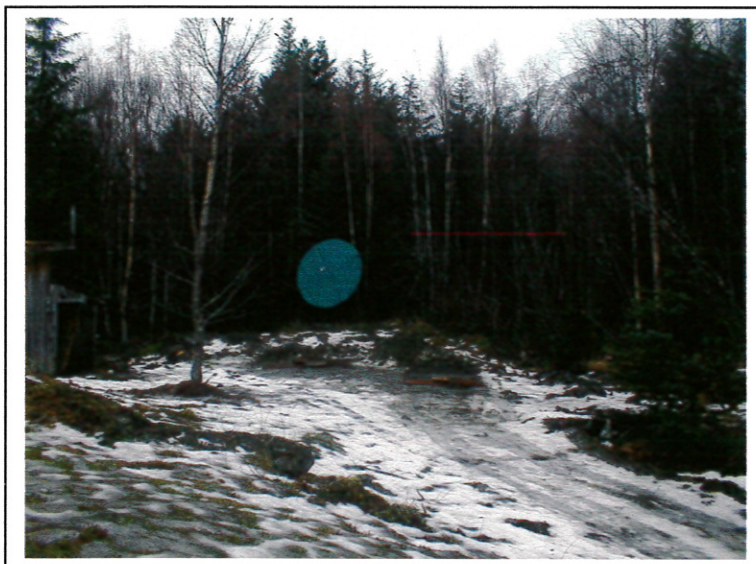


0003

SAMPLE ANALYTICAL REPORT BIRD CREEK STOCKPILE

February 2002



Presented By:



ChemTrack

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Dept. of Environmental Conservation
Underground Storage Tanks — FAP

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ACRONYM LIST

0005

AACAlaska Administrative Code
ADEC.....State of Alaska Department of Environmental Conservation
BTEXBenzene, Toluene, Ethylbenzene, and Xylene
CYCubic Yards
GROGasoline Range Organics
GWGroundwater
NTL.....Northern Testing Laboratories
QA/QCQuality Assurance
QCQuality Control

1.0 Introduction

This report describes the field sampling & laboratory analytical methods and procedures used during sample collection of stockpiled soils located on the Johnston property, Birdcreek, Alaska 99540.

The objective of the sampling was to determine the soil concentrations of Gasoline Range Organics (GRO) and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) components.

Sampling and analytical procedures were conducted in accordance with State of Alaska Department of Environmental Conservation (ADEC) State of Alaska regulations and guidelines per 18 AAC 75 Articles 3 and 9 – January 22, 1999, Underground Storage Tank Procedures Manual - Standard Sampling Procedures December 1, 1999.

2.0 Site Background

Approximately 125 cubic yards of fuel-impacted soils were located at the Bird Creek Texaco station, U.S. Survey 3201, Lot 28, Bird Creek, Alaska, 99540. These soils were relocated to the northwest side of the Johnston property, U.S. Survey 3201, Lot 23 occupying an area approximately 30 ft. by 75 ft. and 18 inches deep. See Figure 1: Site Layout and Sample Locations.

3.0 Sampling Objectives

Sampling objectives included collection and analysis of representative soil samples to determine the GRO and BTEX concentrations. The analytical data will be evaluated by comparing GRO/BTEX concentrations to ADEC Soil Clean Up levels.



Area of stockpiled soil on northwest side of property.

3.1 Sample Collection

Five random, discrete soil samples were collected from the approximately 125 cy stockpile. Samples were collected approximately 8 to 10 inches below surface. See Figure 1: Site Layout and Sample Locations

3.2 Sample Management

Soil samples were collected using clean stainless steel spoons. Soils were immediately placed into laboratory-supplied jars. Samples were field-preserved with 25 ml of methanol. Sample jars were properly labeled and placed into a cooler for transportation to laboratory. Samples were transported and submitted to the laboratory using a chain-of custody form.



