

Soil Stockpile Sampling Report
for
Circle S Grocery
22189 North Birchwood Loop Road
Chugiak, Alaska

Prepared For:

Circle S Grocery
22189 North Birchwood Loop Road
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(907) 688-2987

Prepared By:

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2551 Susitna Drive
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October 1999
99-013

1.0 INTRODUCTION

This Soil Stockpile Sampling Report (report) has been prepared by TELLUS, Ltd. (TELLUS) on behalf of Circle S Grocery (CSG) for the property located at 22189 North Birchwood Loop Road, Chugiak, Alaska. TELLUS has performed the associated project tasks in accordance with the Soil Stockpile Sampling Plan submitted to the Alaska Department of Environmental Conservation (ADEC) on July 31, 1999 and 18 AAC 78.

2.0 BACKGROUND

An Underground Storage Tank (UST) Closure Program was conducted by New Horizons Telecom, Inc. in 1995. Soil that was excavated during that UST Closure Program was stockpiled atop a visquene liner and covered. The Site Assessment Report associated with that UST Closure Program is included in the Additional Site Data Section of this document. The New Horizons Telecom report describes the previous work performed and the results obtained at the time of the UST Closure.

The active ADEC File Number for this site is L55.303 while the ADEC Facility Identification Number is 1714. ADEC has also assigned Reckey Number 95-21-00-172-02 to the site.

The objective of this Soil Stockpile Sampling Program was for CSG to identify and characterize the extent of hydrocarbon concentrations existing in the soil stockpiled onsite. This report addresses field activities performed, quality assurance measures implemented, and analytical results obtained.

3.0 FIELD PROGRAM

3.1 Soil Stockpile Assessment

Field screening locations were established on a five foot by five foot grid system and marked using blue survey paint. Soil was collected from depths of at least two feet into the stockpile surface where possible. The thickness of the soil stockpile was the limiting factor for this requirement. A complete copy of the TELLUS Daily Field Report has been attached for review and should be referred to for specific field details.

3.2 Field Screening

An MSA Passport brand photoionization detector (PID) was used for field screening during this project. The PID was calibrated at the beginning and the end of each work shift using isobutylene calibration gas. The first calibration was intended to set the instrument while the post calibration was performed to measure any instrument drift which may have occurred throughout the work shift. The calibration methods were performed in accordance with the manufacturer's guidelines to the nearest tenth of one part per million (ppm). The PID is capable of recording readings in excess of 1000 ppm.

TELLUS personnel are familiar with the operation of this instrument and interpretation of the field screening results based on previous project experience and manufacturer's guidelines. Field screening results were obtained by measuring volatiles from the heated head space of each soil sample obtained. All field screening procedures were conducted per ADEC's UST Procedures Manual dated December, 1998.

4.0 ANALYTICAL PROGRAM

Sampling, packaging, handling, documentation, transportation, and chain of custody procedures were performed per ADEC and EPA guidelines. Soil samples were carefully collected and packaged to minimize disturbance of the sample media. Chain of custody records have been provided as attachments to this report.

Subsurface soil samples collected during this program were submitted to Analytica Alaska, Inc. (Analytica) for analyses. The analytical methods employed during this project included:

- Aromatic Volatile Organics (BTEX) using EPA Method 8021B,
- Gasoline Range Organics (GRO) using Method AK101, and
- Diesel Range Organics (DRO) using Method AK102.

A total of five soil samples were collected and submitted for analyses. The analytical results are summarized in the following section while complete copies of Analytica's Laboratory Reports are attached for review.

5.0 ANALYTICAL RESULTS

Soil Stockpile Sample Results Circle S Grocery, Chugiak, Alaska

<i>Sample</i>	<i>PID</i>	<i>Benzene</i>	<i>BTEX</i>	<i>GRO</i>	<i>DRO</i>	<i>Units</i>
SP1	0.2	ND	1.412	16	26	mg/kg
SP2	0.2	ND	1.495	38	20	mg/kg
SP3	0.1	ND	0.282	5.2	11	mg/kg
SP4	0.1	ND	0.649	13	17	mg/kg
SP5	0.1	ND	0.334	4.0	11	mg/kg

As indicated by the analytical results summarized above, trace concentrations of petroleum hydrocarbon constituents exist in the soil stockpile located onsite.

