



Clarus Technologies, LLC  
A Subsidiary of Koniag, Inc.

March 18, 2009

Ms. Susan Schrader  
Alaska Railroad Corporation  
P.O. Box 107500  
Anchorage, Alaska 99510-7500

**Re: Phase II Soil and Groundwater Investigation Report  
Seward Roundhouse  
Seward, Alaska**

Dear Ms. Schrader:

The Alaska Railroad Corporation (ARRC) contracted Clarus Technologies, LLC (Clarus), to assess soil and groundwater conditions at the Seward Roundhouse in Seward, Alaska. The actions performed were specifically intended to identify the present concentrations of diesel-range organics (DRO) in the soil and groundwater related to a 10,000 gallon heating oil underground storage tank (UST) that was removed from the site in 1992.

The site is part of the ARRC Seward Terminal and is located on the north end of the Roundhouse in the Seward, Alaska. The site was the former location of the 10,000-gallon UST. This scope of work included collecting and analyzing one soil and one groundwater sample for DRO concentrations in the vicinity of the south end of the former excavation. The work was conducted in accordance with our June 26, 2008, Work Plan approved by the Alaska Department of Environmental Conservation (ADEC) and the ARRC.

### ***Background Information***

The Yard and Roundhouse were relocated to their present location in 1966 after the 1964 earthquake. During construction fill material consisting of sandy gravel was dredged in from adjacent locations and used to raise the elevation of the Yard. In August 1992 ENSR Consulting & Engineering removed a 10,000-gallon heating oil UST from the site. The UST was designated as Tank 2 and was located approximately 40 feet north of the Roundhouse. Soils observed during the removal included sandy gravel with fine sand and silt. Debris had been observed in the northern end of the 44-foot-long excavation, and the soils displayed a strong septic odor. Groundwater was observed at 7 feet below grade, but the excavation extended to depth of 8.5 feet below grade with some samples collected at 10.5 feet below grade. Soil sample T2-C was collected at the southeast end of the excavation at 10.5 feet below grade and had a DRO concentration of 7,500 milligrams per kilogram (mg/kg). Additional soil excavation to the east was not performed because of the presence of railroad tracks.

A groundwater sample was collected from the excavation and had a reported concentration of 36 parts per million. However, the sample was collected from the open excavation and the sample location was not indicated in the report.

According to the City of Seward, the nearest drinking water well is located 0.5 mile from the site.

### ***Work Performed***

This section describes the soil and groundwater sampling performed by Clarus in July 2008. Tasks included sampling and analysis of soil and groundwater samples. The work was performed in accordance with the ADEC's *18 AAC 75, Oil and Other Hazardous Substances Pollution Control*, dated June 9, 2008. Work was performed by qualified personnel, as per 18 AAC 75.

### ***Soil Sampling***

On July 2, 2008, Clarus advanced one soil boring 50 feet north of the Roundhouse in the former heating oil UST footprint and former excavation (Figure 2). The boring was advanced using a direct-push method. A 5-foot-long sample was collected between 5 and 10 feet below grade. The sample consisted of gray gravelly sand with a trace of silt consistent with the imported fill material. Groundwater was encountered in the boring at 8.5 feet below grade. The soil observed above the groundwater interface in the sample sleeve was collected and submitted to TestAmerica (TA) in Anchorage, Alaska, and analyzed for DRO concentration using Alaska Method AK 102.

### ***Water Sampling***

A temporary groundwater monitoring well was installed approximately 1 foot from the boring location. The temporary well was advanced using a direct-push drill rig. The direct-push technique did not involve generation of soil cuttings. The groundwater sample was collected using a micro-screen sampler set between 7 feet and 12 feet below grade.

The groundwater was purged and the water quality parameters pH, dissolved oxygen concentrations, temperature, conductivity, and oxidation reduction potential (ORP) were monitored throughout purging using a flow-through cell connected to a peristaltic pump. Once the parameters stabilized (dissolved oxygen concentration of 2.58 milligrams per liter [mg/L], pH of 6.79, temperature of 8.51 degrees Celsius, conductivity of 0.740 milliSiemens per centimeter, and ORP of -96 millivolts) the flow-through cell was then disconnected. A low flow rate was used during sampling collection to ensure laminar flow and minimize aeration of the sample.