3.3 Analytical Data - comparison to ADEC Standards

Laboratory analysis was conducted by Northern Testing Laboratories in Anchorage, Alaska. The complete sample data is presented in Appendix A. A summary of the sample results is presented in the following table:

Sample ID	GRO mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	Xylenes, total mg/Kg
J1	0.686	<MRL	0.010	<MRL	0.015
J2	<MRL	<MRL	<MRL	<MRL	<MRL
J3	<MRL	<MRL	0.012	<MRL	0.017
J4	0.880	<MRL	0.019	0.016	0.072
J5	0.618	<MRL	0.032	0.012	0.062
ADEC*	50	0.02	5.4	5.5	78
MRL = Method Reporting Limit					

* ADEC Soil cleanup standards used for data comparison will include GRO levels per Table A1: Method One: Category A and BTEX levels per Table B1. Method Two, under 40 inch zone, Migration to GW.

3.4 Data Quality Control

Samples were collected by an ADEC qualified Person and submitted to an ADEC approved laboratory (Northern Testing Laboratory located in Anchorage, Alaska). Samples were properly field preserved and placed into appropriate containers. Samples were submitted under chain-of-custody to the laboratory within the required holding times. Samples were extracted and analyzed within required holding times.

Internal laboratory QA/QC included surrogate analysis, travel blank and trip blank analysis. All of these internal standards and procedures met the required QC standards. The sample data presented is determined to be valid and representative.

3.5 ADEC Soil Cleanup Levels

These are the most stringent clean up levels. These levels are summarized as follows

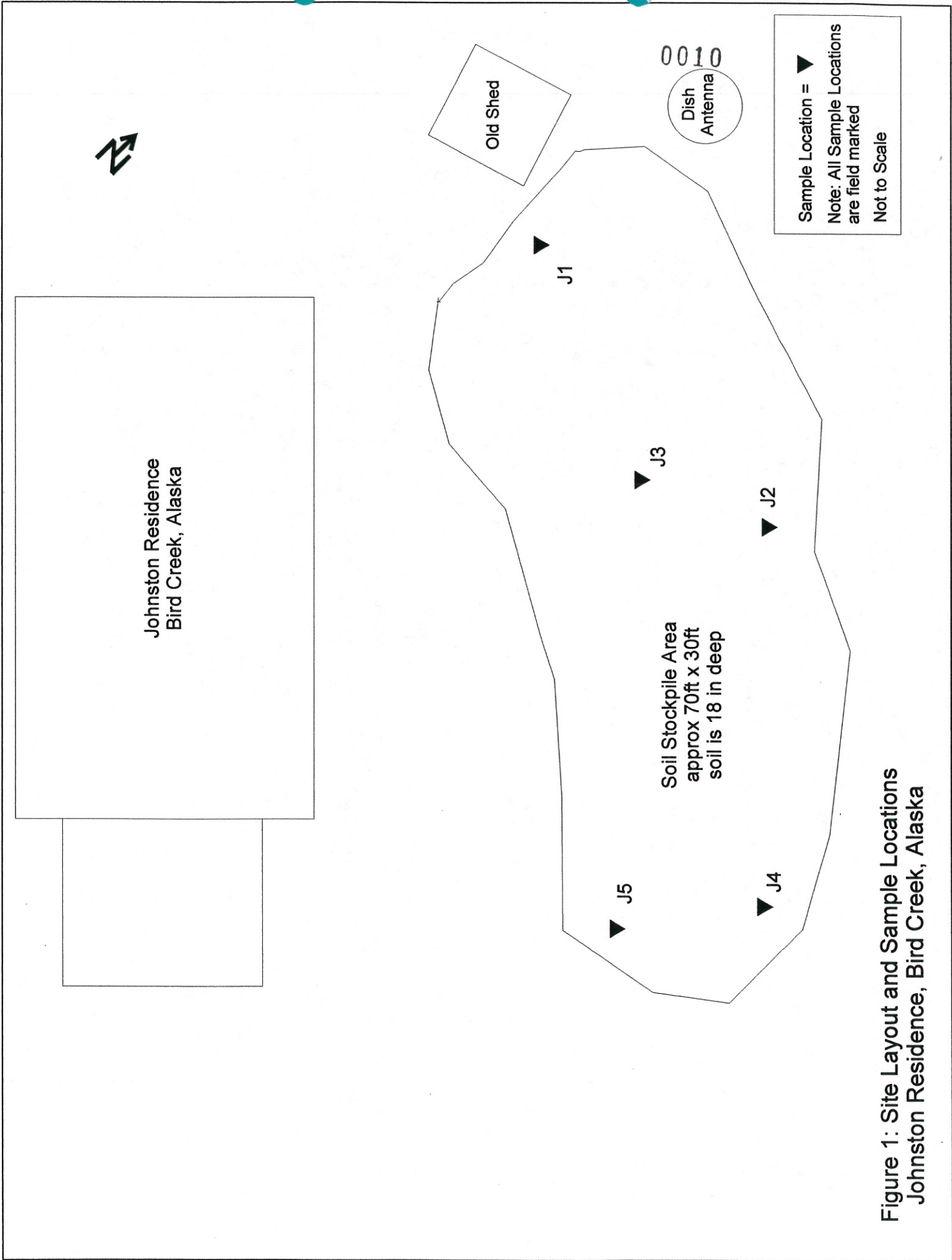
GRO mg/Kg	Benzene mg/Kg	Ethylbenzene mg/Kg	Toluene mg/Kg	Xylenes, total mg/Kg
50	0.02	5.5	5.4	78
18 AAC 75. 341				

