

LAND FARM TESTING REPORT

COLD BAY FUEL SPILL CLEANUP

COLD BAY, ALASKA

Prepared for

**ALASKA DEPARTMENT OF TRANSPORTATION AND
PUBLIC FACILITIES**



Prepared by

MICHAEL L. FOSTER & ASSOCIATES, INC.

13135 Old Glenn Highway, Suite 200

Eagle River, Alaska 99577

October 9, 2013

MLFA Job No. ADOT-ADOT-001-0001



Michael L. Foster & Associates, Inc.

An Alaskan Owned and Operated Company

*Architects • Engineers • Planners • Scientists
Surveyors • General Contracting*

October 9, 2013

Ms. Jennifer Micolichuk
Alaska Department of Transportation & Public Facilities
PO Box 196900
Anchorage, Alaska 99518-6900
Via Email: jennifer.micolichuk@alaska.gov

Land Farm Testing Report
Cold Bay Fuel Spill Cleanup
Cold Bay, Alaska
MLFA Job No. ADOT-ADOT-001-0001

Dear Ms. Micolichuk:

We are pleased to present the *Land Farm Testing Report, Cold Bay Fuel Spill Cleanup, Cold Bay, Alaska* (Project 53502). If you have any questions or need additional information, please do not hesitate to contact us at (907) 696-6200.

Sincerely,

MICHAEL L. FOSTER & ASSOCIATES, INC.

Holly L. Morris, C.P.G.
Project Manager

Michael L. Foster, P.E.
Principal Engineer

cc: Eric Hershey, ADOT&PF

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ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation & Public Facilities
AK	Alaska Method
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CL	control limit
DRO	diesel range organics
EPA	Environmental Protection Agency
GRO	gasoline range organics
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOQ	Limit of Quantitation
mg/Kg	milligrams per kilogram
MLFA	Michael L. Foster & Associates, Inc.
ND	non-detect
PID	photo-ionization detector
PPM	parts per million
QC	quality control
RPD	relative percent difference
RRO	residual range organics

1.0 INTRODUCTION

In accordance with the Proposal dated August 12, 2013, Michael L. Foster & Associates, Inc. (MLFA) assisted the Alaska Department of Transportation & Public Facilities (ADOT&PF) with soil tests at the Cold Bay Airport land farm (Project 53502). This land farm testing report provides site background information; a description of the soil screening and sample collection field work; the laboratory analytical results; a summary; and conclusions.

2.0 SITE BACKGROUND

The main land farm was developed in 2012 for the remediation of soils removed from a diesel fuel spill site near the old ADOT&PF maintenance building at the Cold Bay Airport. ADOT&PF also requested samples be collected from a smaller land farm that had soils removed from the area of a Class V well. As shown on Figures 1 and 2, both of the land farms are located near the north end of the Cold Bay Airport. The main land farm is approximately 100 feet by 100 feet and the smaller land farm is approximately 30 feet by 30 feet.

3.0 SOIL SCREENING AND SAMPLE COLLECTION

On September 12, 2013 Mr. Steve McGee, with MLFA, flew to Cold Bay from Anchorage, met with ADOT&PF personnel, and toured the land farm sites. It rained most of the day and as shown in Photos 1 through 3, the main land farm had large and small areas with standing water. In the main land farm, the soil was estimated to be six to twelve inches deep.

As depicted on Figure 3, MLFA set up a six by six sample grid with approximately 16.5-foot by 16.5-foot sections for the main land farm. The south to north direction was numbered 1 to 6 and the west to east direction was lettered A to F.

MLFA collected bag samples for photo-ionization detector (PID) headspace screening from soils near the center of each grid approximately six inches below the surface. At the small land farm, bag samples for head space screening were collected from the north end, the middle, and the south end. Excess water was allowed to drain from the soil before it was placed in the head space sample bag. The sealed bags were then placed on the floor of the heated ADOT&PF truck for a minimum of 15-minutes prior to testing. The PID field screening results are documented in Table 1. Results that were greater than 10 parts per million (PPM) isobutylene are bolded and shaded.

Table 1: PID Field Screening Results

PID Sample Number	Sample Location Sept. 12, 2013	Approximate Depth in Feet Below Surface	Type of Material	PID Result (in PPM Isobutylene)
Main Land Farm				
SP-1	Grid Section 1A	0.5	Sand	0.4
SP-2	Grid Section 1B	0.5	Sand	0.3
SP-3	Grid Section 1C	0.5	Sand	0.6
SP-4	Grid Section 1D	0.5	Sand	0.9
SP-5	Grid Section 1E	0.5	Sand	0.9
SP-6	Grid Section 1F	0.5	Sand	0.7
SP-7	Grid Section 2A	0.5	Gravel with Sand	2.8
SP-8	Grid Section 2B	0.5	Gravel with Sand	6.9
SP-9	Grid Section 2C	0.5	Gravel with Sand	2.9
SP-10	Grid Section 2D	0.5	Gravel with Sand	2.7
SP-11	Grid Section 2E	0.5	Gravel with Sand	1.2
SP-12	Grid Section 2F	0.5	Gravel with Sand	1.2
SP-13	Grid Section 3A	0.5	Sand	1.0
SP-14	Grid Section 3B	0.5	Sand with Gravel	1.0
SP-15	Grid Section 3C	0.5	Sand with Gravel	2.0
SP-16	Grid Section 3D	0.5	Gravel with Sand	13.6
SP-17	Grid Section 3E	0.5	Gravel with Sand	2.0
SP-18	Grid Section 3F	0.5	Sand	1.2
SP-19	Grid Section 4A	0.5	Gravel with Sand	1.7
SP-20	Grid Section 4B	0.5	Gravel with Sand	1.8
SP-21	Grid Section 4C	0.5	Gravel with Sand	16.7
SP-22	Grid Section 4D	0.5	Gravel with Sand	29.9
SP-23	Grid Section 4E	0.5	Gravel with Sand	16.4
SP-24	Grid Section 4F	0.5	Gravel with Sand	2.16
SP-25	Grid Section 5A	0.5	Gravel with Sand	47.7
SP-26	Grid Section 5B	0.5	Gravel with Sand	10.2
SP-27	Grid Section 5C	0.5	Gravel with Sand	28.8
SP-28	Grid Section 5D	0.5	Gravel with Sand	2.2
SP-29	Grid Section 5E	0.5	Gravel with Sand	2.0
SP-30	Grid Section 5F	0.5	Gravel with Sand	1.4
SP-31	Grid Section 6A	0.5	Gravel with Sand	1.5
SP-32	Grid Section 6B	0.5	Gravel with Sand	2.7
SP-33	Grid Section 6C	0.5	Gravel with Sand	35.2
SP-34	Grid Section 6D	0.5	Gravel with Sand	3.0
SP-35	Grid Section 6E	0.5	Gravel with Sand	1.9
SP-36	Grid Section 6F	0.5	Gravel with Sand	2.0
Small Land Farm				
Sp-37	South End	0.5	Gravel with Sand	0.5
SP-38	Middle	0.5	Gravel with Sand	0.5
SP-39	North End	0.5	Gravel with Sand	0
Note: Head space samples with PID readings that exceeded 10 PPM isobutylene are bolded and highlighted.				

MLFA collected ten soil samples and one duplicate for laboratory analyses from the main land farm and two soil samples and one duplicate from the small land farm. Excess water was allowed to drain from the soil before it was placed in the sample jars. The grid sections sampled at the main land farm included the eight locations that had PID results greater than 10 PPM isobutylene. The sample collection data is provided in Table 2 and the locations are shown on Figure 3.

Table 2: Locations of Samples Collected for Laboratory Analyses

Soil Sample Number	Sample Location Sept. 12, 2013	Time Collected	Depth in Inches Below Surface	Type of Material
Main Land Farm				
ADOT-ADOT-001-001 SP1	Grid Section 2B	4:45 pm	4	Gravel with Sand
ADOT-ADOT-001-001 SP2	Grid Section 3D	4:50 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP3 and ADOT-ADOT-001-001 SP12 (Duplicate)	Grid Section 4C	4:55 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP4	Grid Section 4D	4:47 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP5	Grid Section 4E	5:00 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP6	Grid Section 5A	5:10 pm	4	Gravel with Sand
ADOT-ADOT-001-001 SP7	Grid Section 5B	5:15 pm	6	Gravel with Sand
ADOT-ADOT -001-001 SP8	Grid Section 5C	5:17 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP9	Grid Section 6C	5:30 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP10	Grid Section 4F	5:35 pm	12	Gravel with Sand
Small Land Farm				
ADOT-ADOT-001-001 SP13	South End	5:40 pm	12	Gravel with Sand
ADOT-ADOT-001-001 SP14 and ADOT-ADOT-001-001 SP15 (Duplicate)	North End	5:50 pm	12	Gravel with Sand

4.0 LABORATORY ANALYTICAL RESULTS

4.1 TEST METHODS

Each sample was analyzed for gasoline range organics (GRO) by Alaska Method (AK) 101, benzene, toluene, ethylbenzene, and total xylene (BTEX) by U.S. Environmental Protection Agency (EPA) Method 8021B, diesel range organics (DRO) by AK102, and residual range organics (RRO) by AK103.