One sample (MW-1) was collected and submitted to TA in Anchorage, Alaska, to be analyzed for DRO concentration using Alaska Method AK 102.

Sampling, laboratory, and quality assurance procedures were performed in accordance with the State of Alaska UST regulations (Title 18 of the Alaska Administrative Code, Chapter 78 [18

AAC 78], Oil and Other Hazardous Substances Pollution Control (18 AAC 75), and related guidance manuals.

### ***Analytical Results***

Analytical results for the July 2, 2008, sampling event are presented below. Copies of the analytical data reports are included in Appendix A. A data quality assessment is also included in Appendix A.

The DRO concentration in the soil sample (B-1 S-1) was 1,250 mg/kg. The observed DRO concentration exceeded the ADEC Method Two Soil Cleanup Level of 230 mg/kg.

The DRO concentration in the water sample (MW-1) was 0.756 mg/L. The DRO observed concentration observed did not exceed the ADEC Groundwater Cleanup Level of 1.5 mg/L.

### ***Conclusion***

Based on the excavation footprint depicted on Figure 2-4 of the ENSR UST removal report (ENSR 1993) the boring (B-1) and the temporary groundwater monitoring well (MW-1) were both placed within the 1992 excavation footprint. The soil sample was collected from the backfill material that had been imported in 1992. The laboratory data indicated that the groundwater DRO concentration was below the ADEC Groundwater Cleanup Level; however, the soil DRO concentration was above the ADEC Method Two Soil Cleanup Level. It appears that the backfill material in the former excavation was impacted by DRO in the groundwater. However, the DRO level in the groundwater has since decreased below the ADEC cleanup level.

With the exception of soils to the southeast end of the former excavation, the source of the DRO concentration was removed in 1992. Complete cleanup of the soils is not practical due to the close proximity of the railroad tracks east of the former excavation footprint. Although the DRO concentration in the soil is above the ADEC Soil Cleanup level, it appears to be localized. Additionally, the site is located in a large industrial area that has experience large fuel releases during the tsunami following the 1964 earthquake. The groundwater is not impacted above the DRO cleanup level and the closest groundwater well is over a half mile southeast of the site. We recommend the ADEC accept that cleanup has been completed at this site and require no further remedial action.

### ***Information Limitations***

All ADEC soil and groundwater levels included in this report are based on our estimate of site characteristics using the ADEC *oil and Other Hazardous Substances Pollution Control Regulations (18 AAC 75)*, dated June 9, 2008. These levels do not represent ADEC interpretations and are presented only for comparison with your results. By using them, we are not implying that remedial actions at this site are required by the ADEC. Specific ADEC interpretations may involve consideration of other factors, upon which a range of cleanup standards may be established.

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same and similar localities, at the time the work was performed. It is intended for the exclusive use of the ARRC. This letter report is not meant to represent a legal opinion, and no other warranty, express or implied, is made.

We trust this information is sufficient for your needs at this time. Please call the undersigned at (907) 694-4272 if you have further questions.

