC
Analytical Date/Time: 7/31/2018 1:34:00PM

Prep Batch: XXX40026
Prep Method: Sonication Extraction Soil SW8080 PCB
Prep Date/Time: 7/30/2018 7:52:00AM
Prep Initial Wt./Vol.: 22.56g
Prep Extract Vol: 5.00mL

Print Date: 08/10/2018 1:15:01PM

SGS REVIEWED S.D

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1183984

Locations Nationwide
Alaska Maryland
New Jersey New York
North Carolina Indiana
West Virginia Kentucky
www.us.sgs.com

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

Page 1 of 1

1

CLIENT:	Alta Geosciences		
CONTACT:	Jeremy Yancey	PHONE NO:	252-8366
PROJECT NAME:	Coastal	PROJECT/ PWSID/ PERMIT#:	
REPORTS TO:	Alex Tula	E-MAIL:	atula@altageo.com
INVOICE TO:	Alta Geosciences	QUOTE #:	362643
		P.O. #:	

2 / 3

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used:		MeOH+BFB	None								REMARKS/ LOC ID
						TYPE C = COMP G = GRAB MI = Multi Incre-mental Soils		GRO/VOC AK101 SW8260	PCB/ DRO/ Lead								
1A-B	SP-1	7/25/2018	11:30	soil	2	COMP		1	1								
2A-B	SP-2	7/25/2018	11:50	soil	2	COMP		1	1								
3A-B	SP-3	7/25/2018	12:30	soil	2	COMP		1	1								
4A	Trip Blank	7/25/2018	11:00		1			1									

5

	Date	Time	
Relinquished By: (1)	7/26/18	0715	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	7/26/18	15:35	Received For Laboratory By:

4

DOD Project? YES NO

Cooler ID: _____

Data Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:

Standard

Temp Blank °C: 1.8 D35

or Ambient [ ]

(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle) 1F1B LOVA

INTACT BROKEN ABSENT

(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

F083-Kit_Request_and_COC_Templates-Blank
Revised 04-04-2012

AIRPORT OF DEPARTURE **ENA**

808 7698419 **Frgt**

SHIPPER'S NAME, ADDRESS & PHONE

TRIHYDRO
312 TYEE STREET
SOLDOTNA **AK 99669**

SHIPPER'S ACCOUNT NUMBER **9072528366**

CONSIGNEE'S NAME, ADDRESS & PHONE

SGS NORTH AMERICA INC
200 W POTTER DR
ANCHORAGE **AK 99518**

CONSIGNEE'S ACCOUNT NUMBER **9075622343**

ISSUING CARRIER'S AGENT NAME, CITY & PHONE

NOT
AIR WAYBILL
(AIR CONSIGNMENT NOTE)

Ravn AIR GROUP

4700 Old International Airport Road
Anchorage, Alaska 99502
(907)-243-2761

It is agreed the goods described herein are accepted in apparent good order and condition (except as noted) SUBJECT TO THE CONDITIONS OF CONTRACT as displayed at the Ravn cargo acceptance counter and online at www.flyravn.com/cargo-services/cargo-resources. ALL GOODS MAY BE CARRIED BY ANY OTHER MEANS INCLUDING ROAD OR OTHER CARRIER UNLESS SPECIFIC CONTRARY INSTRUCTIONS ARE GIVEN HEREON BY THE SHIPPER, AND SHIPPER AGREES THAT THE SHIPMENT MAYBE CARRIED VIA INTERMEDIATE STOPPING PLACES WHICH THE CARRIERS DEEMS APPROPRIATE. THE SHIPPER'S ATTENTION IS DRAWN TO NOTICES IN THE CARRIER'S CONDITIONS OF CONTRACT CONCERNING CARRIER'S LIMIT OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

Received in Good Order and Condition at _____ (Place) _____ (Date/Time)

Signature of Consignee or its agent: _____

Printed Name/Title: _____

AGENT'S IATA CODE

ACCOUNT NO.

ALSO NOTIFY NAME & ADDRESS

AIRPORT OF DEPARTURE
Kenai

Declared Value $ 0.00

Insured Amount $ 0.00

ACCOUNTING INFORMATION 7381167
Card MC 1770 Exp 0520

PO:

ROUTING AND DESTINATION

TO	BY FIRST CARRIER	TO	BY	TO	BY

COMMENTS

AIRPORT OF DESTINATION
Anchorage

FOR CARRIER USE ONLY
FLIGHT/DATE FLIGHT/DATE

No. Of Pieces Rcp	Gross Weight	kg lb	Rate Class	Commodity Item No.	Chargeable Weight	Rate/ /Charge	Total	Nature and Quantity of Goods (Inclu. Dimensions or Volume)
1	16	lb	M		1	$29.18	$29.18	GEN-oil sample exptd class 3
1	16						$29.18	

1183984

PREPAID	WEIGHT CHARGE	COLLECT
$29.18		

VALUATION CHARGE
$0.00

FEDERAL EXCISE TAX
$1.82

TOTAL OTHER CHARGES DUE AGENT
$0.00

TOTAL OTHER CHARGES DUE CARRIER
$0.00

TOTAL PREPAID	TOTAL COLLECT
$31.00	

OTHER CHARGES AND DESCRIPTION

AMOUNT	DESCRIPTION

HAZMAT No

HAZMAT NO:

STATION NUMBERS

ANCHORAGE - (907) 243-2761
ANIAK - (907) 675-4572
BARROW - (907) 852-5300
BETHEL -(907) 543-3825
DEADHORSE - (907) 659-9222
DILLINGHAM - (907) 842-2994
FAIRBANKS - (907) 450-7250
GALENA -(907) 656-1875
HOMER - (907) 235-7565
KENAI - (907) 283-1911
KING SALMON - (907) 246-1120
KODIAK - (907) 487-2663
KOTZEBUE - (907) 442-3020
NOME - (907) 443-7595
ST. MARYS - (907) 438-2247
UNALAKLEET - (907) 624-3595

SHIPPER'S CERTIFICATION:
Shipper certifies that (i) the particulars on the face hereof are correct, (ii) insofar as any part of the consignment contains restricted articles, such part is described by name and is in proper condition for carriage by air according to applicable US government regulations and International Air Transport Association's Dangerous Goods Regulation, and (iii) in the event of an payment dispute between Shipper and Consignee, Shipper shall remit any unpaid freight charges within 48 hours of billing by the Carrier.