4.2 RESULTS

Analytical results and ADEC cleanup levels are summarized in Table 3. Copies of the complete laboratory analytical results are presented in Appendix A. Cleanup levels are based on ADEC

Method Two tables for soil cleanup levels (18 AAC 75, Revised as of April 8, 2012) for “Under 40 inch Zone” precipitation guidelines and the exposure pathway of migration to groundwater. The “Under 40 inch Zone” was selected based on Western Region Climate Center data for Cold Bay Airport, which indicated the annual average total precipitation for the period of record 1950 to 2012 was 38.29 inches.

Table 3: Soil Analytical Results

Sample Number	Date Collected	Depth in feet below ground surface	DRO by AK102 (mg/Kg)	BTEX by EPA8021B (mg/Kg)				GRO by AK101 (mg/Kg)	RRO by AK103 (mg/Kg)	Remarks
				Benzene	Toluene	Ethylbenzene	Total Xylenes			
Cleanup Levels			250	0.025	6.5	6.9	63.0	300	11000	
Main Land Farm Site										
ADOT-ADOT-001-001 SP1	9/12/13	0.5	424	ND	ND	ND	ND	ND	307	Grid Section 2B
ADOT-ADOT-001-001 SP2	9/12/13	0.5	525	ND	ND	ND	ND	ND	288	Grid Section 3D
ADOT-ADOT-001-001 SP3	9/12/13	0.5	536	ND	ND	ND	ND	ND	325	Grid Section 4C
ADOT-ADOT-001-001 SP4	9/12/13	0.5	410	ND	ND	ND	ND	ND	345	Grid Section 4D
ADOT-ADOT-001-001 SP5	9/12/13	0.5	163	ND	ND	ND	ND	ND	235	Grid Section 4E
ADOT-ADOT-001-001 SP6	9/12/13	0.5	130	ND	ND	ND	ND	ND	137	Grid Section 5A
ADOT-ADOT-001-001 SP7	9/12/13	0.5	150	ND	ND	ND	ND	ND	193	Grid Section 5B
ADOT-ADOT-001-001 SP8	9/12/13	0.5	404	ND	ND	ND	ND	ND	425	Grid Section 5C
ADOT-ADOT-001-001 SP9	9/12/13	0.5	850	ND	ND	ND	ND	ND	827	Grid Section 6C
ADOT-ADOT-001-001 SP10	9/12/13	0.5	263	ND	ND	ND	ND	ND	211	Grid Section 4F
ADOT-ADOT-001-001 SP12	9/12/13	0.5	333	ND	ND	ND	ND	ND	318	Duplicate for ADOT-ADOT-001-001 SP3
Small Land Farm										
ADOT-ADOT-001-001 SP13	9/12/13	0.5	ND	ND	ND	ND	ND	ND	59.5	South End
ADOT-ADOT-001-001 SP14	9/12/13	0.5	ND	ND	ND	ND	ND	ND	24.3	North End
ADOT-ADOT-001-001 SP15	9/12/13	0.5	ND	ND	ND	ND	ND	ND	ND	Duplicate for ADOT-ADOT-001-001 SP14
Notes:				EPA = Environmental Protection Agency Method						
Items bolded and shaded are greater than soil cleanup levels.				GRO = gasoline range organics						
AK = Alaska Method				RRO = Residual range organics						
BTEX = benzene, toluene, ethylbenzene, and total xylenes				mg/Kg = milligrams per kilogram						
DRO = diesel range organics				ND = Not detected						

As indicated in Table 3 and shown on Figure 3, DRO results were above the cleanup levels at seven of the main land farm sample locations. All of the laboratory results were below cleanup levels at the small land farm.

4.3 DATA VALIDATION

Data verification and quality assurance were performed on the analytical laboratory sample results in accordance with the ADEC Technical Memorandum 06-002, *Environmental Laboratory Data and Quality Assurance Requirements* dated May 18, 2006. The Laboratory Data Review Checklist is provided in Appendix B.

4.3.1 Data Precision

Two field duplicates were collected for 12 sample locations. Field sample duplicates had a relative percent difference (RPD) of less than 50% for DRO, GRO, BTEX, and RRO. Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) were within laboratory quality control (QC) limits.

4.3.2 Data Accuracy

Data accuracy was within laboratory quality control limits.

4.3.3 Data Representativeness

Samples were received in good condition and representative of the site conditions.

4.3.4 Data Comparability

Standard methods, procedures, and quantitation units, and reporting format were used by the laboratory.

4.3.5 Data Completeness

All the data evaluated for this land farm site is considered usable. The data was accepted as described.

4.3.6 Data Sensitivity

The detection limits (DLs) and limit of quantitation per control limits (LOQ/CLs) are less than the regulatory cleanup levels. The GRO/BTEX trip blank was recorded as U (not detected) for the analytes at the LOQ/CLs.

4.3.7 Conclusion

The data evaluated for the land farm samples is considered useable.

5.0 SUMMARY

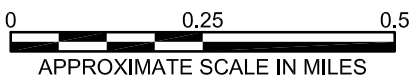
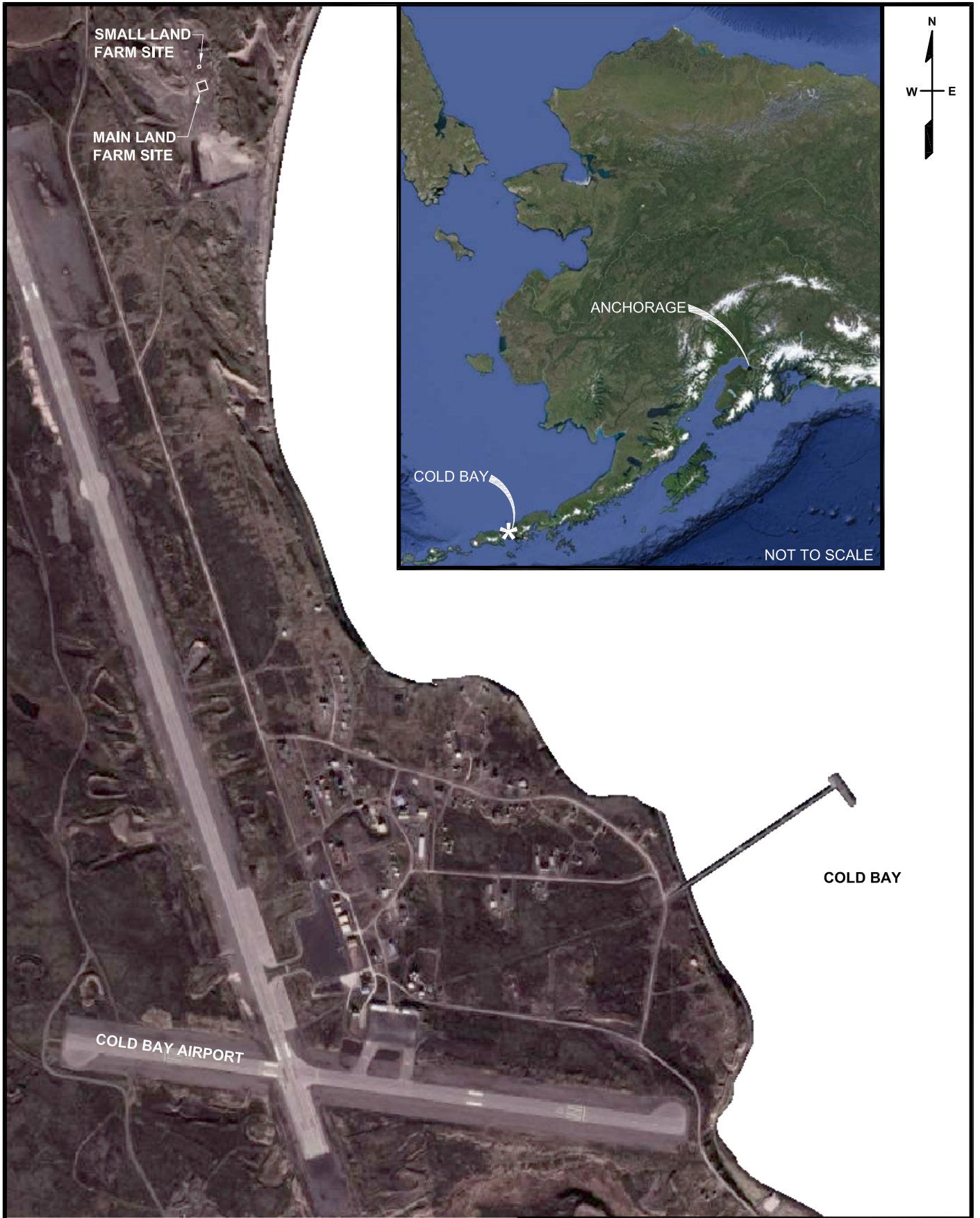
MLFA assisted ADOT&PF with soil tests at the Cold Bay Airport main and small land farms (Project 53502). At the main land farm, laboratory results indicate DRO concentrations

exceeded ADEC cleanup levels at seven of the ten locations tested. At the small land farm, laboratory results indicate both of the samples had DRO, GRO, BTEX, and RRO concentrations that were less than the ADEC cleanup levels.