Sincerely,

**CLARUS TECHNOLOGIES, LLC.**



**RUSSELL G. GRANDEL**  
SENIOR GEOLOGIST



**STEVEN C. GRUHN, P.E.**  
SENIOR ENGINEER

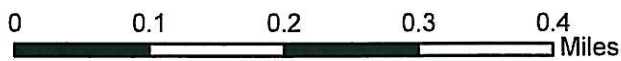
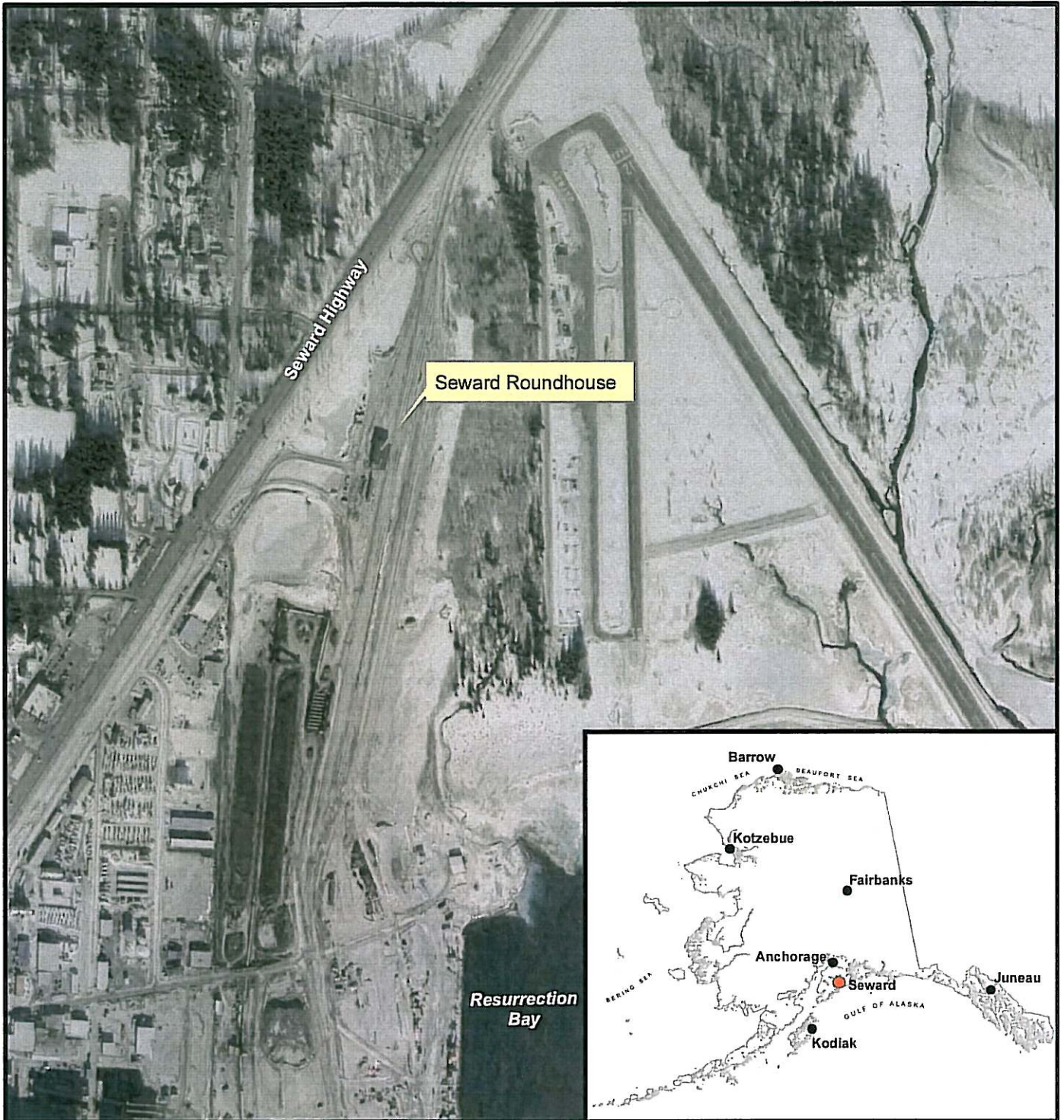
Attachments:

Figure 1: Site Location Map  
Figure 2: Soil Boring and Monitoring Well Locations

Attachment A Data Quality Assessment and Laboratory Analytical Report  
Attachment B Photographic Log