6.0 QUALITY ASSURANCE/QUALITY CONTROL

TELLUS personnel performing environmental monitoring and sampling during this program, were qualified based on the requirements set forth in 18 AAC 78 and have been approved by ADEC. Required decontamination activities were conducted per OSHA, ADEC, and EPA regulations.

Analytica is approved by ADEC to perform all analytical tests utilized during this program. All quality assurance and quality control measures were adhered to while conducting data acquisition and validation activities. Complete copies of Analytica's Laboratory Reports along with the quality assurance/quality control information are attached for review.

7.0 CONCLUSIONS

Petroleum hydrocarbon concentrations detected in all five of the soil stockpile confirmation samples were found to be below ADEC Cleanup Levels for soil as defined using both Table A1, Method One - Category A of 18 AAC 75.341 and Table B1, Method Two of 18 AAC 75.341.

Based on the field work performed and the analytical results obtained from the confirmation soil samples, the soil stockpile can be classified as being within ADEC Cleanup Levels for this site. State of Alaska regulations allow for onsite disposal provided that prior approval is obtained from ADEC.



ANALYTICA
ALASKA INC.

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LGN: A101034
CSN:

Chain of Custody Record / Analysis Request

Company Name TELLUS, Ltd.	Project Name CIRCLE S GROCERY	Company Address 2551 SOUTHWAY DR ANC, AK. 99517	Telephone 907.248.8055	FAX 907.243.0877	Sample ID	Date Collected	Time Collected	Matrix (Circle One) Soil/Water	# Containers			LAB ID
									8 oz Glass	4 oz Glass	40 ml. VOA/CI	
					SP1	9/13/99		SOIL	1	1	1	
					SP2				1	1	1	
					SP3				1	1	1	
					SP4				1	1	1	
					SP5				1	1	1	

COMMENTS
INVOICE TELLUS, Ltd. Thank you!
RESULTS TO TELLUS, Ltd. post

DELIVERABLES
 Level
 ADEC Format
 ACOE
 Other
 EDF - Format: specify

TURNAROUND
 2 Business Days
 5 Business Days
 10-15 Business Days
 Other: #Business Days

ANALYTICA USE ONLY:
 Airbill / Freight #: **HAND DEL.**
 Condition of Sample Containers:
 Temp Received: **40** °C
 # of Coolers: **ONE**
 Seals: **N/A**

RECEIVED BY:
 Signature: [Signature]
 Printed Name: [Name]
 Firm: [Firm]
 Date/Time: [Date/Time]

RELIQUISHED BY:
 Signature: [Signature]
 Printed Name: [Name]
 Firm: [Firm]
 Date/Time: [Date/Time]

RECEIVED BY (SAMPLER):
 Signature: [Signature]
 Printed Name: [Name]
 Firm: [Firm]
 Date/Time: [Date/Time]

RELIQUISHED BY (SAMPLER):
 Signature: [Signature]
 Printed Name: [Name]
 Firm: [Firm]
 Date/Time: [Date/Time]

Page: 1 / OF 1



811 W. 8th Avenue, Anchorage, AK 99501 • (907) 258-2155 • FAX (907) 258-6634

TELLUS LIMITED
2551 SUSITNA DRIVE
ANCHORAGE, AK 99517

Attn: MR. SCOTT ERDMANN

Order #: **A9-09-039**
Date Reported: 10/01/99 17:14
Project Name: **CIRCLE S GROCERY**
Date Received: 09/14/99

SAMPLE IDENTIFICATION

<u>Sample Number</u>	<u>Client Description</u>
01	SP1
02	SP2
03	SP3

<u>Sample Number</u>	<u>Client Description</u>
04	SP4
05	SP5

Enclosed are the analytical results for the submitted samples. All analyses met quality assurance objectives, except where noted in the case narratives. If you have any questions regarding the analyses, please feel free to call.