4.0 Project Summary

A comparison of the analytical data from samples collected on January 17, 2002 confirms that the GRO and BTEX concentrations for all samples are less than the most stringent allowable ADEC soil clean up levels.

0009

Appendix A
Figure #1: Site Layout and Sample Locations



Johnston Residence
Bird Creek, Alaska

Old Shed

Soil Stockpile Area
approx 70ft x 30ft
soil is 18 in deep

Dish
Antenna

0010

J1

J3

J2

J5

J4

Sample Location = ▼
Note: All Sample Locations
are field marked
Not to Scale

Figure 1: Site Layout and Sample Locations
Johnston Residence, Bird Creek, Alaska

0013

Appendix C
Analytical Reports from Northern Testing Laboratories



NORTHERN TESTING LABORATORIES, INC.

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(907) 349-1000 • FAX 349-1016
(907) 659-2145 • FAX 659-2146

Chemtrack, Inc.
11711 S. Gambell Street
Anchorage, AK 99515

Report Date: 1/25/02
Date Arrived: 1/17/02
Date Sampled: 1/17/02
Time Sampled: 13:05
Collected By: CR

Attn: Charles Ronan
Phone: (907) 349-2511
Fax: (907) 522-3150

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Below Regulatory Minimum
H = Above Regulatory Maximum
M = Matrix Interference
J = Best Available Estimate
U = Less Than Detection Limit
D = Lost To Dilution

NTL Lab#: A300697
Client Sample ID: J 1
Location/Project: Johnston Site
COC #: 31155
Sample Matrix: Solid

Comments:

Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Method	Analysis Date
SM 2540 G									
Total Solids, Percent	93.8	%					1/21/02	SM 2540 G	1/22/02
AK 101									
Gasoline Range Organics (C6-C10)	0.686	mg/dry kg		0.447		AK 101		AK 101	1/21/02
4-Bromofluorobenzene	106	% Recovery							
EPA 8021									
Benzene	< MRL	mg/dry kg	U	0.009		EPA 8021		EPA 8021	1/21/02
Ethylbenzene	< MRL	mg/dry kg	U	0.009					
Toluene	0.010	mg/dry kg		0.009					
m,p-Xylene	0.015	mg/dry kg		0.009					
o-Xylene	< MRL	mg/dry kg	U	0.009					
4-Bromofluorobenzene	81	% Recovery							