6.0 RECOMMENDATIONS

MLFA recommends ADOT&PF continue to follow the established procedures for maintaining and monitoring the main land farm until cleanup levels have been met. Since it appears that cleanup levels have been met at the small land farm, MLFA recommends ADOT&PF follow the ADEC procedures for the disposal of the treated soils.

FIGURES



LAND FARM TESTING REPORT, COLD BAY FUEL SPILL CLEANUP
COLD BAY, ALASKA

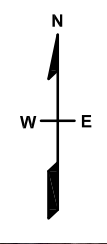
LOCATION MAP



AERIAL PHOTO COURTESY: GOOGLE EARTH TAKEN OCTOBER 27, 2012

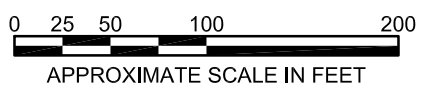
JOB NO:	ADOT-ADOT-001-0001	DRAWN:	AM
DATE:	OCTOBER 02, 2013	FILE:	FIG 1_LOCATION MAP.dwg

Figure 1



SMALL LAND FARM

MAIN LAND FARM



LAND FARM TESTING REPORT, COLD BAY FUEL SPILL CLEANUP
COLD BAY, ALASKA

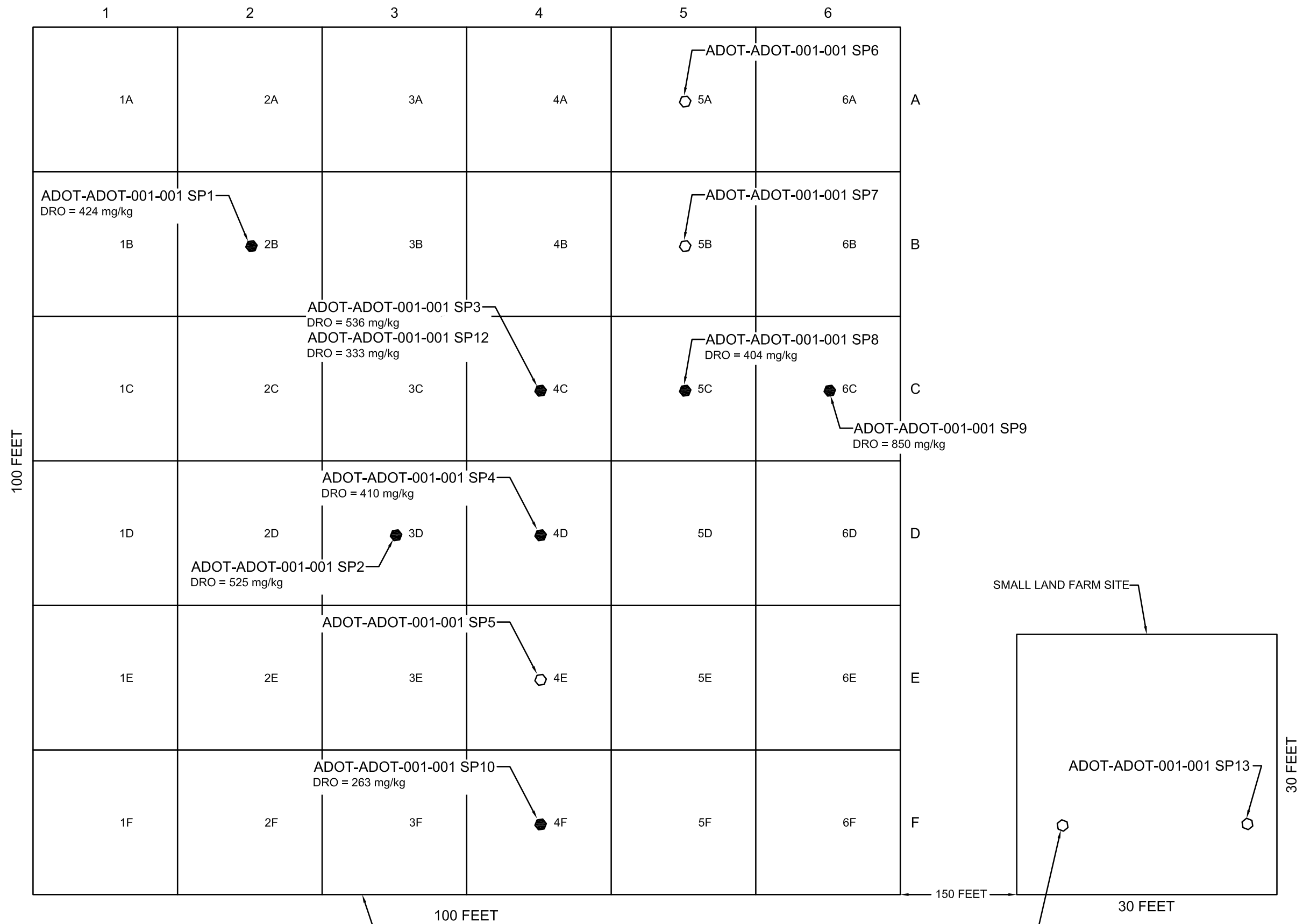
LAND FARM LOCATIONS



AERIAL PHOTO COURTESY: GOOGLE EARTH TAKEN OCTOBER 27, 2012

JOB NO:	ADOT-ADOT-001-0001	DRAWN:	AM
DATE:	OCTOBER 02, 2013	FILE:	FIG 2_AERIAL.dwg

Figure 2



ADOT-ADOT-001-001 SP1
DRO = 424 mg/kg

ADOT-ADOT-001-001 SP3
DRO = 536 mg/kg
ADOT-ADOT-001-001 SP12
DRO = 333 mg/kg

ADOT-ADOT-001-001 SP2
DRO = 525 mg/kg

ADOT-ADOT-001-001 SP4
DRO = 410 mg/kg

ADOT-ADOT-001-001 SP10
DRO = 263 mg/kg

ADOT-ADOT-001-001 SP6

ADOT-ADOT-001-001 SP7

ADOT-ADOT-001-001 SP8
DRO = 404 mg/kg

ADOT-ADOT-001-001 SP9
DRO = 850 mg/kg

ADOT-ADOT-001-001 SP13

ADOT-ADOT-001-001 SP14
ADOT-ADOT-001-001 SP15

LEGEND

- DRO
mg/kg
- SAMPLE LOCATION
- SAMPLE LOCATION WHERE CLEANUP LEVELS WERE EXCEEDED
- ADOT-ADOT-001-001 SP13
- DIESEL RANGE ORGANICS
MILLIGRAMS PER KILOGRAM
- SAMPLE LOCATION
- SAMPLE LOCATION WHERE CLEANUP LEVELS WERE EXCEEDED
- SOIL SAMPLE NUMBER

LAND FARM TESTING REPORT, COLD BAY FUEL SPILL CLEANUP
COLD BAY, ALASKA

**ANALYTICAL SAMPLE
LOCATIONS**



JOB NO: ADOT-ADOT-001-0001 DRAWN: AM
DATE: OCTOBER 02, 2013 FILE: FIG 3_SAMPLE.dwg

Figure 3

NOT TO SCALE

PHOTOGRAPHS



Photo 1. Main Land Farm, Looking South East, September 12, 2013.



Photo 2. Main Land Farm, Looking South West, Grade Stake with Red Top is Grid Mark A/B, September 13, 2013.



Photo 3. Main Land Farm, South End of East Side, Looking West, September 13, 2013.



Photo 4. Small Land Farm, September 13, 2013.

APPENDIX A

Soil Analytical Results



Laboratory Report of Analysis

To: Michael L Foster & Associates
13135 Old Glenn Highway Suite 200
Eagle River, AK 99577
(907)696-6200

Report Number: **1134506**

Client Project: **ADOT-ADOT-001-0001 ColdBaySoil**

Dear Steven McGee,

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 five 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 Victoria 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.

Victoria Pennick
Project Manager
Victoria.Pennick@sgs.com

Date

Print Date: 09/24/2013 8:46:09AM

Case Narrative

SGS Client: **Michael L Foster & Associates**
SGS Project: **1134506**
Project Name/Site: **ADOT-ADOT-001-0001 ColdBaySoil**
Project Contact: **Steven McGee**

Refer to sample receipt form for information on sample condition.

ADOT-ADOT-001-001 SP1 (1134506001) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP2 (1134506002) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP3 (1134506003) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP4 (1134506004) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP5 (1134506005) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP6 (1134506006) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP7 (1134506007) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP8 (1134506008) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP9 (1134506009) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP10 (1134506010) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP12 (1134506011) PS

AK102 - The pattern is consistent with a weathered middle distillate.
AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP13 (1134506012) PS

AK103 - Unknown hydrocarbon with several peaks is present.

ADOT-ADOT-001-001 SP14 (1134506013) PS

AK103 - Unknown hydrocarbon with several peaks is present.