Sheldon Stone
Technical Manager



Analytica Alaska, Inc.

tabular sample report - fuels

811 W. 8th Ave. Anchorage, AK 99501 Phone-(907)258-2155 FAX-(907)258-6634

AAI Project ID: A909039

Client: **TELLUS LIMITED**

01-Oct-99

Project Name: **CIRCLE S GROCERY**

Sample ID	Client Sample ID	Matrix	Benzene	Toluene	Ethylbenzene	Xylenes, Total	GRO	Units	DRO	RRO	Units	
A909039-01	SP1	SOIL	U (0.012)	0.092 (0.012)	0.12 (0.012)	1.2 (0.012)	16 (1.2)	mg/Kg	26 (4.3)		()	mg/Kg
A909039-02	SP2	SOIL	U (0.010)	0.065 (0.010)	0.23 (0.010)	1.2 (0.010)	38 (1.0)	mg/Kg	20 (4.2)		()	mg/Kg
A909039-03	SP3	SOIL	U (0.014)	0.057 (0.014)	0.045 (0.014)	0.18 (0.014)	5.2 (1.4)	mg/Kg	11 (4.2)		()	mg/Kg
A909039-04	SP4	SOIL	U (0.013)	0.089 (0.013)	0.13 (0.013)	0.43 (0.013)	13 (1.3)	mg/Kg	17 (4.3)		()	mg/Kg
A909039-05	SP5	SOIL	U (0.010)	0.057 (0.010)	0.037 (0.010)	0.24 (0.010)	4.0 (1.0)	mg/Kg	11 (4.4)		()	mg/Kg

The number in parentheses is the reporting limit. "U" Indicates analyte was not detected. "()" Indicates analyte was not analyzed for. "J" indicates value is estimated.

ADEC Laboratory Approval Number: UST-014
LGN NUMBER: A909039

The samples were received properly packed in one cooler at 4.0°C and were refrigerated upon receipt.

QUALITY CONTROL

Except as noted below, all quality control objectives were met for this project.

Data Flag Definitions:

- U - Indicates this analytes was searched for and not detected at the reporting limits listed.
- D - Indicates the surrogate was diluted out of the sample due to high levels of organics native to the samples.
- M - Indicates matrix effects are responsible for surrogate recoveries which are out of limits.
- NC - Indicates analyte was detected in original analysis but not confirmed in secondary analysis.
- DR - Indicates result is from secondary analysis at dilution.
- S - Indicates corrective action did not accomplish desired results or corrective action not performed for cause. See QC Evaluation Summary for details.
- B - Indicates analyte was found in Method Blank. Result should be considered as potentially biased high. See QC Evaluation Summary for details.
- < - Indicates sample not preserved according to AK101 requirements. True value is greater than or equal to the reported value.
- W - Sample reported on a wet weight basis due to missing percent moisture aliquot.
- J - Sample result is estimated. See QC Evaluation Summary for details.

Analyst: _____

Date: _____

10 / 04 / 99

Analyst: _____

Date: _____

10 / 04 / 99

Client ID: SP1 Lab ID: 01A
Test Description: BTEX/GRO in soil-101/8021B Method: AK101/8021B
Collected: 09/13/99 Matrix: SOIL

ANALYSIS DATE: 09/22/99 FILE ID: N9092208.D
ANALYST: SS UNITS: mg/Kg
INSTRUMENT ID: NAT DILUTION: 1
Results reported on a dry weight basis. Percent Moisture: 9.5

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Benzene	71-43-2	U	0.012	
Toluene	108-88-3	0.092	0.012	
Ethylbenzene	100-41-4	0.12	0.012	
Xylenes, Total	1330-20-7	1.2	0.012	
Gasoline Range Organics	VPH	16	1.2	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
1,4-Difluorobenzene (PID)	103 %	60 - 120
p-Bromofluorobenzene (PID)	100 %	60 - 120
1,4-Difluorobenzene (FID)	110 %	60 - 120
p-Bromofluorobenzene (FID)	97 %	60 - 120

Client ID: SP1 Lab ID: 01B
Test Description: DRO in soil by AK102. Method: 3550/AK102
Collected: 09/13/99 Matrix: SOIL

