

# Sample Analytical Report

**Johnston Property – Lot 23**  
**Bird Creek, Alaska**  
September, 2002

presented by



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**RECEIVED**  
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Dept. of Environmental Conservation  
Underground Storage Tanks — FAP

**Analytical Report  
Johnston Property – Lot 23  
Bird Creek, AK  
September, 2002**

**1.0 Introduction**

This analytical report presents analytical data for soil samples collected from the Johnston property at Lot 23, Bird Creek, Alaska.

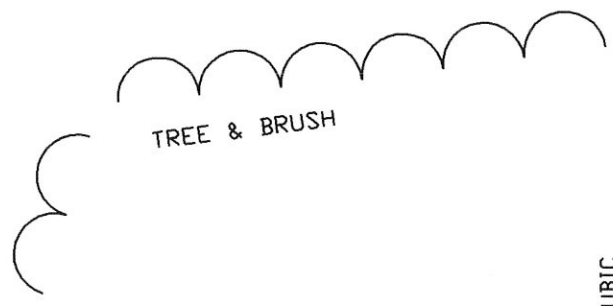
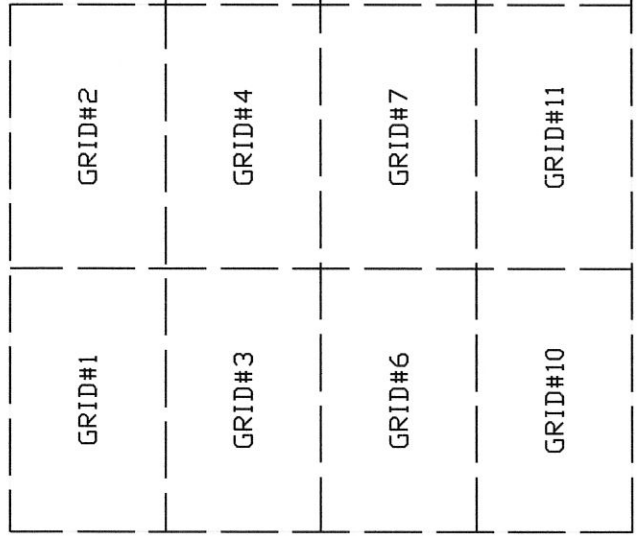
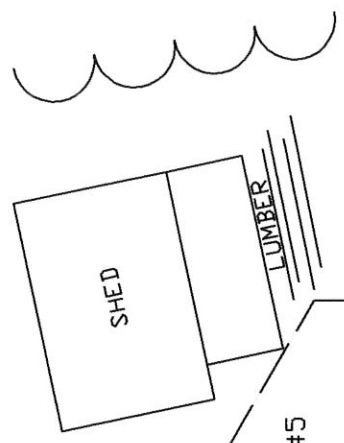
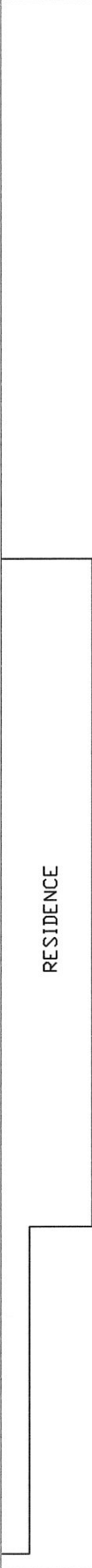
This plan was prepared in accordance with State of Alaska<sup>18</sup> AAC 75, Articles 3 & 9, Jan 22, 1999 and ADEC Underground Storage Tank Procedures Manual - Standard Sampling Procedures, December 1, 1999.

**2.0 Site Background**

In May of 1995, soils from a former gas station UST site were excavated and stockpiled onsite. Subsequently, approximately 125 cubic yards of stockpiled soil were transported to the residence at Lot 23 in Bird Creek.

The soils are assumed to be clean overburden and the material was spread onto the ground in an irregular shaped area approximately 30 feet wide by 75 feet long and to a height of 1.5 feet. See Figure 1 for the general site layout.