# Site Location Map

Seward Roundhouse  
Seward, Alaska



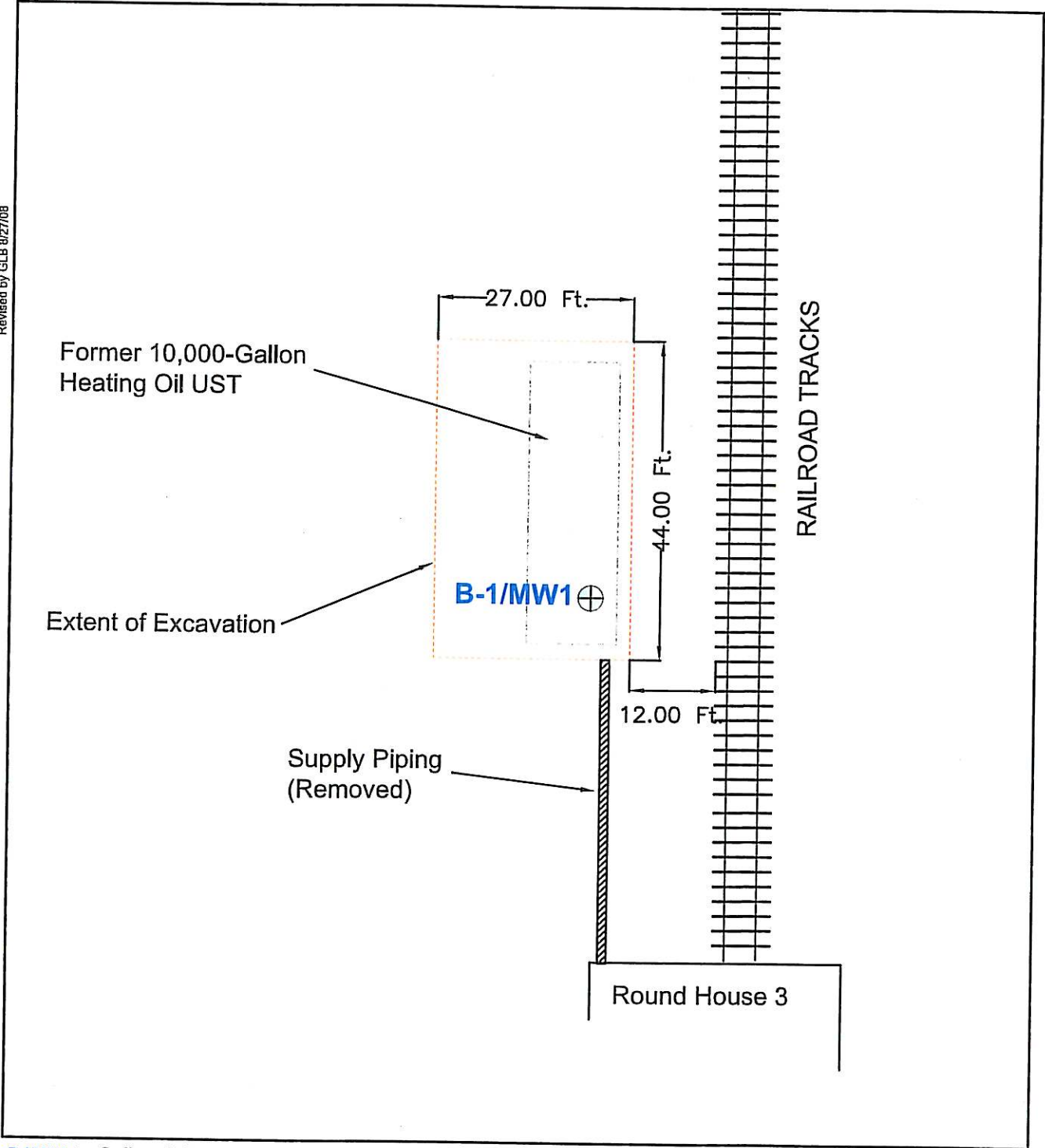
3890-007  
Figure 1

3/09

Source: Aerial photo from Google Earth Pro,  
accessed August, 2008

**Site Plan with Soil and Groundwater Sample Location**  
**Seward Round House**  
**Seward, Alaska**

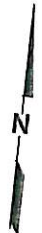
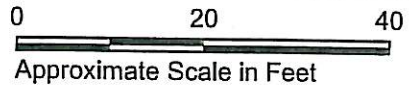
Revised by GLB 8/27/09