EXTRACTION DATE: 09/15/99 FILE ID: W9092839.D
ANALYSIS DATE: 09/28/99 UNITS: mg/Kg
ANALYST: JKG DILUTION: 1
INSTRUMENT ID: WOOF
Sample reported on a dry weight basis. % MOISTURE: 9.5

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Diesel Range Organics	DRO	26	4.3	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
o-Terphenyl	64 %	60 - 120

Client ID: SP2 Lab ID: 02A
Test Description: BTEX/GRO in soil-101/8021B Method: AK101/8021B
Collected: 09/13/99 Matrix: SOIL

ANALYSIS DATE: 09/22/99 FILE ID: N9092209.D
ANALYST: SS UNITS: mg/Kg
INSTRUMENT ID: NAT DILUTION: 1
Results reported on a dry weight basis. Percent Moisture: 7.4

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Benzene	71-43-2	U	0.010	
Toluene	108-88-3	0.065	0.010	
Ethylbenzene	100-41-4	0.23	0.010	
Xylenes, Total	1330-20-7	1.2	0.010	
Gasoline Range Organics	VPH	38	1.0	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
1,4-Difluorobenzene (PID)	103 %	60 - 120
p-Bromofluorobenzene (PID)	108 %	60 - 120
1,4-Difluorobenzene (FID)	111 %	60 - 120
p-Bromofluorobenzene (FID)	93 %	60 - 120

Client ID: SP2 Lab ID: 02B
Test Description: DRO in soil by AK102. Method: 3550/AK102
Collected: 09/13/99 Matrix: SOIL

EXTRACTION DATE: 09/15/99 FILE ID: W9092840.D
ANALYSIS DATE: 09/28/99 UNITS: mg/Kg
ANALYST: JKG DILUTION: 1
INSTRUMENT ID: WOOF
Sample reported on a dry weight basis. % MOISTURE: 7.4

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Diesel Range Organics	DRO	20	4.2	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
o-Terphenyl	65 %	60 - 120

Client ID: SP3 Lab ID: 03A
Test Description: BTEX/GRO in soil-101/8021B Method: AK101/8021B
Collected: 09/13/99 Matrix: SOIL

ANALYSIS DATE: 09/22/99 FILE ID: N9092210.D
ANALYST: SS UNITS: mg/Kg
INSTRUMENT ID: NAT DILUTION: 1
Results reported on a dry weight basis. Percent Moisture: 7.6

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Benzene	71-43-2	U	0.014	
Toluene	108-88-3	0.057	0.014	
Ethylbenzene	100-41-4	0.045	0.014	
Xylenes, Total	1330-20-7	0.18	0.014	
Gasoline Range Organics	VPH	5.2	1.4	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
1,4-Difluorobenzene (PID)	102 %	60 - 120
p-Bromofluorobenzene (PID)	106 %	60 - 120
1,4-Difluorobenzene (FID)	108 %	60 - 120
p-Bromofluorobenzene (FID)	110 %	60 - 120

Client ID: SP3 Lab ID: 03B
Test Description: DRO in soil by AK102. Method: 3550/AK102
Collected: 09/13/99 Matrix: SOIL

EXTRACTION DATE: 09/15/99 FILE ID: W9092841.D
ANALYSIS DATE: 09/28/99 UNITS: mg/Kg
ANALYST: JKG DILUTION: 1
INSTRUMENT ID: WOOF
Sample reported on a dry weight basis. % MOISTURE: 7.6

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Diesel Range Organics	DRO	11	4.2	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
o-Terphenyl	67 %	60 - 120

Client ID: SP4 Lab ID: 04A
Test Description: BTEX/GRO in soil-101/8021B Method: AK101/8021B
Collected: 09/13/99 Matrix: SOIL

ANALYSIS DATE: 09/22/99 FILE ID: N9092211.D
ANALYST: SS UNITS: mg/Kg
INSTRUMENT ID: NAT DILUTION: 1
Results reported on a dry weight basis. Percent Moisture: 9.5

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Benzene	71-43-2	U	0.013	
Toluene	108-88-3	0.089	0.013	
Ethylbenzene	100-41-4	0.13	0.013	
Xylenes, Total	1330-20-7	0.43	0.013	
Gasoline Range Organics	VPH	13	1.3	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
1,4-Difluorobenzene (PID)	104 %	60 - 120
p-Bromofluorobenzene (PID)	113 %	60 - 120
1,4-Difluorobenzene (FID)	110 %	60 - 120
p-Bromofluorobenzene (FID)	107 %	60 - 120