A recent review of site data by the ADEC indicated that additional sampling was required of the stockpiled soil and the original surface soil, and that the soil should be field-screened prior to laboratory sample collection.



HS15141

NOTE: APPROXIMATELY (~) 125 CUBIC  
 YARDS OF SOIL IS SPREAD  
 SPREAD ~1.5 FEET THICK OVER  
 A TOTAL AREA OF ~2160  
 SQUARED FEET. EACH GRID IS  
 ~10FT X 17FT HORIZONTAL.

JOHNSTON RESIDENCE  
 SOIL SPREAD GRID  
 BIRD CREEK, ALASKA  
 AUGUST 2002

FIGURE # 1



# LEGEND

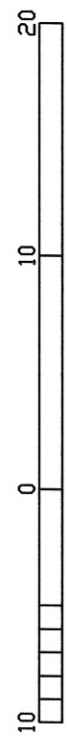
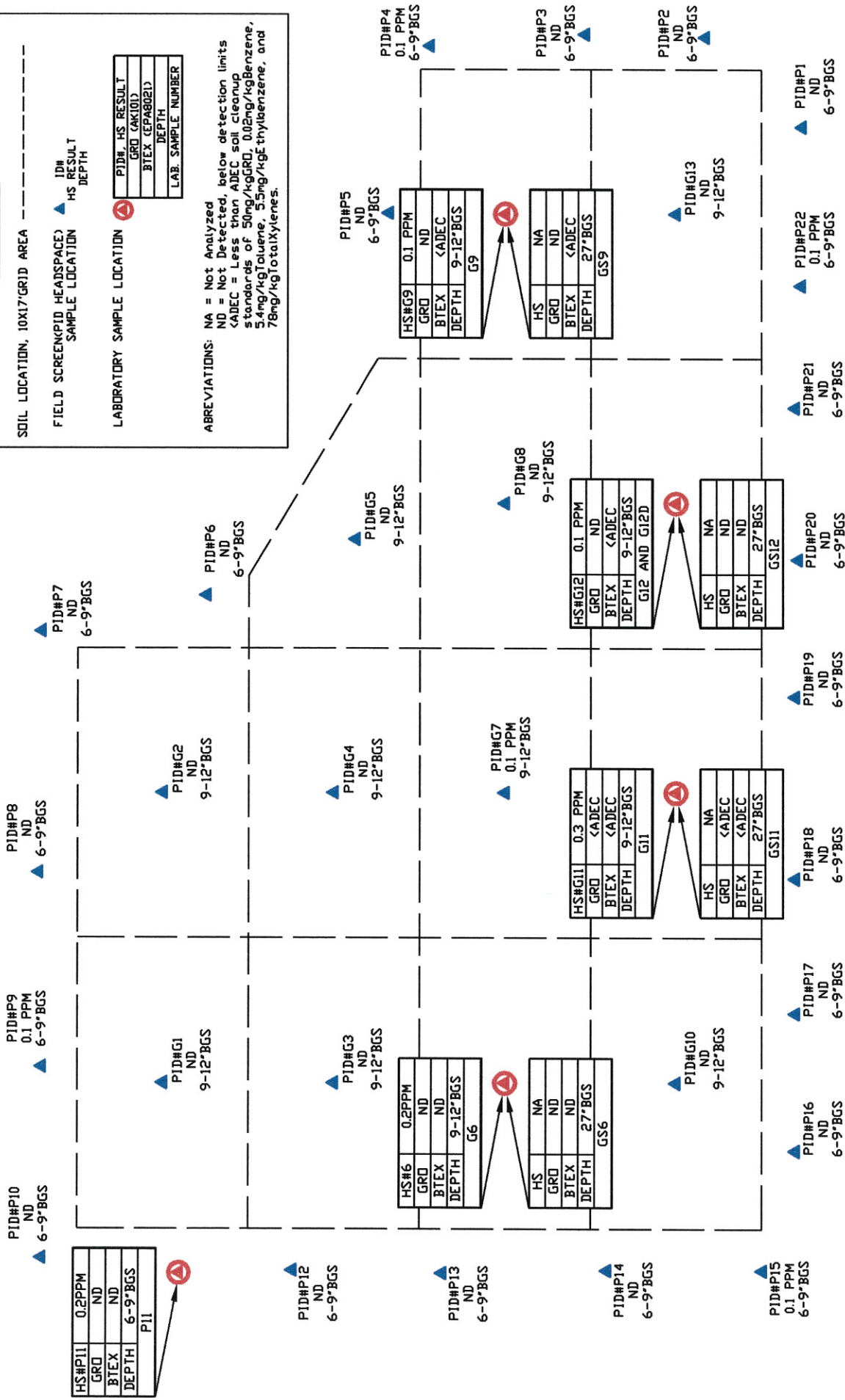
SOIL LOCATION, 10X17' GRID AREA