Signature of Shipper or its agent: _____

Printed Name/Title: _____

Executed on (date) At (place) Signature of Issuing Carrier or its Agent

Printed at 08:21:43 on 7/26/2018 at ENA-FRTMGR 10.106.2.15

Consignee Copy

07/26/18 08:19 090363

Alert Expeditors Inc. **#384485**

Citywide Delivery • 440-3351
8421 Flamingo Drive • Anchorage, Alaska 99502

Date 7261 Tr hydro

From

To SGS

Collect ☐	Prepay ☐ Account ☐	Advance Charges ☐
Job #	PO#	

7698419

1183984

Shipped Signature

Total Charge

e-Sample Receipt Form

SGS Workorder #: **1183984**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		N/A Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Yes	1-F, 1-B
COC accompanied samples?	Yes	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 1.8 °C Therm. ID: D35
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? **Note: If times differ <1hr, record details & login per COC.	Yes	
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	Yes	
	Yes	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	Yes	

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

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1183984001-A	No Preservative Required	OK			
1183984001-B	Methanol field pres. 4 C	OK			
1183984002-A	No Preservative Required	OK			
1183984002-B	Methanol field pres. 4 C	OK			
1183984003-A	No Preservative Required	OK			
1183984003-B	Methanol field pres. 4 C	OK			
1183984004-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.
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.

APPENDIX B
ADEC LABORATORY DATA REVIEW CHECKLISTS

Laboratory Data Review Checklist

Completed by:	Alex Tula		
Title:	Environmental Geologist	Date:	Sep 5, 2018
CS Report Name:	Soil Stockpile Sampling & Analysis Report	Report Date:	Sep 10, 2018
Consultant Firm:	Alta Geosciences		
Laboratory Name:	SGS North America, Inc.	Laboratory Report Number:	1183984
ADEC File Number:	2333.38.013	ADEC RecKey Number:	

1. Laboratory

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

(●) Yes ( ) No ( ) NA (Please explain.) Comments:

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

( ) Yes ( ) No (●) NA (Please explain) Comments:

Samples were not subcontracted.

2. Chain of Custody (COC)

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

(●) Yes ( ) No ( ) NA (Please explain) Comments:

b. Correct analyses requested?

(●) Yes ( ) No ( ) NA (Please explain) Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

(●) Yes ( ) No ( ) NA (Please explain) Comments:

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

e. Data quality or usability affected? (Please explain)

Comments:

No data quality or usability was affected by sample receipt.

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

c. Were all corrective actions documented?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

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

Comments:

No data quality or usability was affected by the case narrative.

5. Samples Results

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

b. All applicable holding times met?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

c. All soils reported on a dry weight basis?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

e. Data quality or usability affected? (Please explain)

Comments:

No data quality or usability affected.

6. QC Samples

a. Method Blank

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

(•) Yes ( ) No ( ) NA (Please explain) Comments:

ii. All method blank results less than PQL?

(•) Yes ( ) No ( ) NA (Please explain) Comments:

iii. If above PQL, what samples are affected? Comments:

NA

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

○ Yes ○ No ◉ NA (Please explain) Comments:

v. Data quality or usability affected? (Please explain) Comments:

No data quality or usability is affected by the method blanks.

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

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

Comments:

NA

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

○ Yes ○ No ◉ NA (Please explain) Comments:

No flagging was necessary.

vii. Data quality or usability affected? (Please explain) Comments:

No data quality or usability is affected by accuracy or precision.

c. Surrogates - Organics Only

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

◉ Yes ○ No ○ NA (Please explain) Comments:

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

◉ Yes ○ No ○ NA (Please explain) Comments:

iv. Data quality or usability affected? (Use the comment box to explain.). Comments:

No data quality or usability is affected by the surrogates.

d. Trip Blank - Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

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

◉ Yes ○ No ○ NA (Please explain.) Comments:

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

◉ Yes ○ No ○ NA (Please explain.) Comments:

iii. All results less than PQL?

◉ Yes ○ No ○ NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? (Please explain.)

Comments:

NA

e. Field Duplicate

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

◉ Yes ○ No ○ NA (Please explain) Comments:

ii. Submitted blind to lab?

◉ Yes ○ No ○ NA (Please explain.) Comments:

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

○ Yes ◉ No ○ NA (Please explain) Comments:

RPD for Lead for SP-1 vs. SP-2 and SP-3 is 66%. All other RPDs are less than 10%

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

○ Yes ◉ No ○ NA (Please explain) Comments:

Results are well below action levels

f. Decontamination or Equipment Blank (if applicable)

○ Yes ◉ No ○ NA (Please explain) Comments:

i. All results less than PQL?

○ Yes ○ No ◉ NA (Please explain) Comments:

No equipment blank was submitted.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? (Please explain.)

Comments:

No data quality or usability was affected.

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

a. Defined and appropriate?

◉ Yes ○ No ○ NA (Please explain) Comments:

Reset Form