B-1/MW1 ⊕ Soil and Groundwater Sample Location and Number

Extent of Excavation

Former UST Location



3890-007

3/09

Figure 2

**APPENDIX A**  
**DATA QUALITY ASSESSMENT AND LABORATORY REPORTS**

## APPENDIX A DATA QUALITY ASSESSMENT

### A1.0 DATA QUALITY ASSESSMENT

The analytical data provided by TestAmerica (TA) for soil and groundwater samples collected from the Alaska Railroad Corporation (ARRC) property known as the Seward Roundhouse in Seward, Alaska, was reviewed for quality. Based on the review, the analytical data are of sufficient quality for the purposes of this project. All data quality assurance/quality control data provided by TA for the soil and groundwater samples collected at the subject property meet the data quality objectives set forth in Title 18 of the Alaska Administrative Code, Chapter 75 (18 AAC 75). The data are accepted for the purposes of this report.

The data review procedures, calculations, and qualifications used for this project are based on the Alaska Department of Environmental Conservation (ADEC) guidance document *Technical Memorandum – 06-002 Environmental Laboratory Data and Quality Assurance Requirements* (dated May 18, 2006).

Analytical results summarizing the analyses of soil and groundwater samples collected from a stockpile and temporary monitoring wells advanced at the subject property were submitted in TA Work Order No. ARG008. Soil and groundwater samples were collected and analyzed in accordance with Alaska Method AK 102.

### A2.0 LABORATORY DATA ASSESSMENT CHECKLIST

#### 1. Laboratory

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

Yes       No      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      Comments: N/A.



2. Chain of Custody (COC)

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

Yes       No      Comments:

b. Correct analyses requested?

Yes       No      Comments:

3. Laboratory Sample receipt documentation

a. Sample/cooler temperature documented and within range at receipt ( $4^{\circ} \pm 2^{\circ}$  C)?

Yes       No      Comments: The sample cooler temperature was reported to be 1.9 degrees Celsius ( $^{\circ}$ C). Although this temperature is below the recommended range, the reported analytical results were deemed acceptable and no data were qualified.

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

Yes       No      Comments: N/A.

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

Yes       No      Comments:

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

Yes       No      Comments:

e. Data quality or usability affected? Explain: No. Although the sample cooler temperature was reported to be 1.9  $^{\circ}$ C, the reported analytical results accepted without qualification.

4. Case Narrative

a. Present and understandable?

Yes       No      Comments:

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

Yes       No      Comments:

c. Were all corrective actions documented?

Yes                       No      Comments: N/A.

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

5. Sample Results

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

Yes       No      Comments:

b. All applicable holding times met?

Yes       No      Comments:

c. All soils reported on a dry weight basis?

Yes       No      Comments:

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

Yes       No      Comments:

e. Data quality or usability affected? Explain: N/A.

6. QC Samples

a. Method Blank

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

Yes       No      Comments:

ii. All method blank results less than PQL?

Yes       No      Comments:

iii. If above PQL, what samples are affected? N/A.

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

Yes       No      Comments: N/A.

v. Data quality or usability affected? Explain: N/A.

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

Yes                       No      Comments:

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

Yes       No      Comments: N/A.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? Or project specified DQOs? (AK Petroleum methods 75-125 %R; all other analyses see the laboratory QC pages)

Yes                       No      Comments:

iii. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? Or project specified DQOs? (AK Petroleum methods 20 %; all other analyses see the laboratory QC pages)

Yes       No      Comments:

iv. If %R or RPD outside of acceptable limits, what samples are affected?  
N/A.

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

Yes       No      Comments: N/A.

vi. Data quality or usability affected? Explain: N/A.

c. Surrogates – Organics only

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

Yes       No      Comments:

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

Yes       No      Comments:

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

Yes       No      Comments: N/A.

iv. Data quality or usability affected? Explain: N/A.

d. Trip Blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): water and soil

i. One trip blank reported per matrix, analysis and cooler?