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. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (<http://www.sgs.com/terms_and_conditions.htm>), unless other written agreements have been accepted by both parties.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020A, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035B, 6020, 7470A, 7471B, 8021B, 8082A, 8260B, 8270D, 8270D-SIM, 9040B, 9045C, 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	Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 2xDL)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
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.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
ADOT-ADOT-001-001 SP1	1134506001	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP2	1134506002	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP3	1134506003	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP4	1134506004	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP5	1134506005	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP6	1134506006	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP7	1134506007	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP8	1134506008	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP9	1134506009	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP10	1134506010	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP12	1134506011	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP13	1134506012	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP14	1134506013	09/12/2013	09/16/2013	Soil/Solid (dry weight)
ADOT-ADOT-001-001 SP15	1134506014	09/12/2013	09/16/2013	Soil/Solid (dry weight)
Trip Blank	1134506015	09/12/2013	09/16/2013	Soil/Solid (dry weight)

<u>Method</u>	<u>Method Description</u>
AK101	AK101/8021 Combo. (S)
SW8021B	AK101/8021 Combo. (S)
AK102	Diesel/Residual Range Organics
AK103	Diesel/Residual Range Organics
SM21 2540G	Percent Solids SM2540G

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Detectable Results Summary

Client Sample ID: ADOT-ADOT-001-001 SP1			
Lab Sample ID: 1134506001	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	424	mg/Kg
	Residual Range Organics	307	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP2			
Lab Sample ID: 1134506002	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	525	mg/Kg
	Residual Range Organics	288	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP3			
Lab Sample ID: 1134506003	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	536	mg/Kg
	Residual Range Organics	325	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP4			
Lab Sample ID: 1134506004	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	410	mg/Kg
	Residual Range Organics	345	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP5			
Lab Sample ID: 1134506005	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	163	mg/Kg
	Residual Range Organics	235	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP6			
Lab Sample ID: 1134506006	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	130	mg/Kg
	Residual Range Organics	137	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP7			
Lab Sample ID: 1134506007	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	150	mg/Kg
	Residual Range Organics	193	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP8			
Lab Sample ID: 1134506008	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	404	mg/Kg
	Residual Range Organics	425	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP9			
Lab Sample ID: 1134506009	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	850	mg/Kg
	Residual Range Organics	827	mg/Kg
Client Sample ID: ADOT-ADOT-001-001 SP10			
Lab Sample ID: 1134506010	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	263	mg/Kg
	Residual Range Organics	211	mg/Kg

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Detectable Results Summary

Client Sample ID: **ADOT-ADOT-001-001 SP12**

Lab Sample ID: 1134506011

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	333	mg/Kg
Residual Range Organics	318	mg/Kg

Client Sample ID: **ADOT-ADOT-001-001 SP13**

Lab Sample ID: 1134506012

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Residual Range Organics	59.5	mg/Kg

Client Sample ID: **ADOT-ADOT-001-001 SP14**

Lab Sample ID: 1134506013

Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Residual Range Organics	24.3	mg/Kg



Results of ADOT-ADOT-001-001 SP1

Client Sample ID: ADOT-ADOT-001-001 SP1
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506001
Lab Project ID: 1134506

Collection Date: 09/12/13 03:00
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.0

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 08:12
Container ID: 1134506001-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.691 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 08:12
Container ID: 1134506001-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.691 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP1

Client Sample ID: ADOT-ADOT-001-001 SP1
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506001
Lab Project ID: 1134506

Collection Date: 09/12/13 03:00
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.0

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.75 U, 2.75, 0.826, mg/Kg, 1, 09/17/13 20:01

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 119, 50-150, %, 1, 09/17/13 20:01

Batch Information

Analytical Batch: VFC11629
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/17/13 20:01
Container ID: 1134506001-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:00
Prep Initial Wt./Vol.: 97.313 g
Prep Extract Vol: 43.4424 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 95.1, 72-119, %, 1, 09/17/13 20:01

Batch Information

Analytical Batch: VFC11629
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/17/13 20:01
Container ID: 1134506001-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:00
Prep Initial Wt./Vol.: 97.313 g
Prep Extract Vol: 43.4424 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP2

Client Sample ID: ADOT-ADOT-001-001 SP2
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506002
Lab Project ID: 1134506

Collection Date: 09/12/13 03:05
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.2

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 08:33
Container ID: 1134506002-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.471 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 08:33
Container ID: 1134506002-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.471 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP2

Client Sample ID: ADOT-ADOT-001-001 SP2
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506002
Lab Project ID: 1134506

Collection Date: 09/12/13 03:05
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.2

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.47 U, 2.47, 0.742, mg/Kg, 1, 09/17/13 20:19

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 144, 50-150, %, 1, 09/17/13 20:19

Batch Information

Analytical Batch: VFC11629
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/17/13 20:19
Container ID: 1134506002-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:05
Prep Initial Wt./Vol.: 125.467 g
Prep Extract Vol: 49.8117 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 96.2, 72-119, %, 1, 09/17/13 20:19

Batch Information

Analytical Batch: VFC11629
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/17/13 20:19
Container ID: 1134506002-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:05
Prep Initial Wt./Vol.: 125.467 g
Prep Extract Vol: 49.8117 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP3

Client Sample ID: **ADOT-ADOT-001-001 SP3**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506003
Lab Project ID: 1134506

Collection Date: 09/12/13 03:10
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.4

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	536	98.2	30.4	mg/Kg	4		09/22/13 08:54
Surrogates							
5a Androstane	91.3	50-150		%	4		09/22/13 08:54

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 08:54
Container ID: 1134506003-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.017 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	325	98.2	30.4	mg/Kg	4		09/22/13 08:54
Surrogates							
n-Triacontane-d62	95.6	50-150		%	4		09/22/13 08:54

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 08:54
Container ID: 1134506003-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.017 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP3

Client Sample ID: **ADOT-ADOT-001-001 SP3**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506003
Lab Project ID: 1134506

Collection Date: 09/12/13 03:10
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.4

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.16 U	2.16	0.649	mg/Kg	1		09/17/13 20:38

Surrogates

4-Bromofluorobenzene	147	50-150		%	1		09/17/13 20:38
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Batch Information

Analytical Batch: VFC11629
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/17/13 20:38
Container ID: 1134506003-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:10
Prep Initial Wt./Vol.: 150.402 g
Prep Extract Vol: 52.9596 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	10.8 U	10.8	3.46	ug/Kg	1		09/17/13 20:38
Ethylbenzene	21.6 U	21.6	6.75	ug/Kg	1		09/17/13 20:38
o-Xylene	21.6 U	21.6	6.75	ug/Kg	1		09/17/13 20:38
P & M -Xylene	43.3 U	43.3	13.0	ug/Kg	1		09/17/13 20:38
Toluene	21.6 U	21.6	6.75	ug/Kg	1		09/17/13 20:38

Surrogates

1,4-Difluorobenzene	94.9	72-119		%	1		09/17/13 20:38
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Batch Information

Analytical Batch: VFC11629
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/17/13 20:38
Container ID: 1134506003-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:10
Prep Initial Wt./Vol.: 150.402 g
Prep Extract Vol: 52.9596 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP4

Client Sample ID: **ADOT-ADOT-001-001 SP4**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506004
Lab Project ID: 1134506

Collection Date: 09/12/13 03:15
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 82.9

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	410	94.5	29.3	mg/Kg	4		09/22/13 09:15
Surrogates							
5a Androstane	88.2	50-150		%	4		09/22/13 09:15

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 09:15
Container ID: 1134506004-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.622 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	345	94.5	29.3	mg/Kg	4		09/22/13 09:15
Surrogates							
n-Triacontane-d62	93.7	50-150		%	4		09/22/13 09:15

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 09:15
Container ID: 1134506004-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.622 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP4

Client Sample ID: ADOT-ADOT-001-001 SP4
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506004
Lab Project ID: 1134506

Collection Date: 09/12/13 03:15
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 82.9

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.11 U, 2.11, 0.633, mg/Kg, 1, 09/17/13 20:57

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 126, 50-150, %, 1, 09/17/13 20:57

Batch Information

Analytical Batch: VFC11629
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/17/13 20:57
Container ID: 1134506004-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:15
Prep Initial Wt./Vol.: 139.521 g
Prep Extract Vol: 48.8296 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 95.2, 72-119, %, 1, 09/17/13 20:57

Batch Information

Analytical Batch: VFC11629
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/17/13 20:57
Container ID: 1134506004-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:15
Prep Initial Wt./Vol.: 139.521 g
Prep Extract Vol: 48.8296 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP5

Client Sample ID: ADOT-ADOT-001-001 SP5
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506005
Lab Project ID: 1134506

Collection Date: 09/12/13 03:20
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 83.7

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 09:36
Container ID: 1134506005-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.37 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 09:36
Container ID: 1134506005-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.37 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP5

Client Sample ID: ADOT-ADOT-001-001 SP5
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506005
Lab Project ID: 1134506

Collection Date: 09/12/13 03:20
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 83.7

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.03 U, 2.03, 0.610, mg/Kg, 1, 09/17/13 21:15

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 119, 50-150, %, 1, 09/17/13 21:15

Batch Information

Analytical Batch: VFC11629
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/17/13 21:15
Container ID: 1134506005-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:20
Prep Initial Wt./Vol.: 141.359 g
Prep Extract Vol: 48.0733 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 95.2, 72-119, %, 1, 09/17/13 21:15

Batch Information

Analytical Batch: VFC11629
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/17/13 21:15
Container ID: 1134506005-B

Prep Batch: VXX25199
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:20
Prep Initial Wt./Vol.: 141.359 g
Prep Extract Vol: 48.0733 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP6

Client Sample ID: **ADOT-ADOT-001-001 SP6**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506006
Lab Project ID: 1134506