FIELD SCREENING HEADSPACE) ID# HS RESULT  
SAMPLE LOCATION DEPTH

LABORATORY SAMPLE LOCATION

PID#	HS RESULT
GRD (AK101)	
BTEX (EPAB021)	
DEPTH	
LAB. SAMPLE NUMBER	

ABBREVIATIONS: NA = Not Analyzed  
ND = Not Detected, below detection limits  
<ADEC = Less than ADEC soil cleanup standards of 50mg/kgGRD, 0.02mg/kgBenzene, 5.4mg/kgToluene, 5.5mg/kgEthylbenzene, and 78mg/kgTotalXylenes.



SAMPLES COLLECTED 18 JULY 2002. SEE CDC & COMPLETE ANALYTICAL RESULTS.

JOHNSTON RESIDENCE  
SOIL SAMPLING JULY 2002  
BIRD CREEK, ALASKA  
AUGUST 2002  
FIGURE # 2

### 3.0 Sampling Objectives, Methods, Detection Limits and Frequency

The objective of the sampling activities is to determine the level of gasoline range organics (GRO) and Benzene, Toluene, Ethylbenzene and Xylene (BTEX) constituents in the stockpiled soil and to investigate the possible migration of these hydrocarbons into original soils, both vertically under the stockpile spread and laterally into its perimeter. The following table presents sample sources, analytical methods, practical quantitation limits and sampling frequencies for field-screening and laboratory samples.

Location	Analyte	Method	PQL**	Frequency
Stockpile Soil	GRO BTEX	PID Field-screen	1 ppm	<b>13 total</b> 1 per 10 cubic yds
Stockpile Soil	GRO Benzene BTEX	AK101 EPA 8021 EPA 8021	2 mg/Kg 0.02 mg/Kg 0.05 mg/Kg	<b>5 total*</b> 4 per 125 cy plus 1 duplicate
Original Surface Soil (under stockpile)	GRO Benzene BTEX	AK101 EPA 8021 EPA 8021	2 mg/Kg 0.02 mg/Kg 0.05 mg/Kg	<b>4 total</b> 1 sample below each stockpile sample
Perimeter Original Surface Soil	GRO BTEX	PID Field-screen	1 ppm	<b>22</b>
Perimeter Original Surface Soil	GRO Benzene BTEX	AK101 EPA 8021 EPA 8021	2 mg/Kg 0.02 mg/Kg 0.05 mg/Kg	<b>1</b>
*2 samples per first 50 cy, then 1 additional per each 50 cy – 18 AAC 78.605-C				
** PQL = Practical Quantitation Limit				

**Table 1 – Sampling Locations, Objectives, Methods, Detection Limit and Frequency**

#### 4.0 Project Schedule

Sampling activities were conducted on July 18, 2002. The following table presents a summary of sampling activities and the tentative schedule for each activity.