Client ID: SP4 Lab ID: 04B
Test Description: DRO in soil by AK102. Method: 3550/AK102
Collected: 09/13/99 Matrix: SOIL

EXTRACTION DATE: 09/15/99 FILE ID: W9092842.D
ANALYSIS DATE: 09/28/99 UNITS: mg/Kg
ANALYST: JKG DILUTION: 1
INSTRUMENT ID: WOOF
Sample reported on a dry weight basis. % MOISTURE: 9.5

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Diesel Range Organics	DRO	17	4.3	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
o-Terphenyl	64 %	60 - 120

Client ID: SP5 Lab ID: 05A
Test Description: BTEX/GRO in soil-101/8021B Method: AK101/8021B
Collected: 09/13/99 Matrix: SOIL

ANALYSIS DATE: 09/22/99 FILE ID: N9092212.D
ANALYST: SS UNITS: mg/Kg
INSTRUMENT ID: NAT DILUTION: 1
Results reported on a dry weight basis. Percent Moisture: 8.6

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Benzene	71-43-2	U	0.010	
Toluene	108-88-3	0.057	0.010	
Ethylbenzene	100-41-4	0.037	0.010	
Xylenes, Total	1330-20-7	0.24	0.010	
Gasoline Range Organics	VPH	4.0	1.0	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
1,4-Difluorobenzene (PID)	103 %	60 - 120
p-Bromofluorobenzene (PID)	108 %	60 - 120
1,4-Difluorobenzene (FID)	108 %	60 - 120
p-Bromofluorobenzene (FID)	111 %	60 - 120

Client ID: SP5 Lab ID: 05B
Test Description: DRO in soil by AK102. Method: 3550/AK102
Collected: 09/13/99 Matrix: SOIL

EXTRACTION DATE: 09/15/99 FILE ID: W9092843.D
ANALYSIS DATE: 09/28/99 UNITS: mg/Kg
ANALYST: JKG DILUTION: 1
INSTRUMENT ID: WOOF
Sample reported on a dry weight basis. % MOISTURE: 8.6

<u>PARAMETER</u>	<u>CAS # or ID</u>	<u>RESULT</u>	<u>LIMIT</u>	<u>Q</u>
Diesel Range Organics	DRO	11	4.4	

<u>SURROGATE</u>	<u>%RECOVERY</u>	<u>LIMITS</u>
o-Terphenyl	63 %	60 - 120

Method 8021 from Test Methods for Evaluating Solid Waste, USEPA SW-846, third edition, December 1996, is used for the analysis of volatile organics; benzene, toluene, ethylbenzene, xylenes (BTEX) in a solid matrix.

Method AK101 from the State of Alaska Department of Environmental Conservation (ADEC), Storage Tank Program, Underground Storage Tanks Procedures Manual, 18 AAC 78, as amended through January 31, 1996; is referenced for the analysis of gasoline range organics (GRO).

The quantitation range extends from the beginning of C6 to the beginning of C10.

Method AK102 from the State of Alaska Department of Environmental Conservation (ADEC), Storage Tank Program, Underground Storage Tanks Procedures Manual, 18 AAC 78, as amended through January 31, 1996; is referenced for the analysis of diesel range organics (DRO).

The quantitation range extends from the beginning of C10 to the beginning of C25. The standard used is a 1:1:1 mixture of Kerosine, DF1, and DF2.

Solids are prepared via sonication per AK102 and U.S. EPA SW-846 method 3550.