Collection Date: 09/12/13 03:25
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 85.4

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	130	23.4	7.26	mg/Kg	1		09/22/13 04:25

Surrogates

5a Androstane	89.6	50-150		%	1		09/22/13 04:25
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Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 04:25
Container ID: 1134506006-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.001 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	137	23.4	7.26	mg/Kg	1		09/22/13 04:25

Surrogates

n-Triacontane-d62	91.3	50-150		%	1		09/22/13 04:25
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Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 04:25
Container ID: 1134506006-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.001 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP6

Client Sample ID: **ADOT-ADOT-001-001 SP6**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506006
Lab Project ID: 1134506

Collection Date: 09/12/13 03:25
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 85.4

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.92 U	1.92	0.575	mg/Kg	1		09/18/13 13:02

Surrogates

4-Bromofluorobenzene	127	50-150		%	1		09/18/13 13:02
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Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 13:02
Container ID: 1134506006-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:25
Prep Initial Wt./Vol.: 138.313 g
Prep Extract Vol: 45.2562 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	9.58 U	9.58	3.07	ug/Kg	1		09/18/13 13:02
Ethylbenzene	19.2 U	19.2	5.98	ug/Kg	1		09/18/13 13:02
o-Xylene	19.2 U	19.2	5.98	ug/Kg	1		09/18/13 13:02
P & M -Xylene	38.3 U	38.3	11.5	ug/Kg	1		09/18/13 13:02
Toluene	19.2 U	19.2	5.98	ug/Kg	1		09/18/13 13:02

Surrogates

1,4-Difluorobenzene	94.6	72-119		%	1		09/18/13 13:02
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Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 13:02
Container ID: 1134506006-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:25
Prep Initial Wt./Vol.: 138.313 g
Prep Extract Vol: 45.2562 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP7

Client Sample ID: ADOT-ADOT-001-001 SP7
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506007
Lab Project ID: 1134506

Collection Date: 09/12/13 03:30
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 83.3

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 04:46
Container ID: 1134506007-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.448 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 04:46
Container ID: 1134506007-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.448 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP7

Client Sample ID: **ADOT-ADOT-001-001 SP7**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506007
Lab Project ID: 1134506

Collection Date: 09/12/13 03:30
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 83.3

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.19 U	2.19	0.656	mg/Kg	1		09/18/13 14:53

Surrogates

4-Bromofluorobenzene	116	50-150		%	1		09/18/13 14:53
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Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 14:53
Container ID: 1134506007-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:30
Prep Initial Wt./Vol.: 127.058 g
Prep Extract Vol: 46.2596 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	10.9 U	10.9	3.50	ug/Kg	1		09/18/13 14:53
Ethylbenzene	21.9 U	21.9	6.82	ug/Kg	1		09/18/13 14:53
o-Xylene	21.9 U	21.9	6.82	ug/Kg	1		09/18/13 14:53
P & M -Xylene	43.7 U	43.7	13.1	ug/Kg	1		09/18/13 14:53
Toluene	21.9 U	21.9	6.82	ug/Kg	1		09/18/13 14:53

Surrogates

1,4-Difluorobenzene	94.6	72-119		%	1		09/18/13 14:53
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Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 14:53
Container ID: 1134506007-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:30
Prep Initial Wt./Vol.: 127.058 g
Prep Extract Vol: 46.2596 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP8

Client Sample ID: ADOT-ADOT-001-001 SP8
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506008
Lab Project ID: 1134506

Collection Date: 09/12/13 03:40
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 82.2

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 09:57
Container ID: 1134506008-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.653 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 09:57
Container ID: 1134506008-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.653 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP8

Client Sample ID: **ADOT-ADOT-001-001 SP8**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506008
Lab Project ID: 1134506

Collection Date: 09/12/13 03:40
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 82.2

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.29 U	2.29	0.687	mg/Kg	1		09/18/13 15:11

Surrogates

4-Bromofluorobenzene	118	50-150		%	1		09/18/13 15:11
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Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 15:11
Container ID: 1134506008-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:40
Prep Initial Wt./Vol.: 125.892 g
Prep Extract Vol: 47.4066 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	11.5 U	11.5	3.66	ug/Kg	1		09/18/13 15:11
Ethylbenzene	22.9 U	22.9	7.15	ug/Kg	1		09/18/13 15:11
o-Xylene	22.9 U	22.9	7.15	ug/Kg	1		09/18/13 15:11
P & M -Xylene	45.8 U	45.8	13.7	ug/Kg	1		09/18/13 15:11
Toluene	22.9 U	22.9	7.15	ug/Kg	1		09/18/13 15:11

Surrogates

1,4-Difluorobenzene	94.6	72-119		%	1		09/18/13 15:11
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Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 15:11
Container ID: 1134506008-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:40
Prep Initial Wt./Vol.: 125.892 g
Prep Extract Vol: 47.4066 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP9

Client Sample ID: ADOT-ADOT-001-001 SP9
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506009
Lab Project ID: 1134506

Collection Date: 09/12/13 03:45
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.4

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 10:17
Container ID: 1134506009-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.541 g
Prep Extract Vol: 1.8 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 10:17
Container ID: 1134506009-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.541 g
Prep Extract Vol: 1.8 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP9

Client Sample ID: **ADOT-ADOT-001-001 SP9**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506009
Lab Project ID: 1134506

Collection Date: 09/12/13 03:45
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.4

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.36 U	2.36	0.709	mg/Kg	1		09/18/13 15:30

Surrogates

4-Bromofluorobenzene	146	50-150		%	1		09/18/13 15:30
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Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 15:30
Container ID: 1134506009-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:45
Prep Initial Wt./Vol.: 135.588 g
Prep Extract Vol: 51.5417 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	11.8 U	11.8	3.78	ug/Kg	1		09/18/13 15:30
Ethylbenzene	23.6 U	23.6	7.37	ug/Kg	1		09/18/13 15:30
o-Xylene	23.6 U	23.6	7.37	ug/Kg	1		09/18/13 15:30
P & M -Xylene	47.3 U	47.3	14.2	ug/Kg	1		09/18/13 15:30
Toluene	23.6 U	23.6	7.37	ug/Kg	1		09/18/13 15:30

Surrogates

1,4-Difluorobenzene	94.4	72-119		%	1		09/18/13 15:30
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Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 15:30
Container ID: 1134506009-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:45
Prep Initial Wt./Vol.: 135.588 g
Prep Extract Vol: 51.5417 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP10

Client Sample ID: ADOT-ADOT-001-001 SP10
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506010
Lab Project ID: 1134506

Collection Date: 09/12/13 04:00
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.3

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 10:38
Container ID: 1134506010-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.605 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 10:38
Container ID: 1134506010-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.605 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP10

Client Sample ID: **ADOT-ADOT-001-001 SP10**
Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
Lab Sample ID: 1134506010
Lab Project ID: 1134506

Collection Date: 09/12/13 04:00
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.3

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.29 U	2.29	0.688	mg/Kg	1		09/18/13 15:48

Surrogates

4-Bromofluorobenzene	128	50-150		%	1		09/18/13 15:48
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Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 15:48
Container ID: 1134506010-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 04:00
Prep Initial Wt./Vol.: 134.683 g
Prep Extract Vol: 50.2089 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	11.5 U	11.5	3.67	ug/Kg	1		09/18/13 15:48
Ethylbenzene	22.9 U	22.9	7.15	ug/Kg	1		09/18/13 15:48
o-Xylene	22.9 U	22.9	7.15	ug/Kg	1		09/18/13 15:48
P & M -Xylene	45.9 U	45.9	13.8	ug/Kg	1		09/18/13 15:48
Toluene	22.9 U	22.9	7.15	ug/Kg	1		09/18/13 15:48

Surrogates

1,4-Difluorobenzene	95.6	72-119		%	1		09/18/13 15:48
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Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 15:48
Container ID: 1134506010-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 04:00
Prep Initial Wt./Vol.: 134.683 g
Prep Extract Vol: 50.2089 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP12

Client Sample ID: ADOT-ADOT-001-001 SP12
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506011
Lab Project ID: 1134506

Collection Date: 09/12/13 03:25
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.0

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 10:59
Container ID: 1134506011-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.019 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 10:59
Container ID: 1134506011-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.019 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP12

Client Sample ID: ADOT-ADOT-001-001 SP12
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506011
Lab Project ID: 1134506

Collection Date: 09/12/13 03:25
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.0

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.38 U, 2.38, 0.715, mg/Kg, 1, 09/18/13 17:09

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 126, 50-150, %, 1, 09/18/13 17:09

Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 17:09
Container ID: 1134506011-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:25
Prep Initial Wt./Vol.: 137.504 g
Prep Extract Vol: 52.4685 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 95.3, 72-119, %, 1, 09/18/13 17:09

Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 17:09
Container ID: 1134506011-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 03:25
Prep Initial Wt./Vol.: 137.504 g
Prep Extract Vol: 52.4685 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP13

Client Sample ID: ADOT-ADOT-001-001 SP13
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506012
Lab Project ID: 1134506

Collection Date: 09/12/13 05:30
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.8

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 05:06
Container ID: 1134506012-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.39 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 05:06
Container ID: 1134506012-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.39 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP13

Client Sample ID: ADOT-ADOT-001-001 SP13
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506012
Lab Project ID: 1134506