Sampling Activity	Schedule
Conduct field-screening and soil sampling	July 18, 2002
Submit Samples to Laboratory	July 19, 2002
Review and Validate Analytical Data	August 10, 2002
Present Final Sample Report	September 10, 2002

Table 2: Project Schedule

#### 5.0 Stockpiled Soil - Field Screening and Laboratory Samples

Based on a requirement of one field-screening sample per ten cubic yards, thirteen field-screening samples were collected for the 125 cubic yard stockpile.

The stockpile area was subdivided into thirteen grids, each grid approximately 10 feet by 17 feet in area and containing approximately ten cubic yards. See Figures 1 and 2.

- The thirteen grids were demarcated and labeled G1 through G13. A total of thirteen stockpile soil samples were collected – one from the approximate center of each grid, and field-screened.
- Field screening was conducted using a RAE Professional PID meter. The meter was pre-calibrated using 100-ppm Isobutylene standard calibration gas. Field screening was conducted in accordance with Underground Storage Tank Procedures Manual Section 4.4.2 – Headspace analytical screening procedure.

The following table presents a summary of PID field-screening headspace results for stockpile soils:

G1	G2	G3	G4	G5	G6*	G7	G8	G9*	G10	G11*	G12*	G13
0	0	0	0	0	0.2	0.1	0	0.1	0	0.3	0.1	0
* highest readings												

Table 3: PID measurements (ppm) for stockpile soil samples from 13 Grids

One laboratory sample was collected from each of the four grid areas having the highest PID measurements - G6, G9, G11, and G12. In addition, one duplicate sample was collected from Grid 12 and labeled G-12D. Laboratory samples were collected using clean, disposable spoons and gloves at each sample location.

The five GRO/BTEX samples were field preserved using laboratory supplied methanol preservative. Samples were placed into a cooler for subsequent transportation to the laboratory.

## 6.0 Original Surface Soils – Field Screening and Laboratory Samples

### Substockpile Laboratory Samples

In order to assess potential vertical contaminant migration from the stockpiled soil, laboratory samples were collected from the original surface soil. One sample was collected from under each of the four stockpiled soil sample locations (samples with the most elevated field screening results).

Samples from original surface soils were identified as GS-6, GS-9, GS-11 and GS-12. Each sample was collected from approximately 2 feet to 2.5 feet below ground surface. Laboratory samples were collected using clean, disposable spoons and gloves at each sample location.

The four GRO/BTEX samples were field preserved using laboratory supplied methanol preservative. Samples were placed into a cooler for subsequent transportation to the laboratory.

### Perimeter Field-Screening and Laboratory Samples

In order to assess potential lateral contaminant migration from the stockpiled soil, samples were collected from the original surface soil. Twenty-two soil samples were collected from the perimeter of the stockpile area and field-screened. See Figure 2 for perimeter sampling locations.

Field screening was conducted using a RAE Professional PID meter. The meter was pre-calibrated using 100-ppm Isobutylene standard calibration gas. Field screening was conducted in accordance with Underground Storage Tank Procedures Manual Section 4.4.2 – Headspace analytical screening procedure.

The following table presents a summary of PID field screening headspace results for perimeter soils:

P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
0	0	0	0.1	0	0	0	0	0.1	0	0.2

P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22
0	0	0	0.1	0.1	0	0	0	0	0	0.1

**Table 4: PID measurements (ppm) for perimeter soil samples from 22 locations.**

The sample with the highest PID reading was P11. One laboratory sample was collected from this location. The GRO/BTEX sample was field preserved using laboratory supplied methanol preservative and the sample was placed into a cooler for subsequent transportation to the laboratory.