Yes       No      Comments: N/A.

ii. All results less than PQL?

Yes       No      Comments: N/A.

iii. If above PQL, what samples are affected? N/A.

iv. Data quality or usability affected? Explain: N/A.

e. Field Duplicate

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

Yes       No      Comments: Collection of a field duplicate was not required in the Work Plan.

ii. Submitted blind to lab?

Yes       No      Comments: N/A.

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

Yes       No      Comments: N/A.

iv. Data quality or usability affected? Explain: N/A.

f. Decontamination or Equipment Blank (if applicable)

Yes       No       Not Applicable

i. All results less than PQL?

Yes       No      Comments: N/A.

ii. If above PQL, what samples are affected? N/A.

iii. Data quality or usability affected? Explain: N/A.

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

a. Defined and appropriate

Yes

No

Comments: N/A.



Project Manager:

Date: 3/18/09



Supervisor:

Date: 3/18/09

<b>Clarus</b> 11901 Business Boulevard, Suite 105 Eagle River, ALASKA 99577	Project Name: <b>Seward Roadhouse</b> Project Number: 3980-007 Project Manager: Russell Grandel	Report Created: 07/11/08 15:40
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**Diesel Range Organics (C10-C25) per AK102**  
TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
<b>ARG0008-01 (B-1 S-1)</b>		<b>Soil</b>			<b>Sampled: 07/02/08 12:30</b>						
Diesel Range Organics	AK 102	1250	---	21.2	mg/kg dry	1x	8070012	07/07/08 08:29	07/08/08 16:16	JN	
<i>Surrogate(s): 1-Chlorooctadecane</i>			90.8%		50 - 150 %		"			"	
<b>ARG0008-02 (MW-1)</b>		<b>Water</b>			<b>Sampled: 07/02/08 13:00</b>						
Diesel Range Organics	AK 102	0.756	---	0.410	mg/l	1x	8070015	07/07/08 13:26	07/08/08 19:03	JN	
<i>Surrogate(s): 1-Chlorooctadecane</i>			86.2%		50 - 150 %		"			"	

TestAmerica Anchorage

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Troy J. Engstrom, Lab Director



<b>Clarus</b> 11901 Business Boulevard, Suite 105 Eagle River, ALASKA 99577	Project Name: <b>Seward Roadhouse</b> Project Number: 3980-007 Project Manager: Russell Grandel	Report Created: 07/11/08 15:40
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**Physical Parameters by APHA/ASTM/EPA Methods**  
TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ARG0008-01 (B-1 S-1)											
			Soil					Sampled: 07/02/08 12:30			
Dry Weight	TA-SOP	89.7	---	1.00	%	1x	8070013	07/07/08 10:44	07/08/08 09:10	JN	

TestAmerica Anchorage

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**Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results**  
 TestAmerica Anchorage

<b>QC Batch: 8070012</b>	<b>Soil Preparation Method: EPA 3545</b>
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Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes		
<b>Blank (8070012-BLK1)</b>													Extracted: 07/07/08 08:29			
Diesel Range Organics	AK 102	ND	---	20.0	mg/kg wet	1x	--	--	--	--	--	--	07/08/08 10:09			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 92.3%</i>		<i>Limits: 50-150%</i>										<i>07/08/08 10:09</i>		
<b>LCS (8070012-BS1)</b>													Extracted: 07/07/08 08:29			
Diesel Range Organics	AK 102	116	---	20.0	mg/kg wet	1x	--	130	89.2%	(75-125)	--	--	07/08/08 10:42			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 76.2%</i>		<i>Limits: 60-120%</i>										<i>07/08/08 10:42</i>		
<b>LCS Dup (8070012-BSD1)</b>													Extracted: 07/07/08 08:29			
Diesel Range Organics	AK 102	116	---	20.0	mg/kg wet	1x	--	130	89.2%	(75-125)	0.0516%	(20)	07/08/08 11:16			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 86.7%</i>		<i>Limits: 60-120%</i>										<i>07/08/08 11:16</i>		
<b>Duplicate (8070012-DUP1)</b>													QC Source: ARG0006-02		Extracted: 07/07/08 08:29	
Diesel Range Organics	AK 102	ND	---	23.5	mg/kg dry	1x	ND	--	--	--	65.8%	(20)	07/08/08 10:35	R4		
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 100%</i>		<i>Limits: 50-150%</i>										<i>07/08/08 10:35</i>		
<b>Matrix Spike (8070012-MS1)</b>													QC Source: ARG0006-02		Extracted: 07/07/08 08:29	
Diesel Range Organics	AK 102	172	---	23.2	mg/kg dry	1x	8.59	151	108%	(75-125)	--	--	07/08/08 11:40			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 94.7%</i>		<i>Limits: 50-150%</i>										<i>07/08/08 11:40</i>		
<b>Matrix Spike Dup (8070012-MSD1)</b>													QC Source: ARG0006-02		Extracted: 07/07/08 08:29	
Diesel Range Organics	AK 102	173	---	23.4	mg/kg dry	1x	8.59	152	108%	(75-125)	0.245%	(25)	07/08/08 12:12			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 96.7%</i>		<i>Limits: 50-150%</i>										<i>07/08/08 12:12</i>		