Collection Date: 09/12/13 05:30
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 80.8

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.49 U, 2.49, 0.746, mg/Kg, 1, 09/18/13 17:27

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 117, 50-150, %, 1, 09/18/13 17:27

Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 17:27
Container ID: 1134506012-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 05:30
Prep Initial Wt./Vol.: 119.366 g
Prep Extract Vol: 47.9474 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 95.1, 72-119, %, 1, 09/18/13 17:27

Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 17:27
Container ID: 1134506012-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 05:30
Prep Initial Wt./Vol.: 119.366 g
Prep Extract Vol: 47.9474 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP14

Client Sample ID: ADOT-ADOT-001-001 SP14
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506013
Lab Project ID: 1134506

Collection Date: 09/12/13 05:45
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 82.6

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 05:48
Container ID: 1134506013-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.164 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 05:48
Container ID: 1134506013-A

Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.164 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP14

Client Sample ID: ADOT-ADOT-001-001 SP14
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506013
Lab Project ID: 1134506

Collection Date: 09/12/13 05:45
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 82.6

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: Gasoline Range Organics, 2.33 U, 2.33, 0.700, mg/Kg, 1, 09/18/13 18:23

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 4-Bromofluorobenzene, 73.1, 50-150, %, 1, 09/18/13 18:23

Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 18:23
Container ID: 1134506013-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 05:45
Prep Initial Wt./Vol.: 118.364 g
Prep Extract Vol: 45.6065 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row: 1,4-Difluorobenzene, 94.9, 72-119, %, 1, 09/18/13 18:23

Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 18:23
Container ID: 1134506013-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 05:45
Prep Initial Wt./Vol.: 118.364 g
Prep Extract Vol: 45.6065 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP15

Client Sample ID: ADOT-ADOT-001-001 SP15
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506014
Lab Project ID: 1134506

Collection Date: 09/12/13 05:50
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.6

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK102
Analyst: EAB
Analytical Date/Time: 09/22/13 06:08
Container ID: 1134506014-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.447 g
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC11080
Analytical Method: AK103
Analyst: EAB
Analytical Date/Time: 09/22/13 06:08
Container ID: 1134506014-A
Prep Batch: XXX29945
Prep Method: SW3550C
Prep Date/Time: 09/18/13 17:05
Prep Initial Wt./Vol.: 30.447 g
Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:12AM



Results of ADOT-ADOT-001-001 SP15

Client Sample ID: ADOT-ADOT-001-001 SP15
Client Project ID: ADOT-ADOT-001-0001 ColdBaySoil
Lab Sample ID: 1134506014
Lab Project ID: 1134506

Collection Date: 09/12/13 05:50
Received Date: 09/16/13 14:15
Matrix: Soil/Solid (dry weight)
Solids (%): 81.6

Results by Volatile Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Gasoline Range Organics and Surrogates (4-Bromofluorobenzene).

Batch Information

Analytical Batch: VFC11631
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 09/18/13 18:41
Container ID: 1134506014-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 05:50
Prep Initial Wt./Vol.: 126.228 g
Prep Extract Vol: 48.251 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Surrogates (1,4-Difluorobenzene).

Batch Information

Analytical Batch: VFC11631
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 09/18/13 18:41
Container ID: 1134506014-B

Prep Batch: VXX25206
Prep Method: SW5035A
Prep Date/Time: 09/12/13 05:50
Prep Initial Wt./Vol.: 126.228 g
Prep Extract Vol: 48.251 mL

Print Date: 09/24/2013 8:46:12AM



Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **ADOT-ADOT-001-0001 ColdBaySoil**
 Lab Sample ID: 1134506015
 Lab Project ID: 1134506

Collection Date: 09/12/13 03:00
 Received Date: 09/16/13 14:15
 Matrix: Soil/Solid (dry weight)
 Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.52 U	2.52	0.755	mg/Kg	1		09/18/13 14:34

Surrogates

4-Bromofluorobenzene	106	50-150		%	1		09/18/13 14:34
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Batch Information

Analytical Batch: VFC11631
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 09/18/13 14:34
 Container ID: 1134506015-A

Prep Batch: VXX25206
 Prep Method: SW5035A
 Prep Date/Time: 09/12/13 03:00
 Prep Initial Wt./Vol.: 49.659 g
 Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	12.6 U	12.6	4.03	ug/Kg	1		09/18/13 14:34
Ethylbenzene	25.2 U	25.2	7.85	ug/Kg	1		09/18/13 14:34
o-Xylene	25.2 U	25.2	7.85	ug/Kg	1		09/18/13 14:34
P & M -Xylene	50.3 U	50.3	15.1	ug/Kg	1		09/18/13 14:34
Toluene	25.2 U	25.2	7.85	ug/Kg	1		09/18/13 14:34

Surrogates

1,4-Difluorobenzene	95.5	72-119		%	1		09/18/13 14:34
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Batch Information

Analytical Batch: VFC11631
 Analytical Method: SW8021B
 Analyst: ST
 Analytical Date/Time: 09/18/13 14:34
 Container ID: 1134506015-A

Prep Batch: VXX25206
 Prep Method: SW5035A
 Prep Date/Time: 09/12/13 03:00
 Prep Initial Wt./Vol.: 49.659 g
 Prep Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:12AM

Method Blank

Blank ID: MB for HBN 1484582 [SPT/9149]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1178819

QC for Samples:

1134506001, 1134506002, 1134506003, 1134506004, 1134506005, 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014

Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	100			%

Batch Information

Analytical Batch: SPT9149

Analytical Method: SM21 2540G

Instrument:

Analyst: KRL

Analytical Date/Time: 9/17/2013 8:00:00PM

Print Date: 09/24/2013 8:46:15AM

Duplicate Sample Summary

Original Sample ID: 1134532001

Analysis Date: 09/17/2013 20:00

Duplicate Sample ID: 1178820

Matrix: Soil/Solid (dry weight)

QC for Samples:

1134506001, 1134506002, 1134506003, 1134506004, 1134506005, 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014

Results by SM21 2540G

<u>NAME</u>	<u>Original ()</u>	<u>Duplicate ()</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	94.0	93.4	0.67	15.00

Batch Information

Analytical Batch: SPT9149

Analytical Method: SM21 2540G

Instrument:

Analyst: KRL

Print Date: 09/24/2013 8:46:15AM

Method Blank

Blank ID: MB for HBN 1484662 [VXX/25199]

Blank Lab ID: 1178850

QC for Samples:

1134506001, 1134506002, 1134506003, 1134506004, 1134506005

Matrix: Soil/Solid (dry weight)

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.50U	2.50	0.750	mg/Kg
Surrogates				
4-Bromofluorobenzene	95.5	50-150		%

Batch Information

Analytical Batch: VFC11629

Analytical Method: AK101

Instrument: Agilent 7890 PID/FID

Analyst: ST

Analytical Date/Time: 9/17/2013 10:47:00AM

Prep Batch: VXX25199

Prep Method: SW5035A

Prep Date/Time: 9/17/2013 8:00:00AM

Prep Initial Wt./Vol.: 50 g

Prep Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:17AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1134506 [VXX25199]
 Blank Spike Lab ID: 1178853
 Date Analyzed: 09/17/2013 11:42

Spike Duplicate ID: LCSD for HBN 1134506 [VXX25199]
 Spike Duplicate Lab ID: 1178854
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506001, 1134506002, 1134506003, 1134506004, 1134506005

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	10.0	11.1	111	10.0	10.9	109	(60-120)	1.30	(< 20)
Surrogates									
4-Bromofluorobenzene	1.25	96.6	97	1.25	97.3	97	(50-150)	0.78	

Batch Information

Analytical Batch: **VFC11629**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX25199**
 Prep Method: **SW5035A**
 Prep Date/Time: **09/17/2013 08:00**
 Spike Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:17AM

Method Blank

Blank ID: MB for HBN 1484662 [VXX/25199]
 Blank Lab ID: 1178850

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1134506001, 1134506002, 1134506003, 1134506004, 1134506005

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	8.00U	12.5	4.00	ug/Kg
Ethylbenzene	15.6U	25.0	7.80	ug/Kg
o-Xylene	15.6U	25.0	7.80	ug/Kg
P & M -Xylene	30.0U	50.0	15.0	ug/Kg
Toluene	15.6U	25.0	7.80	ug/Kg
Surrogates				
1,4-Difluorobenzene	94.6	72-119		%

Batch Information

Analytical Batch: VFC11629
 Analytical Method: SW8021B
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 9/17/2013 10:47:00AM

Prep Batch: VXX25199
 Prep Method: SW5035A
 Prep Date/Time: 9/17/2013 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1134506 [VXX25199]
 Blank Spike Lab ID: 1178851
 Date Analyzed: 09/17/2013 11:05

Spike Duplicate ID: LCSD for HBN 1134506 [VXX25199]
 Spike Duplicate Lab ID: 1178852
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506001, 1134506002, 1134506003, 1134506004, 1134506005

Results by SW8021B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	1250	1430	115	1250	1380	110	(75-125)	4.20	(< 20)
Ethylbenzene	1250	1380	111	1250	1370	110	(75-125)	1.10	(< 20)
o-Xylene	1250	1380	110	1250	1330	107	(75-125)	3.30	(< 20)
P & M -Xylene	2500	2790	112	2500	2720	109	(80-125)	2.50	(< 20)
Toluene	1250	1380	111	1250	1380	110	(70-125)	0.54	(< 20)

