SITE REMEDIATION REPORT

NEIL ATKINSON
9209 AND 9211 SHARON ST
JUNEAU, ALASKA

JULY 15, 2010

Prepared For:

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APPENDICES

1.0 EXECUTIVE SUMMARY

NORTECH Environmental Engineering and Industrial Hygiene (***NORTECH***) has developed a Work Plan for completing characterization and contamination treatment activities at the 9209 and 9211 Sharon St. The Site has a duplex serviced by two above ground storage tanks, one for each unit. This is a continued effort from when both the heating fuel tanks leaked their fuel in 2006 contaminating the ground below.

2.0 PROJECT BACKGROUND

2.1 General Site Setting and Description

The Sharon St site is located in the Mendenhall valley of Juneau. The surrounding properties are residential.

2.2 Previous Investigations

NORTECH Inc characterization work at this site was conducted on April 23, 2009. Jason Ginter of ***NORTECH***, and Neil Atkinson the home owner were present during these activities. Weather conditions during these field activities were clear and sunny. Temperatures ranged between 45^{o}F to 55 ^{o}F during the April characterization work.

NORTECH's characterization work is a continued effort from 2007 when contaminated soil remediation started for both the leaking above ground fuel storage tanks located at 9209 and 9211 Sharon Street in Juneau, Alaska.

Groundwater was generally found below the organic peat layer within the sand 18 inches to 40 inches below the ground surface.

Former AST Location

NORTECH found diesel contamination at 9209 Sharon Street, extending north about 12 feet from the house. Contamination was found 14 feet east of the home, and extends 20 feet south from the front of the home.

NORTECH advanced eight soil borings in this area, to determine if petroleum contamination was present, and if so to what extent. Soils from the eight borings were field screened using the hot water sheen test. Soil samples from each of the eight borings were collected for laboratory analysis. These samples were sent to SGS Environmental Laboratories. SGS analyzed all samples for DRO by AK102. These laboratory results show elevated amounts of benzene present in the soil above ADEC cleanup requirements.

NORTECH also found diesel contamination at 9211 Sharon Street, on the other side of the duplex. The contamination extends north about seven feet from the rear of the house. Contamination was found 11 feet west of the home, and extended 10 feet south from the rear of the home.

NORTECH advanced one soil boring from this area, to determine if petroleum contamination was present, and if so to what extent. Soils from the boring was field screened using the hot water sheen test. The soil sample from boring was collected for laboratory analysis. The sample was sent to SGS Environmental Laboratories. SGS analyzed all samples for DRO by AK102. The laboratory result shows elevated amounts of diesel present in the soil above ADEC cleanup requirements.

NORTECH used a hand auger to take samples from the soil. Field screening confirmed that diesel contamination is present. Based on our findings at the site during this characterization work, ***NORTECH*** estimated that at about 75 cubic yards of diesel contaminated soil is present on 9211 Sharon Street, and 250 cubic yards of diesel contamination were present on 9209 Sharon Street.

2.3 Project Objectives and Scope of Work

Neil Atkinson is responsible for addressing the environmental concerns observed at this site. Mr. Atkinson has contracted ***NORTECH*** to conduct a Phase II/III Site Assessment and Remediation at the 9209 and 9211 Sharon St site to meet the requirements of 18 AAC 75 to confirm the presence or absence of suspected contamination. The objective of the assessment is to show Mr. Atkinson due diligence by supplying current information to any potential purchasers.

- Characterization sampling to identify the nature and extent of contaminated soils present at the following locations:
  - Former aboveground storage tank area east the main building, ***NORTECH*** estimated that 75 cubic yards of petroleum contaminated material remain in place for *in-situ* remediation in this area.
  - Former aboveground storage tank area west the main building, ***NORTECH*** estimates that 250 cubic yards of petroleum contaminated material remain in place for *in-situ* remediation in this area.

This report summarizes the sampling efforts completed during July 2010 at the 9202 and 9211 Sharon St site. The report summarizes the remediation activities that have been performed at the site, recaps the field screening results, describes specific laboratory sampling and analytical results from the closure sampling, and soil disposal.

3.0 METHODOLOGY

3.1 Field screening Protocol

3.1.1 Hot Water Sheen Test

NORTECH also used the hot water sheen test (also known as Hydrothermally Induced Iridescent Optroscopy) to corroborate and supplement the visual and olfactory observations of specific soils. The general methodology is to partially fill a small stainless steel bowl with suspect soil and slowly add hot water to the bowl and note any sheen that appears on the water surface. Then the water and soil are agitated and the surface is evaluated again. The bowl is then decontaminated appropriately for reuse.

This procedure is fairly subjective, but is a reasonable indicator of the presence or absence of petroleum contamination. Typical results are a rainbow sheen, a white wispy sheen, a blocky sheen or no sheen. These specific indications provide a subjective analysis about the suspected contamination. For example, fresh releases have a vibrant rainbow of colors, while older weathered releases are generally dull (white) and wispy. Also, natural organics (biogenic origin) display a blocky pattern and tend to fracture while POL contamination does not.

3.2 Laboratory Sampling and Analysis Procedures

The following list indicates the soil analysis methods that have been used for the purposes of this site investigation:

- DRO by AK102, characterization and closure at petroleum contaminated areas

The analytical methods listed above apply to soil samples collected from this site for closure and characterization during the contaminated soil removal. Surface and subsurface soil samples were collected using a combination of hand equipment, such as post-hole diggers, shovels, trowels, and spoons and disposable sampling equipment such as gloves and re-sealable bags.

NORTECH described the location and soil type in the field notes. Sampling equipment that contacted environmental media was decontaminated both before initial use and between sampling locations to avoid cross contamination. Samples were placed in the appropriate sampling container, sealed, and placed promptly on ice in a cooler in the custody of ***NORTECH*** personnel.