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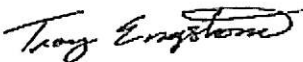
**Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results**  
 TestAmerica Anchorage

<b>QC Batch: 8070015</b>	<b>Water Preparation Method: EPA 3510</b>
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Analyte	Method	Result	MDL <sup>A</sup>	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes		
<b>Blank (8070015-BLK1)</b>													Extracted: 07/07/08 13:26			
Diesel Range Organics	AK 102	ND	---	0.500	mg/l	1x	--	--	--	--	--	--	07/08/08 11:49			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 88.2%</i>		<i>Limits: 50-150%</i>		"						07/08/08 11:49				
<b>LCS (8070015-BS1)</b>													Extracted: 07/07/08 13:26			
Diesel Range Organics	AK 102	9.06	---	0.500	mg/l	1x	--	10.4	87.1%	(75-125)	--	--	07/08/08 12:22			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 83.3%</i>		<i>Limits: 60-120%</i>		"						07/08/08 12:22				
<b>LCS Dup (8070015-BSD1)</b>													Extracted: 07/07/08 13:26			
Diesel Range Organics	AK 102	8.57	---	0.500	mg/l	1x	--	10.4	82.4%	(75-125)	5.62% (20)		07/08/08 12:56			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 70.2%</i>		<i>Limits: 60-120%</i>		"						07/08/08 12:56				
<b>Duplicate (8070015-DUP1)</b>													QC Source: ARG0010-01		Extracted: 07/07/08 13:26	
Diesel Range Organics	AK 102	0.986	---	0.403	mg/l	1x	0.765	--	--	--	25.2% (20)		07/08/08 12:44	R2		
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 82.5%</i>		<i>Limits: 50-150%</i>		"						07/08/08 12:44				

TestAmerica Anchorage

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Troy J. Engstrom, Lab Director



<b>Clarus</b> 11901 Business Boulevard, Suite 105 Eagle River, ALASKA 99577	Project Name: <b>Seward Roadhouse</b> Project Number: 3980-007 Project Manager: Russell Grandel	Report Created: 07/11/08 15:40
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**Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results**  
 TestAmerica Anchorage

QC Batch: 8070013      Soil Preparation Method: \*\*\* DEFAULT PREP

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
<b>Duplicate (8070013-DUP1)</b>			QC Source: ARG0006-03			Extracted: 07/07/08 10:44								
Dry Weight	TA-SOP	93.0	---	1.00	%	1x	93.8	--	--	--	0.861% (25)		07/08/08 09:10	

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## Notes and Definitions

### Report Specific Notes:

- R2 - The RPD exceeded the acceptance limit.
- R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

### Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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 509-924-9200 FAX 924-9290  
 503-906-9200 FAX 906-9210  
 907-563-9200 FAX 563-9210

## CHAIN OF CUSTODY REPORT

Work Order #: **AR6008**

TURNAROUND REQUEST

in Business Days \*

Organic & Inorganic Analyses  
 10  7  5  4  3  2  1  <1

Petroleum Hydrocarbon Analyses  
 4  3  2  1  <1

OTHER  Specify: \_\_\_\_\_

\* Turnaround Requests less than standard may incur Rush Charges.