Surrogates

1,4-Difluorobenzene	1250	101	101	1250	98.4	98	(72-119)	2.20	
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Batch Information

Analytical Batch: **VFC11629**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX25199**
 Prep Method: **SW5035A**
 Prep Date/Time: **09/17/2013 08:00**
 Spike Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:18AM



Matrix Spike Summary

Original Sample ID: 1138440001
MS Sample ID: 1178855 MS
MSD Sample ID: 1178856 MSD

Analysis Date: 09/17/2013 12:19
Analysis Date: 09/17/2013 12:37
Analysis Date: 09/17/2013 12:56
Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506001, 1134506002, 1134506003, 1134506004, 1134506005

Results by SW8021B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	9.48U	1293	1487	116	1293	1433	111	75-125	4.20	(< 20)
Ethylbenzene	18.5U	1293	1444	112	1293	1422	111	75-125	0.99	(< 20)
o-Xylene	18.5U	1293	1433	111	1293	1390	108	75-125	3.00	(< 20)
P & M -Xylene	35.6U	2575	2909	113	2575	2834	110	80-125	2.60	(< 20)
Toluene	18.5U	1293	1444	112	1293	1433	111	70-125	0.36	(< 20)
Surrogates										
1,4-Difluorobenzene		1293	1282	100	1293	1250	97	72-119	2.50	

Batch Information

Analytical Batch: VFC11629
Analytical Method: SW8021B
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 9/17/2013 12:37:00PM

Prep Batch: VXX25199
Prep Method: AK101 Extraction (S)
Prep Date/Time: 9/17/2013 8:00:00AM
Prep Initial Wt./Vol.: 52.29g
Prep Extract Vol: 25.00mL

Print Date: 09/24/2013 8:46:19AM

Method Blank

Blank ID: MB for HBN 1484887 [VXX/25206]
 Blank Lab ID: 1179204

Matrix: Soil/Solid (dry weight)

QC for Samples:

1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014, 1134506015

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.50U	2.50	0.750	mg/Kg
Surrogates				
4-Bromofluorobenzene	91.8	50-150		%

Batch Information

Analytical Batch: VFC11631
 Analytical Method: AK101
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 9/18/2013 11:29:00AM

Prep Batch: VXX25206
 Prep Method: SW5035A
 Prep Date/Time: 9/18/2013 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:19AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1134506 [VXX25206]
Blank Spike Lab ID: 1179207
Date Analyzed: 09/18/2013 12:24

Spike Duplicate ID: LCSD for HBN 1134506 [VXX25206]
Spike Duplicate Lab ID: 1179208
Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014, 1134506015

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	10.0	11.1	111	10.0	11.1	111	(60-120)	0.15	(< 20)
Surrogates									
4-Bromofluorobenzene	1.25	89.9	90	1.25	97.2	97	(50-150)	7.80	

Batch Information

Analytical Batch: **VFC11631**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX25206**
Prep Method: **SW5035A**
Prep Date/Time: **09/18/2013 08:00**
Spike Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 10.0 mg/Kg Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:20AM

Method Blank

Blank ID: MB for HBN 1484887 [VXX/25206]
 Blank Lab ID: 1179204

Matrix: Soil/Solid (dry weight)

QC for Samples:

1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014, 1134506015

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	8.00U	12.5	4.00	ug/Kg
Ethylbenzene	15.6U	25.0	7.80	ug/Kg
o-Xylene	15.6U	25.0	7.80	ug/Kg
P & M -Xylene	30.0U	50.0	15.0	ug/Kg
Toluene	15.6U	25.0	7.80	ug/Kg

Surrogates

1,4-Difluorobenzene	94.6	72-119		%
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Batch Information

Analytical Batch: VFC11631
 Analytical Method: SW8021B
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 9/18/2013 11:29:00AM

Prep Batch: VXX25206
 Prep Method: SW5035A
 Prep Date/Time: 9/18/2013 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 1134506 [VXX25206]
 Blank Spike Lab ID: 1179205
 Date Analyzed: 09/18/2013 11:48

Spike Duplicate ID: LCSD for HBN 1134506 [VXX25206]
 Spike Duplicate Lab ID: 1179206
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014, 1134506015

Results by SW8021B

Parameter	Blank Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	1250	1390	111	1250	1360	109	(75-125)	2.30	(< 20)
Ethylbenzene	1250	1390	112	1250	1360	109	(75-125)	2.70	(< 20)
o-Xylene	1250	1350	108	1250	1310	105	(75-125)	2.60	(< 20)
P & M -Xylene	2500	2760	110	2500	2680	107	(80-125)	2.70	(< 20)
Toluene	1250	1400	112	1250	1360	109	(70-125)	2.30	(< 20)

Surrogates

1,4-Difluorobenzene	1250	98.4	98	1250	98.1	98	(72-119)	0.35	
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Batch Information

Analytical Batch: **VFC11631**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX25206**
 Prep Method: **SW5035A**
 Prep Date/Time: **09/18/2013 08:00**
 Spike Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 1250 ug/Kg Extract Vol: 25 mL

Print Date: 09/24/2013 8:46:22AM



Matrix Spike Summary

Original Sample ID: 1134506006
 MS Sample ID: 1179209 MS
 MSD Sample ID: 1179210 MSD

Analysis Date: 09/18/2013 13:02
 Analysis Date: 09/18/2013 13:20
 Analysis Date: 09/18/2013 13:39
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014, 1134506015

Results by SW8021B

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	9.58U	529	593	112	529	596	113	75-125	0.46	(< 20)
Ethylbenzene	19.2U	529	597	113	529	597	113	75-125	0.14	(< 20)
o-Xylene	19.2U	529	577	109	529	577	109	75-125	0.11	(< 20)
P & M -Xylene	38.3U	1059	1171	111	1059	1183	111	80-125	0.15	(< 20)
Toluene	19.2U	529	594	112	529	596	113	70-125	0.25	(< 20)
Surrogates										
1,4-Difluorobenzene		529	519	98	529	519	98	72-119	0.12	

Batch Information

Analytical Batch: VFC11631
 Analytical Method: SW8021B
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 9/18/2013 1:20:00PM

Prep Batch: VXX25206
 Prep Method: AK101 Extraction (S)
 Prep Date/Time: 9/18/2013 8:00:00AM
 Prep Initial Wt./Vol.: 138.31g
 Prep Extract Vol: 25.00mL

Print Date: 09/24/2013 8:46:22AM

Method Blank

Blank ID: MB for HBN 1484690 [XXX/29945]
 Blank Lab ID: 1178974

Matrix: Soil/Solid (dry weight)

QC for Samples:

1134506001, 1134506002, 1134506003, 1134506004, 1134506005, 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	12.4U	20.0	6.20	mg/Kg
Surrogates				
5a Androstane	80.9	60-120		%

Batch Information

Analytical Batch: XFC11080
 Analytical Method: AK102
 Instrument: HP 7890A FID SV E R
 Analyst: EAB
 Analytical Date/Time: 9/22/2013 3:21:00AM

Prep Batch: XXX29945
 Prep Method: SW3550C
 Prep Date/Time: 9/18/2013 5:05:00PM
 Prep Initial Wt./Vol.: 30 g
 Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:23AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1134506 [XXX29945]
 Blank Spike Lab ID: 1178975
 Date Analyzed: 09/22/2013 03:42

Spike Duplicate ID: LCSD for HBN 1134506 [XXX29945]
 Spike Duplicate Lab ID: 1178976
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506001, 1134506002, 1134506003, 1134506004, 1134506005, 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014

Results by AK102

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	167	130	78	167	145	87	(75-125)	11.20	(< 20)
Surrogates									
5a Androstane	3.33	68.4	68	3.33	77.7	78	(60-120)	12.70	

Batch Information

Analytical Batch: **XFC11080**
 Analytical Method: **AK102**
 Instrument: **HP 7890A FID SV E R**
 Analyst: **EAB**

Prep Batch: **XXX29945**
 Prep Method: **SW3550C**
 Prep Date/Time: **09/18/2013 17:05**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:23AM

Method Blank

Blank ID: MB for HBN 1484690 [XXX/29945]
 Blank Lab ID: 1178974

Matrix: Soil/Solid (dry weight)

QC for Samples:

1134506001, 1134506002, 1134506003, 1134506004, 1134506005, 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	12.4U	20.0	6.20	mg/Kg
Surrogates				
n-Triacontane-d62	85.9	60-120		%

Batch Information

Analytical Batch: XFC11080
 Analytical Method: AK103
 Instrument: HP 7890A FID SV E R
 Analyst: EAB
 Analytical Date/Time: 9/22/2013 3:21:00AM

Prep Batch: XXX29945
 Prep Method: SW3550C
 Prep Date/Time: 9/18/2013 5:05:00PM
 Prep Initial Wt./Vol.: 30 g
 Prep Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:24AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1134506 [XXX29945]
Blank Spike Lab ID: 1178975
Date Analyzed: 09/22/2013 03:42

Spike Duplicate ID: LCSD for HBN 1134506 [XXX29945]
Spike Duplicate Lab ID: 1178976
Matrix: Soil/Solid (dry weight)