**ANALYTICA
ALASKA INC.**

QA Summary

“The Science of Analysis, The Art of Service”

Work Order: A909039 Client: TELLUS

CONTROL

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
1	GAS CCV	AK101S T I	S			1.0	1.0	1.0	1.0		SG

Analytes	Theoretical			Detection	Spike	Rec-	Specs		
	Result	Value	Limit	Value	overy	Low	High		
Gasoline Range Organics	1126.0700	1000.0000	100.0000	1100.000	113	75	125	Y	
α,α,α-Trifluorotoluene	50.9290	50.0000	1.0000	50.0000	102	60	120	Y	
p-Bromofluorobenzene-2	98.7820	100.0000	1.0000	100.0000	98.8	60	120	Y	

CONTROL

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
11	GAS CCV	AK101S T I	S			1.0	1.0	1.0	1.0		SG

Analytes	Theoretical			Detection	Spike	Rec-	Specs		
	Result	Value	Limit	Value	overy	Low	High		
Gasoline Range Organics	1029.6910	1000.0000	100.0000	1100.000	103	75	125	Y	
α,α,α-Trifluorotoluene	48.9790	50.0000	1.0000	50.0000	98.0	60	120	Y	
p-Bromofluorobenzene-2	106.9450	100.0000	1.0000	100.0000	107	60	120	Y	

BLANK

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
2	MB1 0915	AK102S B P	S			1.0	25.545	1.0	1.0		JK

Analytes	Detection			Specs		
	Result	Limit	Value	Low	High	
Diesel Range Organics	U	3.9				Y
o-Terphenyl	33.19	0.00	1.96	66.4	60 120	Y

SPIKE

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
11	K909039-05B	AK102S K M	S	10	1		26.127	1.0	1.0		JKG

Analytes	Unspiked	Detection	Spike	Rec-	Specs		
	Result	Limit	Value	overy	Low	High	
Diesel Range Organics	39.0	11.2	4.2	41.9	66.3	60 120	Y
o-Terphenyl	1.38	1.37	0.00	2.09	66.0	60 120	Y

Work Order: A909039 Client: TELLUS

SPIKE DUPLICATE

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
12	K909039-05B	AK102S K M D	S	10	11	1	25.973	1.0	1.0		JKG

Analytes	Unspiked		Detection	Spike	Rec-	Specs		RPD Specs		Reference	
	Result	Result	Limit	Value	overy	Low	High	Low	High	Recovery	RPD
Diesel Range Organics	303.8	11.2	27.5	275.0	106	60	120		20	66.3	46.1 Y
o-Terphenyl	9.94	1.37	0.01	13.75	72.3	60	120			66.0	9.11 Y

SPIKE

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
3	LCS1 0915	AK102S K S	S	2		1.0	26.229	1.0	1.0		JKG

Analytes	Unspiked		Detection	Spike	Rec-	Specs		RPD Specs		Reference	
	Result	Result	Limit	Value	overy	Low	High	Low	High	Recovery	RPD
Diesel Range Organics	30.5	U	3.8	38.1	80.1	60	120				Y
o-Terphenyl	1.38	33.19	0.00	1.91	72.3	60	120				Y

SPIKE DUPLICATE

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
4	LCSD1 0915	AK102S K S D	S	2	3	1.0	25.437	1.0	1.0		JKG

Analytes	Unspiked		Detection	Spike	Rec-	Specs		RPD Specs		Reference	
	Result	Result	Limit	Value	overy	Low	High	Low	High	Recovery	RPD
Diesel Range Organics	35.3	U	3.9	39.3	89.8	60	120		20	80.1	11.4 Y
o-Terphenyl	1.52	33.19	0.00	1.97	77.2	60	120			72.3	6.56 Y

CONTROL

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
1	102 CCV	AK102W T I	W			1.0	1.0	1.0	1.0		JKG

Analytes	Theoretical		Detection	Spike	Rec-	Specs		RPD Specs		Reference	
	Result	Value	Limit	Value	overy	Low	High	Low	High	Recovery	RPD
Diesel Range Organics	898.152	1000.000	200.000	1000.000	89.8	75	125				Y
o-Terphenyl	44.252	50.000	0.050	50.000	88.5	60	120				Y

CONTROL

Seq. Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
13	102 CCV	AK102W T I	W			1.0	1.0	1.0	1.0		JKG

Analytes	Theoretical		Detection	Spike	Rec-	Specs		RPD Specs		Reference	
	Result	Value	Limit	Value	overy	Low	High	Low	High	Recovery	RPD
Diesel Range Organics	1050.572	1000.000	200.000	1000.000	105	75	125				Y
o-Terphenyl	46.341	50.000	0.050	50.000	92.7	60	120				Y