CLIENT: **Clarus / ARRC**

REPORT TO: **Russell Gardner**

ADDRESS: **4272  
907 694 4272**

PHONE: **907 694 4272**

PROJECT NAME: **Seaward Roundhouse**

PROJECT NUMBER: **3980 - 007 007**

SAMPLED BY: **R. Gardner**

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	INVOICE TO:	P.O. NUMBER:	PRESERVATIVE	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	B-1 S-1	7/2/08 1230	ARRC				S	1		1
2	MW-1	7/2/08 1300					W	2		2
3										
4										
5										
6										
7										
8										
9										
10										

RECEIVED BY: **Russell Gardner** DATE: **7/13/08** TIME: **10:00**

PRINT NAME: **Russell Gardner** FIRM: **Clarus**

RECEIVED BY: **Johnnie Drake** DATE: **07/13/08** TIME: **1:00**

PRINT NAME: **Johnnie Drake** FIRM: **ARC**

ADDITIONAL REMARKS:

TERM: **1A** PAGE **1** OF **1**

TAL-1000(0408)

# Test America Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # AR-008 CLIENT: Clarus PROJECT: Seward Roundhouse

Date/Time Cooler Arrived 07/03/08 10:00 Cooler signed for by: Johanna Droher  
(Print name)

## Preliminary Examination Phase:

Date cooler opened:  same as date received or     /    /    

Cooler opened by (print) Johanna Droher (sign) Johanna Droher

1. Delivered by  ALASKA AIRLINES  Fed-Ex  UPS  NAC  LYNDEN  CLIENT  Other:     

Shipment Tracking # if applicable      (include copy of shipping papers in file)

2. Number of Custody Seals 0 Signed by NA Date     /    /    

Were custody seals unbroken and intact on arrival?  Yes  No

3. Were custody papers sealed in a plastic bag?  Yes  No

4. Were custody papers filled out properly (ink, signed, etc.)?  Yes  No

5. Did you sign the custody papers in the appropriate place?  Yes  No

6. Was ice used?  Yes  No Type of ice:  blue ice  gel ice  real ice  dry ice Condition of Ice: solid

Temperature by Digi-Thermo Probe 1.9 °C Thermometer # red #4  
Acceptance Criteria: 0 - 6°C

7. Packing in Cooler:  bubble wrap  styrofoam  cardboard  Other:     

8. Did samples arrive in plastic bags?  Yes  No

9. Did all bottles arrive unbroken, and with labels in good condition?  Yes  No

10. Are all bottle labels complete (ID, date, time, etc.)?  Yes  No

11. Do bottle labels and Chain of Custody agree?  Yes  No

12. Are the containers and preservatives correct for the tests indicated?  Yes  No

13. Conoco Phillips, Alyeska, BP H2O samples only: pH < 2?  Yes  No  N/A

14. Is there adequate volume for the tests requested?  Yes  No

15. Were VOA vials free of bubbles?  N/A  Yes  No

If "NO" which containers contained "head space" or bubbles?     

## Log-in Phase:

Date of sample log-in 7/3/08

Samples logged in by (print) Emily Bush (sign) Emily H Bush

1. Was project identifiable from custody papers?  Yes  No

2. Do Turn Around Times and Due Dates agree?  Yes  No

3. Was the Project Manager notified of status?  Yes  No

4. Was the Lab notified of status?  Yes  No

5. Was the COC scanned and copied?  Yes  No

**APPENDIX B**  
**PHOTOGRAPHIC LOG**



Photograph 1: Installing temporary monitoring well MW-1 50 feet north of Roundhouse, view looking south.



Photograph 2: Purging and sampling temporary monitoring well MW-1. View to the south.