## 7.0 Analytical Results

Northern Testing Laboratories in Anchorage, Alaska conducted laboratory analysis. ADEC Soil cleanup standards used for data comparison include GRO levels per Table A1: Method One,

Category A. BTEX levels per Table B1: Method Two, under 40-inch zone, Migration to GW. See Appendix A for complete analytical data. A summary of the sample results is presented in the following table:

Sample ID	Type	GRO mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	Xylenes, total mg/Kg
G 6	Stockpiled Soil	<MRL	<MRL	<MRL	<MRL	<MRL
GS 6	Subsurface Soil	<MRL	<MRL	<MRL	<MRL	<MRL
G 9	Stockpiled Soil	<MRL	<MRL	<MRL	0.016	0.014
GS 9	Subsurface Soil	<MRL	<MRL	<MRL	0.019	0.038
G 11	Stockpiled Soil	1.18	<MRL	0.011	0.029	0.07
GS 11	Subsurface Soil	1.35	<MRL	<MRL	0.026	0.046
G 12	Stockpiled Soil	<MRL	<MRL	<MRL	<MRL	<MRL
G 12 D	Stockpiled Soil	<MRL	<MRL	<MRL	0.012	0.028
GS 12	Subsurface Soil	<MRL	<MRL	<MRL	<MRL	<MRL
P 11	Perimeter Soil	<MRL	<MRL	<MRL	<MRL	<MRL
TB	Travel Blank	<MRL	<MRL	<MRL	<MRL	<MRL
ADEC*		50	0.02	5.4	5.5	78
MRL = Method Reporting Limit						

**Table 3: Summary of Sample Analytical Data**

## 8.0 Sample Handling and Management

### Sample Labeling

Sample containers were properly labeled to show sample number, analytical method and name of sampler.

### Sample Field Logbook

Sample number location and sample type were recorded in a field logbook. Additional field logbook sample information includes sample number, field-screening results, date and time of sample collection, location and depth of sample, sample matrix and analytical method and name of person who collected the sample.

### Chain of Custody

A Chain of Custody was utilized to document custody of the samples during transportation to the lab. See Appendix A for complete analytical data.



### Sample Containers, Holding Times and Preservation

Sample handling and analysis was conducted in accordance with ADEC procedures and EPA methodologies. Sample containers, holding times and preservation methods are summarized in Table 3.

Parameter	Matrix	Container	Holding/Preservation
GRO/BTEX	Soil	4oz amber glass w teflon	Methanol < 25C, 28 days

**Table 4: Sample Containers, Holding Times and Preservation**

### **9.0 Investigation Derived Waste**

Disposable sampling equipment, including spoons and gloves, was disposed of at an approved landfill.

### **10.0 QA/QC Program – Data Validation**

The objectives of the QA/QC and Data Validation program are to ensure acceptable sample collection, handling, management and laboratory analysis in accordance with the project objectives and State of Alaska ADEC regulations and requirements to provide valid, representative data in terms of precision, accuracy and reproducibility.

Analytical data was reviewed to evaluate sample handling and management, analytical laboratory Quality Control (QC)/Quality Assurance (QA) procedures during the collection and analysis of soil samples submitted for determination of contaminant levels. The QC review data was evaluated to confirm that the reported sample data was accurate and representative.

Internal laboratory QA/QC protocols include a review of 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.

Field sampling QA/QC procedures include collection of a field duplicate sample (G-12D) and trip blank.

## 11.0 Conclusions

Representative laboratory samples were collected from stockpiled soils, sub-surface (original) soils under the stockpile and perimeter (original) soils. The samples were analyzed for GRO and BTEX constituents.

Soil analytical results confirm that all constituents were either non-detected or detected at levels significantly lower than the most stringent allowable ADEC soil cleanup levels for stockpile, original and perimeter soils.

Based on the analytical data, the stockpiled soil is not impacted with petroleum hydrocarbons and no vertical or lateral contaminant migration occurred at this site.



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

NTL Lab#: A302906  
Client Sample ID: G 6  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 12:44  
Collected By: Ronan/McCain

#### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.021		mg/dry kg	EPA 5030/35		7/29/02
Ethylbenzene	<MRL	0.021		mg/dry kg			
Toluene	<MRL	0.021		mg/dry kg			
m,p-Xylene	<MRL	0.041		mg/dry kg			
o-Xylene	<MRL	0.021		mg/dry kg			
4-Bromofluorobenzene	83			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6- C10)	<MRL	1.04		mg/dry kg	AK 101		7/29/02
4-Bromofluorobenzene	80			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	88.4			%	SM 2540G	7/26/02	7/27/02