QC for Samples: 1134506001, 1134506002, 1134506003, 1134506004, 1134506005, 1134506006, 1134506007, 1134506008, 1134506009, 1134506010, 1134506011, 1134506012, 1134506013, 1134506014

Results by AK103

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	167	123	74	167	140	84	(60-120)	12.80	(< 20)
Surrogates									
n-Triacontane-d62	3.33	66.8	67	3.33	78.4	78	(60-120)	16.00	

Batch Information

Analytical Batch: **XFC11080**
Analytical Method: **AK103**
Instrument: **HP 7890A FID SV E R**
Analyst: **EAB**

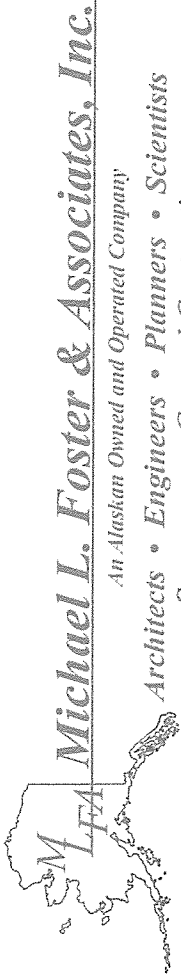
Prep Batch: **XXX29945**
Prep Method: **SW3550C**
Prep Date/Time: **09/18/2013 17:05**
Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
Dupe Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

Print Date: 09/24/2013 8:46:25AM

1134506



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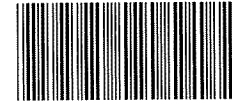


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 An Alaskan Owned and Operated Company
 Architects • Engineers • Planners • Scientists
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 13135 Old Glenn Highway, Suite 210 • Eagle River, Alaska 99577 • Phone: (907) 696-6200 • FAX: (907) 696-6202

Contact: Steven McGee
 Project: Cold Bay Soil Samples
 Project No.: ADOT-ADOT-001-0001
 Reports to: Steven McGee
 Invoice to: MLFA
 EDDs to: swm@mifaalaska.com
 Phone No.: (907) 696-6200
 Fax No.: (907) 696-6202
 Quote No.: E-Mail

Sample ID	Date	Time	Matrix	# of Bottles	DRORRO by AK102/AK103	GRO/BTEX by AK101/8021B (CH3OH preserved)	Remarks
① ADOT-ADOT-001-001 SP1	9/12/13	3:00	S	2	X	X	
② ADOT-ADOT-001-001 SP2	9/12/13	3:05	S	2	X	X	
③ ADOT-ADOT-001-001 SP3	9/12/13	3:10	S	2	X	X	
④ ADOT-ADOT-001-001 SP4	9/12/13	3:15	S	2	X	X	
⑤ ADOT-ADOT-001-001 SP5	9/12/13	3:20	S	2	X	X	
⑥ ADOT-ADOT-001-001 SP6	9/12/13	3:25	S	2	X	X	
⑦ ADOT-ADOT-001-001 SP7	9/12/13	3:30	S	2	X	X	
⑧ ADOT-ADOT-001-001 SP8	9/12/13	3:40	S	2	X	X	
⑨ ADOT-ADOT-001-001 SP9	9/12/13	3:45	S	2	X	X	
⑩ ADOT-ADOT-001-001 SP10	9/12/13	4:00	S	2	X	X	

Collected/Relinquished by: *[Signature]* Date/Time: 9/15/13 14:15
 Received by: *[Signature]* Date/Time: 9/16/13 14:15
 Samples Received Cold? Yes / No Temp? 0.7/25
 Data Deliverables Required: Level 2 Data Deliverables
 EDDs Required: EDDs provided as excel spreadsheet
 Requested TAT: Standard TAT
 Special Instructions:



SAMPLE RECEIPT FORM

Review Criteria:	Condition:	Comments/Action Taken:
Were custody seals intact? Note # & location, if applicable. COC accompanied samples?	Yes No N/A Yes No N/A	CUSTODY SEALS ABSENT
Temperature blank compliant* (i.e., 0-6°C after CF)? <i>* Note: Exemption permitted for chilled samples collected less than 8 hours ago.</i> Cooler ID: <u>RL1</u> <u>001-07</u> @ <u>0.7</u> w/ Therm.ID: <u>205</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ <i>Note: If non-compliant, use form FS-0029 to document affected samples/analyses.</i> If samples are 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 <u>nor</u> cooler temp can be obtained, note "ambient" or "chilled."	Yes No N/A	
If temperature(s) <0°C, were all sample containers ice free?	Yes No N/A	
Delivery method (specify all that apply): <u>Client</u> USPS Alert Courier C&D Delivery AK Air Lynden Carlisle ERA PenAir FedEx UPS NAC Other: → For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?	Note ABN/tracking # See Attached or N/A Yes No N/A	CLIENT DISP OFF
→ For samples received with payment, note amount (\$) and cash / check / CC (circle one) or note: → For samples received in FBKS, ANCH staff will verify all criteria are reviewed.		N/A SRF Initiated by: <u>TM</u> N/A
Were samples received within hold time? <i>Note: Refer to form F-083 "Sample Guide" for hold time information.</i> Do samples match COC* (i.e., sample IDs, dates/times collected)? <i>* Note: Exemption permitted if times differ <1hr; in that case, use times on COC.</i> Were analyses requested unambiguous?	Yes No N/A Yes No N/A Yes No N/A	
Were samples in good condition (no leaks/cracks/breakage)? Packing material used (specify all that apply): Bubble Wrap Separate plastic bags Vermiculite Other:	Yes No N/A	
Were all VOA vials free of headspace (i.e., bubbles ≤6 mm)? Were all soil VOAs field extracted with MeOH+BFB?	Yes No N/A Yes No N/A	
Were proper containers (type/mass/volume/preservative*) used? <i>* Note: Exemption permitted for waters to be analyzed for metals.</i> Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes No N/A Yes No N/A	
For special handling (e.g., "MI" or foreign soils, lab filter, limited volume, Ref Lab), were bottles/paperwork flagged (e.g., sticker)?	Yes No N/A	
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was pH verified and compliant? If pH was adjusted, were bottles flagged (i.e., stickers)?	Yes No N/A Yes No N/A	
For RUSH/SHORT Hold Time, were COC/Bottles flagged accordingly? Was Rush/Short HT email sent, if applicable?	Yes No N/A	
For SITE-SPECIFIC QC, e.g. BMS/BMSD/BDUP, were containers / paperwork flagged accordingly?	Yes No N/A	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	Yes No N/A	SRF Completed by: <u>TM</u> PM = <u>VLP</u> N/A
Was PEER REVIEW of sample numbering/labeling completed?	Yes No N/A	Peer Reviewed by: N/A

Additional notes (if applicable):

-004 B (soil VOA) leaked a liquid, possibly the MeOH - Es 9/16

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

APPENDIX B

Laboratory Data Review Check List

Laboratory Data Review Checklist

Completed by:	Steven W. McGee, E.I.T.		
Title:	Staff Engineer	Date:	Sep 30, 2013
CS Report Name:	Cold Bay ADOT-ADOT-001-0001	Report Date:	Sep 30, 2013
Consultant Firm:	Michael L. Foster & Associates, Inc.		
Laboratory Name:	SGS North America Inc.	Laboratory Report Number:	1134506
ADEC File Number:		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:

All laboratory analysis were performed at SGS North America, Inc.

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 ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No NA (Please explain) Comments:

Cooler samples documented at 0.7 degrees C. Laboratory said cooler temperature was acceptable.

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:

Refer to sample receipt form. All samples were received in good condition.

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:

SP-4 (B) (soil VOA) leaked a liquid, possibly the MeOH. SP-4 was ND for BTEX and according to laboratory Data quality or usability not affected.

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

Comments:

N/A

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:

No discrepancies, errors or QC failures identified by the lab.

c. Were all corrective actions documented?

Yes No NA (Please explain) Comments:

No discrepancies were identified.

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

Comments:

N/A

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:

Data quality or usability was not 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:

N/A

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

Yes No NA (Please explain) Comments:

No affected samples.

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

Comments:

Data quality or usability not affected.

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:

N/A

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

Yes No NA (Please explain) Comments:

All samples are within acceptable limits.

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

Data quality or usability is not affected.

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:

All percent recoveries were reported and within method or laboratory limits.

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:

No failed surrogate recoveries noted by lab.

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

Comments:

Data quality or usability was not affected.

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:

Not noted on COC but referenced on the Sample Receipt Form. The trip blank was present in the cooler.

iii. All results less than PQL?

Yes No NA (Please explain.)

Comments:

iv. If above PQL, what samples are affected?

Comments:

N/A

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

Comments:

Data quality or usability was not affected

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:

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

Yes No NA (Please explain.)

Comments:

All RPD values were below 50%.

f. Decontamination or Equipment Blank (if applicable)

Yes No NA (Please explain)

Comments:

All sampling equipment was disposable and not reused.

i. All results less than PQL?

Yes No NA (Please explain)

Comments:

Equipment Blank was not submitted.

ii. If above PQL, what samples are affected?

Comments:

N/A

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

Comments:

N/A

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

a. Defined and appropriate?

Yes No NA (Please explain)

Comments:

No data flags/qualifiers were identified.

Reset Form



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