Work Order: A909039 Client: TELLUS

BLANK

Seq.	Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
3	MB	BTXG8S	B P	S			25	5	1.0	1.0	SG	

Analytes	Result	Detection		Specs	
		Limit	Low	High	Ver
Benzene	U	0.0250			Y
Toluene	U	0.0250			Y
Ethylbenzene	U	0.0250			
Xylenes, Total	U	0.0250			
Gasoline Range Organics	U	2.5000			
1,4-Difluorobenzene	1285.425	0.0250	1.2500	103	60 120
p-Bromofluorobenzene	2714.925	0.0250	2.5000	109	60 120
1,4-Difluorobenzene-2	1304.925	0.0250	1.2500	104	60 120
p-Bromofluorobenzene-2	2382.600	0.0250	2.5000	95.3	60 120

SPIKE

Seq.	Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
4	LCS	BTXG8S	K S	S	3		25	5	1.0	1.0	SG	

Analytes	Result	Unspiked Result	Detection Limit	Spike Value	Rec-covery	Specs		
						Low	High	
Benzene	0.3312	U	0.0250	0.3260	102	85	115	Y
Toluene	1.8053	U	0.0250	1.9900	90.7	85	115	Y
Ethylbenzene	0.4604	U	0.0250	0.4450	103	85	115	
Xylenes, Total	2.1553	U	0.0250	2.3350	92.3	85	115	
Gasoline Range Organics	29.8399	U	2.5000	27.5000	109	75	125	
1,4-Difluorobenzene	1.1935	1285.425	0.0250	1.2500	95.5	60	120	
p-Bromofluorobenzene	2.5196	2714.925	0.0250	2.5000	101	60	120	
1,4-Difluorobenzene-2	1.3114	1304.925	0.0250	1.2500	105	60	120	
p-Bromofluorobenzene-2	2.7105	2382.600	0.0250	2.5000	108	60	120	

SPIKE DUPLICATE

Seq.	Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
5	LCSD	BTXG8S	K S D	S	3	4	25	5	1.0	1.0	SG	

Analytes	Result	Unspiked Result	Detection Limit	Spike Value	Rec-covery	Specs		RPD Specs		Reference	
						Low	High	Low	High	Recovery	RPD
Benzene	0.3308	U	0.0250	0.3260	101	85	115	115	102	0.985	Y
Toluene	1.7614	U	0.0250	1.9900	88.5	85	115	115	90.7	2.46	Y
Ethylbenzene	0.4502	U	0.0250	0.4450	101	85	115	115	103	1.96	
Xylenes, Total	2.1010	U	0.0250	2.3350	90.0	85	115	115	92.3	2.52	
Gasoline Range Organics	31.3682	U	2.5000	27.5000	114	75	125	125	109	4.48	
1,4-Difluorobenzene	1.1691	1285.425	0.0250	1.2500	93.5	60	120	120	95.5	2.12	
p-Bromofluorobenzene	2.3968	2714.925	0.0250	2.5000	95.9	60	120	120	101	5.18	
1,4-Difluorobenzene-2	1.3518	1304.925	0.0250	1.2500	108	60	120	120	105	2.82	
p-Bromofluorobenzene-2	2.7812	2382.600	0.0250	2.5000	111	60	120	120	108	2.74	

Work Order: A909039 Client: TELLUS

CONTROL

Seq.	Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
2	8020 CCV	BTX_8S	T I	S			1.0	1.0	1.0	1.0	SG	

Analytes	Theoretical		Detection	Spike	Rec-	Specs		
	Result	Value	Limit	Value	overy	Low	High	
Benzene	50.4970	50.0000	1.0000	13.0400	101	85	115	Y
Toluene	47.8850	50.0000	1.0000	79.6000	95.8	85	115	Y
Ethylbenzene	47.1160	50.0000	1.0000	17.8000	94.2	85	115	
Xylenes, Total	140.9770	150.0000	1.0000	93.4000	94.0	85	115	
1,4-Difluorobenzene	52.7060	50.0000	1.0000	50.0000	105	60	120	
p-Bromofluorobenzene	119.8550	100.0000	1.0000	100.0000	120	60	120	