*Wendy Mitchell*

Reported By: Wendy Mitchell  
Anchorage Laboratory Manager



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NTL Lab#: A302907  
Client Sample ID: G 9  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 12:49  
Collected By: Ronan/McCain

#### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.007		mg/dry kg	EPA 5030/35		7/29/02
Ethylbenzene	<MRL	0.007		mg/dry kg			
Toluene	0.016	0.007		mg/dry kg			
m,p-Xylene	0.014	0.014		mg/dry kg			
o-Xylene	<MRL	0.007		mg/dry kg			
4-Bromofluorobenzene	70			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6-C10)	<MRL	0.349		mg/dry kg	AK 101		7/29/02
4-Bromofluorobenzene	64			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	91.6			%	SM 2540G	7/26/02	7/27/02

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Anchorage Laboratory Manager



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NTL Lab#: A302908  
Client Sample ID: G 11  
Location:  
Client Project: Johnston  
CO#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 12:51  
Collected By: Ronan/McCain

#### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.008		mg/dry kg	EPA 5030/35		7/30/02
Ethylbenzene	0.011	0.008		mg/dry kg			
Toluene	0.029	0.008		mg/dry kg			
m,p-Xylene	0.050	0.017		mg/dry kg			
o-Xylene	0.020	0.008		mg/dry kg			
4-Bromofluorobenzene	82			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6-C10)	1.18	0.425		mg/dry kg	AK 101		7/30/02
4-Bromofluorobenzene	60			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	93.0			%	SM 2540G	7/26/02	7/27/02

*Wendy Mitchell*

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NTL Lab#: A302909  
Client Sample ID: G 12  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 12:54  
Collected By: Ronan/McCain

#### Flag Definitions

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B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.014		mg/dry kg	EPA 5030/35		7/29/02
Ethylbenzene	<MRL	0.014		mg/dry kg			
Toluene	<MRL	0.014		mg/dry kg			
m,p-Xylene	<MRL	0.027		mg/dry kg			
o-Xylene	<MRL	0.014		mg/dry kg			
4-Bromofluorobenzene	50 M			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6-C10)	<MRL	0.682		mg/dry kg	AK 101		7/29/02
4-Bromofluorobenzene	44 M			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	80.1			%	SM 2540G	7/26/02	7/27/02

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NTL Lab#: A302910  
Client Sample ID: G 12 Dup  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 12:55  
Collected By: Ronan/McCain

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B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.011		mg/dry kg	EPA 5030/35		7/30/02
Ethylbenzene	<MRL	0.011		mg/dry kg			
Toluene	0.012	0.011		mg/dry kg			
m,p-Xylene	0.028	0.023		mg/dry kg			
o-Xylene	<MRL	0.011		mg/dry kg			
4-Bromofluorobenzene	47 M			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6- C10)	<MRL	0.564		mg/dry kg	AK 101		7/30/02
4-Bromofluorobenzene	44 M			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	85.6			%	SM 2540G	7/26/02	7/27/02

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NTL Lab#: A302911  
Client Sample ID: GS 6  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 13:15  
Collected By: Ronan/McCain

### Flag Definitions

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H = Above Regulatory Maximum  
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J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.018		mg/dry kg	EPA 5030/35		7/29/02
Ethylbenzene	<MRL	0.018		mg/dry kg			
Toluene	<MRL	0.018		mg/dry kg			
m,p-Xylene	<MRL	0.036		mg/dry kg			
o-Xylene	<MRL	0.018		mg/dry kg			
4-Bromofluorobenzene	77			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6- C10)	<MRL	0.901		mg/dry kg	AK 101		7/29/02
4-Bromofluorobenzene	71			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	91.6			%	SM 2540G	7/26/02	7/27/02

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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

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

NTL Lab#: A302912  
Client Sample ID: GS 9  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 13:19  
Collected By: Ronan/McCain

### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.012		mg/dry kg	<b>EPA 5030/35</b>		7/29/02
Ethylbenzene	<MRL	0.012		mg/dry kg			
Toluene	0.019	0.012		mg/dry kg			
m,p-Xylene	0.038	0.024		mg/dry kg			
o-Xylene	<MRL	0.012		mg/dry kg			
4-Bromofluorobenzene	71			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6-C10)	<MRL	0.596		mg/dry kg	<b>AK 101</b>		7/29/02
4-Bromofluorobenzene	63			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	90.9			%	<b>SM 2540G</b>	7/26/02	7/27/02

*Wendy Mitchell*

Reported By: Wendy Mitchell  
Anchorage Laboratory Manager



# NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE  
5761 SILVERADO WAY, UNIT N  
POUCH 340043

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

NTL Lab#: A302913  
Client Sample ID: GS 11  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 13:24  
Collected By: Ronan/McCain

#### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.012		mg/dry kg	EPA 5030/35		7/30/02
Ethylbenzene	<MRL	0.012		mg/dry kg			
Toluene	0.026	0.012		mg/dry kg			
m,p-Xylene	0.031	0.024		mg/dry kg			
o-Xylene	0.015	0.012		mg/dry kg			
4-Bromofluorobenzene	79			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6- C10)	1.35	0.599		mg/dry kg	AK 101		7/30/02
4-Bromofluorobenzene	56			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	90.9			%	SM 2540G	7/26/02	7/27/02

*Wendy Mitchell*

Reported By: Wendy Mitchell  
Anchorage Laboratory Manager



# NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE  
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Chemtrack, Inc.  
11711 S. Gambell Street  
Anchorage, AK 99515

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

NTL Lab#: A302914  
Client Sample ID: GS 12  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 13:27  
Collected By: Ronan/McCain

#### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.020		mg/dry kg	EPA 5030/35		7/30/02
Ethylbenzene	<MRL	0.020		mg/dry kg			
Toluene	<MRL	0.020		mg/dry kg			
m,p-Xylene	<MRL	0.039		mg/dry kg			
o-Xylene	<MRL	0.020		mg/dry kg			
4-Bromofluorobenzene	65 M			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6-C10)	<MRL	0.981		mg/dry kg	AK 101		7/30/02
4-Bromofluorobenzene	60			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	78.5			%	SM 2540G	7/26/02	7/27/02

*Wendy Mitchell*

Reported By: Wendy Mitchell  
Anchorage Laboratory Manager



# NORTHERN TESTING LABORATORIES, INC.

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Chemtrack, Inc.  
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Anchorage, AK 99515

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

NTL Lab#: A302915  
Client Sample ID: P 11  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Soil

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date: 7/18/02  
Sample Time: 13:10  
Collected By: Ronan/McCain

#### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.013		mg/dry kg	EPA 5030/35		7/30/02
Ethylbenzene	<MRL	0.013		mg/dry kg			
Toluene	<MRL	0.013		mg/dry kg			
m,p-Xylene	<MRL	0.026		mg/dry kg			
o-Xylene	<MRL	0.013		mg/dry kg			
4-Bromofluorobenzene	80			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6- C10)	<MRL	0.647		mg/dry kg	AK 101		7/30/02
4-Bromofluorobenzene	75			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	87.9			%	SM 2540G	7/26/02	7/27/02

*Wendy Mitchell*

Reported By: Wendy Mitchell  
Anchorage Laboratory Manager



# NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE  
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Chemtrack, Inc.  
11711 S. Gambell Street  
Anchorage, AK 99515

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

NTL Lab#: A302916  
Client Sample ID: Travel Blank  
Location:  
Client Project: Johnston  
COC#: 34165  
Sample Matrix: Solid

Comments:

Report Date: 7/31/02  
Date Arrived: 7/19/02  
Sample Date:  
Sample Time:  
Collected By:

### Flag Definitions

MRL = Method Report Level  
MCL = Max. Contaminant Level  
B = Present in Method Blank  
H = Above Regulatory Maximum  
M = Matrix Interference  
J = Estimated Value Below MRL  
D = Lost to Dilution  
E = Estimated Value