Wendy Mitchell
Reported By: Wendy Mitchell
Anchorage Laboratory Manager

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Chemtrack, Inc.
11711 S. Gambell Street
Anchorage, AK 99515

Report Date: 1/25/02
Date Arrived: 1/17/02
Date Sampled: 1/17/02
Time Sampled: 13:15
Collected By: CR

Attn: Charles Ronan
Phone: (907) 349-2511
Fax: (907) 522-3150

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Below Regulatory Minimum
H = Above Regulatory Maximum
M = Matrix Interference
J = Best Available Estimate
U = Less Than Detection Limit
D = Lost To Dilution

NTL Lab#: A300698
Client Sample ID: J 2
Location/Project: Johnston Site
COC #: 31155
Sample Matrix: Solid

Comments:

Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Method	Analysis Date
SM 2540 G									
Total Solids, Percent	88.6	%					1/21/02	SM 2540 G	1/22/02
AK 101									
Gasoline Range Organics (C6-C10)	< MRL	mg/dry kg	U	0.410		AK 101		AK 101	1/21/02
4-Bromofluorobenzene	115	% Recovery							
EPA 8021									
Benzene	< MRL	mg/dry kg	U	0.008		EPA 8021		EPA 8021	1/21/02
Ethylbenzene	< MRL	mg/dry kg	U	0.008					
Toluene	< MRL	mg/dry kg	U	0.008					
m,p-Xylene	< MRL	mg/dry kg	U	0.008					
o-Xylene	< MRL	mg/dry kg	U	0.008					
4-Bromofluorobenzene	89	% Recovery							

Wendy Mitchell
Reported By: Wendy Mitchell
Anchorage Laboratory Manager



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11711 S. Gambell Street
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Attn: Charles Ronan
Phone: (907) 349-2511
Fax: (907) 522-3150

NTL Lab#: A300699
Client Sample ID: J3
Location/Project: Johnston Site
COC #: 31155
Sample Matrix: Solid

Comments:

Report Date: 1/25/02
Date Arrived: 1/17/02
Date Sampled: 1/17/02
Time Sampled: 13:20
Collected By: CR

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Below Regulatory Minimum
H = Above Regulatory Maximum
M = Matrix Interference
J = Best Available Estimate
U = Less Than Detection Limit
D = Lost To Dilution

Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Method	Analysis Date
SM 2540 G									
Total Solids, Percent	87.8	%					1/21/02	SM 2540 G	1/22/02
AK 101									
Gasoline Range Organics (C6-C10)	< MRL	mg/dry kg	U	0.441		AK 101		AK 101	1/21/02
4-Bromofluorobenzene	141	% Recovery							
EPA 8021									
Benzene	< MRL	mg/dry kg	U	0.009		EPA 8021		EPA 8021	1/21/02
Ethylbenzene	< MRL	mg/dry kg	U	0.009					
Toluene	0.012	mg/dry kg		0.009					
m,p-Xylene	0.017	mg/dry kg		0.009					
o-Xylene	< MRL	mg/dry kg	U	0.009					
4-Bromofluorobenzene	105	% Recovery							

wendymitchell
Reported By: Wendy Mitchell
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Report Date: 1/25/02
Date Arrived: 1/17/02
Date Sampled: 1/17/02
Time Sampled: 13:25
Collected By: CR

Attn: Charles Ronan
Phone: (907) 349-2511
Fax: (907) 522-3150

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Below Regulatory Minimum
H = Above Regulatory Maximum
M = Matrix Interference
J = Best Available Estimate
U = Less Than Detection Limit
D = Lost To Dilution