CONTROL

Seq.	Sample ID	Test Code	Class/ Sub/Dup	Matrix/ Sub	Ref Seq	Spk Seq	Dilution	Weight	Volume	Conv. Factor	Flag	Ver
12	8020 CCV	BTX_8S	T I	S			1.0	1.0	1.0	1.0	SG	

Analytes	Theoretical		Detection	Spike	Rec-	Specs		
	Result	Value	Limit	Value	overy	Low	High	
Benzene	49.1680	50.0000	1.0000	13.0400	98.3	85	115	Y
Toluene	46.6590	50.0000	1.0000	79.6000	93.3	85	115	Y
Ethylbenzene	45.8780	50.0000	1.0000	17.8000	91.8	85	115	
Xylenes, Total	136.9700	150.0000	1.0000	93.4000	91.3	85	115	
1,4-Difluorobenzene	51.4490	50.0000	1.0000	50.0000	103	60	120	
p-Bromofluorobenzene	127.7970	100.0000	1.0000	100.0000	128	60	120	



Support Documentation

"The Science of Analysis, The Art of Service"



Analytica Alaska Inc.

811 W. 8th Ave Anchorage, Alaska 99501 (907) 258-2155 (907) 258-6634 fx (ADEC UST-014)

Sample Cooler Receipt Form

Laboratory Group Number (LGN):	A909039
Date Cooler Opened:	9/14/99
Recipients Initials:	TJ
Client Name:	Tellus
Project Name:	Circle S Grocery

	Cooler #1			Cooler #2			Cooler #3		
Cooler Exam	Yes	No	Specify Temp. (4°C/-2°C):	Yes	No	Specify Temp. (4°C/-2°C):	Yes	No	Specify Temp. (4°C/-2°C):
Cooler Temperature Acceptable?	✓		4.0						
Custody Seals Acceptable?	✓								
Airbills / Delivery Acceptable?	✓								
CoC Included With Cooler?	✓								
Sample Containers Exam	Yes	No		Yes	No		Yes	No	
Sample Condition Acceptable?	✓								
Correct Sampling Containers?	✓								
Correct Sampling Preservative?	✓								
Sufficient Sample Volume?	✓								
Containers Identified Correctly?	✓								
Chain of Custody (CoC) Exam	Yes	No		Yes	No		Yes	No	
Project Identifiable From CoC?	✓								
Signatures/Dates/Times Correct?	✓								
Sample Bottles/CoC Correspond?	✓								

Discrepancy Resolution	
Client Contact & Company:	
Date Contacted:	
Discrepancy:	
Resolution:	



TELLUS, Ltd.
2551 Susitna Drive
Anchorage, AK 99517

DAILY FIELD REPORT

Page 1 of 5

Project Name: CIRCLE S GROCERY

Project Number: 99-013

Location: CHUGIAK, ALASKA

Date: 9/13/99 Time: 1105 HRS

Client / Owner:
POMPI PORTERFIELD

Contact Number:
BRIAN & POMPI PORTERFIELD
907.688-3478

Contractor:
TELLUS, Ltd.

TELLUS Representative:
SCOTT ERDMAN

Weather:
OVERCAST

Equipment Used:
PID, PHOTOS, SAMPLING

INFORMATION:

TRAVELED TO CHUGIAK & LAID OUT GRID SYSTEM ACROSS SOIL STOCKPILE. THE SOIL STOCKPILE IS ACTUALLY A "LIFT" OR "LAYER" OF SOILS PLACED ATOP VISQUENE. THE LAYER WAS RECENTLY WORKED (TURNED) USING A DOZIER/LOADER. THE SOIL LAYER MEASURES 75' X 35' @ ITS LONGEST POINTS. THE LAYER IS BY NO MEANS A RECTANGULAR SHAPED FIGURE. THICKNESS OF THE SOIL LAYER RANGES FROM A FEW INCHES TO APPROX. 3.5 FEET AT ITS HIGHEST

Client Representative:
Contractor Representative: POINT.
TELLUS Representative:
Scott Erdman

Date:
Date:
Date: 9/13/99 Continued X