Analysis Method Parameter	Result Flag	MRL	MCL	Units	Prep Method	Prep Date	Analysis Date
<b>EPA 8021</b>							
Benzene	<MRL	0.024		mg/dry kg	EPA 5030/35		7/30/02
Ethylbenzene	<MRL	0.024		mg/dry kg			
Toluene	<MRL	0.024		mg/dry kg			
m,p-Xylene	<MRL	0.048		mg/dry kg			
o-Xylene	<MRL	0.024		mg/dry kg			
4-Bromofluorobenzene	91			% Recovery			
<b>AK 101</b>							
Gasoline Range Organics (C6-C10)	<MRL	1.20		mg/dry kg	AK 101		7/30/02
4-Bromofluorobenzene	87			% Recovery			
<b>SM 2540G</b>							
Total Solids, Percent	100.0			%	SM 2540G	7/26/02	7/27/02

*Wendy Mitchell*

Reported By: Wendy Mitchell  
Anchorage Laboratory Manager



# NORTHERN TESTING LABORATORIES, INC.

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(907) 659-2145 • FAX 659-2146

## ANALYTICAL SERVICES ORDER AND CHAIN OF CUSTODY FORM

№ 34165

PLEASE PRINT CLEARLY & FIRMLY

Client name and address: <i>ChemTRAK Chemtrack</i> <i>11711 S. Campbell</i> <i>Prudhoe AK. 99515</i>		Phone: <i>349-2511</i>	NTL Account Number:																													
Contact: <i>Chris. Roman</i>		FAX: <i>342-3150</i>	PAYMENT INFORMATION: P.O. or Contract #:																													
Reporting Format: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> Data Deliverable		Email: <i>NTL@chemtrak.net</i>	Authorization#:																													
Send results to ADEC: <input type="checkbox"/>		PWS No:	Invoice #:																													
Sampled by: <i>Roman/McCain</i>		Cash or check payable to NTL:																														
Project information: <i>Johnston</i>		Credit Card: (Please call for phone order)																														
Comments: <i>Regular Turnaround Time</i>		<table border="1"> <thead> <tr> <th rowspan="2">Number of Containers</th> <th colspan="2">Requested Analysis</th> </tr> <tr> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="11" style="writing-mode: vertical-rl; transform: rotate(180deg);">600/BTEX % Solids</td> <td></td> <td></td> </tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table>			Number of Containers	Requested Analysis				600/BTEX % Solids																						
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600/BTEX % Solids																																
Client Sample ID:	Sample Date/Time:	Matrix:	NTL ID#:																													
<i>G-6</i>	<i>18 JUL 02 12:44</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G-9</i>	<i>18 JUL 02 12:49</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G-11</i>	<i>18 JUL 02 12:51</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G-12</i>	<i>18 JUL 02 12:51</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G-12 DUP</i>	<i>18 JUL 02 12:55</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G5-6</i>	<i>18 JUL 02 12:15</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G5-9</i>	<i>18 JUL 02 12:19</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G5-11</i>	<i>18 JUL 02 12:24</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>G5-12</i>	<i>18 JUL 02 12:27</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
<i>P-11</i>	<i>18 JUL 02 12:10</i>	<i>Soil</i>		<i>2</i> <i>X</i> <i>X</i>																												
Relinquished by: <i>CR</i>	Date/Time: <i>7/19/02 1020</i>	Received by: <i>MUM</i>		To be completed by NTL Sample Received: <input type="checkbox"/> ANC <input type="checkbox"/> FAI COC Seal Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Temperature on Arrival: _____ °C Comments:																												
Relinquished by:	Date/Time:	Received by:																														
Relinquished by:	Date/Time:	Received by:																														
Client Signature: <i>Charles Roman</i>				Page <u>1</u> of <u>1</u>																												

By signing, I have read and accepted the terms and conditions outlined on the back of this form or as otherwise stipulated in the above referenced contract or purchase order.