NTL Lab#: A300700
Client Sample ID: J 4
Location/Project: Johnston Site
COC #: 31155
Sample Matrix: Solid

Comments:

Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Method	Analysis Date
SM 2540 G									
Total Solids, Percent	78.6	%					1/21/02	SM 2540 G	1/22/02
AK 101									
Gasoline Range Organics (C6-C10)	0.880	mg/dry kg		0.550		AK 101		AK 101	1/21/02
4-Bromofluorobenzene	110	% Recovery							
EPA 8021									
Benzene	< MRL	mg/dry kg	U	0.011		EPA 8021		EPA 8021	1/21/02
Ethylbenzene	0.016	mg/dry kg		0.011					
Toluene	0.019	mg/dry kg		0.011					
m,p-Xylene	0.052	mg/dry kg		0.011					
o-Xylene	0.020	mg/dry kg		0.011					
4-Bromofluorobenzene	81	% Recovery							

wendymitchell
Reported By: Wendy Mitchell
Anchorage Laboratory Manager

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Chemtrack, Inc.
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Report Date: 1/25/02
Date Arrived: 1/17/02
Date Sampled: 1/17/02
Time Sampled: 13:30
Collected By: CR

Attn: Charles Ronan
Phone: (907) 349-2511
Fax: (907) 522-3150

Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Below Regulatory Minimum
H = Above Regulatory Maximum
M = Matrix Interference
J = Best Available Estimate
U = Less Than Detection Limit
D = Lost To Dilution

NTL Lab#: A300701
Client Sample ID: J 5
Location/Project: Johnston Site
COC #: 31155
Sample Matrix: Solid

Comments:

Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Method	Analysis Date
SM 2540 G									
Total Solids, Percent	91.5	%					1/21/02	SM 2540 G	1/22/02
AK 101									
Gasoline Range Organics (C6-C10)	0.618	mg/dry kg		0.425		AK 101		AK 101	1/22/02
4-Bromofluorobenzene	106	% Recovery							
EPA 8021									
Benzene	< MRL	mg/dry kg	U	0.008		EPA 8021		EPA 8021	1/22/02
Ethylbenzene	0.012	mg/dry kg		0.008					
Toluene	0.032	mg/dry kg		0.008					
m,p-Xylene	0.048	mg/dry kg		0.008					
o-Xylene	0.014	mg/dry kg		0.008					
4-Bromofluorobenzene	71	% Recovery							

Wendy Mitchell
Reported By: Wendy Mitchell
Anchorage Laboratory Manager

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Date Arrived: 1/17/02
Date Sampled:
Time Sampled:
Collected By:

Attn: Charles Ronan
Phone: (907) 349-2511
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Flag Definitions

MRL = Method Reporting Limit
MCL = Maximum Contaminant Level
B = Below Regulatory Minimum
H = Above Regulatory Maximum
M = Matrix Interference
J = Best Available Estimate
U = Less Than Detection Limit
D = Lost To Dilution

NTL Lab#: A300702
Client Sample ID: Travel Blank
Location/Project:
COC #: 31155
Sample Matrix: Solid

Comments:

Parameter	Result	Units	Flag	MRL	MCL	Prep Method	Prep Date	Analysis Method	Analysis Date
AK 101									
Gasoline Range Organics (C6-C10)	< MRL	mg/dry kg	U	1.35		AK 101		AK 101	1/22/02
4-Bromofluorobenzene	149	% Recovery							
EPA 8021									
Benzene	< MRL	mg/dry kg	U	0.027		EPA 8021		EPA 8021	1/21/02
Ethylbenzene	< MRL	mg/dry kg	U	0.027					
Toluene	< MRL	mg/dry kg	U	0.027					
m,p-Xylene	< MRL	mg/dry kg	U	0.027					
o-Xylene	< MRL	mg/dry kg	U	0.027					
4-Bromofluorobenzene	116	% Recovery							

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Reported By: Wendy Mitchell
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