3.3 Soil Cleanup Levels

The initial site cleanup goals for this project have been determined using the State of Alaska Department of Environmental Conservation's (ADEC) Method 2 for soil (over 40-inch zone) as outlined in ADEC regulations (18 AAC 75.341, Table B2). Method 2 cleanup levels are shown in Table 1, following.

Table 1
Soil Cleanup Standards for Common Contaminants at Site

	ADEC Method 2 Soil (mg/kg)
Diesel Range Organics (DRO)	230

4.0 FIELD ACTIVITIES

NORTECH Inc characterization work at this site was conducted on July 15, 2010. Jason Ginter and Ashley Bruce of ***NORTECH*** were present during these activities. Weather conditions during these field activities were clear and sunny. Temperatures ranged between 41^{o}F to 81 ^{o}F during the July characterization work.

Groundwater was generally found just below the organic peat layer within the sand.

NORTECH personnel took four soil samples and one duplicate. The soil samples were sent to SGS Laboratory in Anchorage, Alaska for DRO analysis.

5.0 RESULTS WITH DISCUSSION

NORTECH sent five soil samples taken from the spill affected area to SGS Environmental Services Laboratory in Anchorage via Alaska Airlines Goldstreak. SGS analyzed the samples for diesel range organics (DRO) by AK102. Sample results are listed in the table below. Sample locations are shown on Figure 2.

Table 2
Laboratory Results in ppm, Former AST Location

2010 Sample Results		2009 Sample Results	
Sample ID	**DRO**	**Sample ID**	**DRO**
CB01	**978**	**CZ01**	**5480**
CB02	**2560**	CL01	ND
CB03	76		
CB04*	**1710**		
CB05*	**1270**		

Sample results in **boldface** exceed ADEC cleanup levels for this project.

*field duplicate samples

NORTECH estimates that 325 cubic yards of material are affected. Sample locations are shown on Figure 2.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the activities completed at the site, ***NORTECH*** has developed the following conclusions:

- The spill affected area has been addressed via in-situ remediation through the installation of seven nutrient addition ports and the application of high nitrogen fertilizer and ammonia. Sixty pounds of fertilizer was the initial application. Mr. Atkinson then applied another 20 pounds of fertilizer once a month during the non freezing months and flushed the ports with water.

7.0 LIMITATIONS AND NOTIFICATIONS

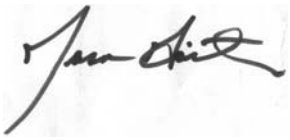
NORTECH provides a level of service that is performed within the standards of care and competence of the environmental engineering profession. However, it must be recognized that limitations exist within any site investigation. This report provides results based on a restricted work scope and from the analysis and observation of a limited number of samples. Therefore, while it is our opinion that these limitations are

reasonable and adequate for the purposes of this report, actual site conditions may differ. Specifically, the unknown nature of exact subsurface physical conditions, sampling locations, the analytical procedures' inherent limitations, as well as financial and time constraints are limiting factors.

The report is a record of observations and measurements made on the subject site as described. The data should be considered representative only of the time the site investigation was completed. No other warranty or presentation, either expressed or implied, is included or intended. This report is prepared for the exclusive use of the Neil Atkinson. If it is made available to others, it should be for information on factual data only, and not as a warranty of conditions, such as those interpreted from the results presented or discussed in the report. We certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with ADEC's Standard Sampling Procedures. ***NORTECH*** has performed the work, made the findings, and proposed the recommendations described in this report in accordance with generally accepted environmental engineering practices.

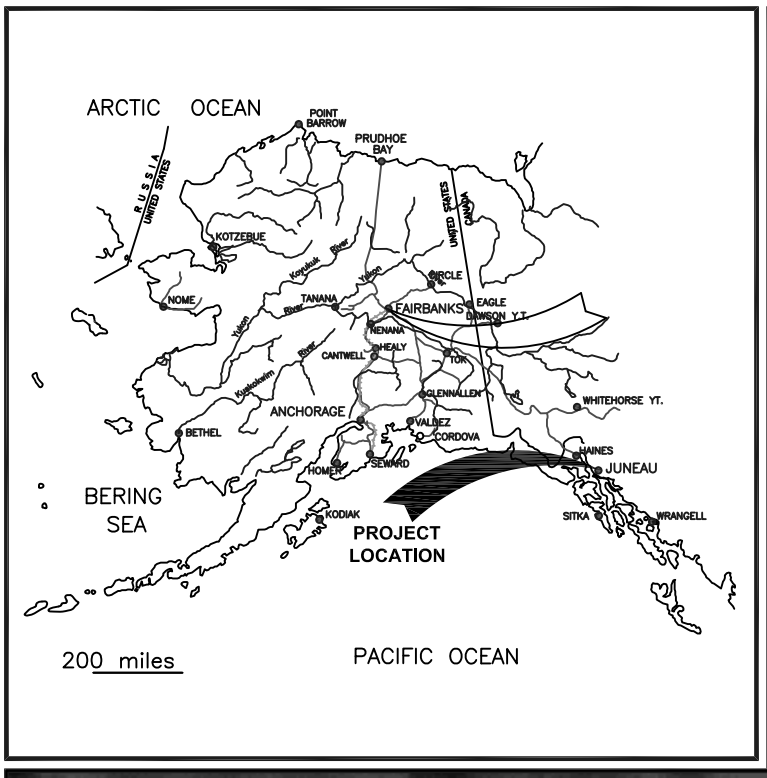
8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Jason Ginter, Juneau Technical Manager for ***NORTECH,*** has a B.S. in Chemistry and extensive experience conducting hazardous materials investigations, property assessments, and other environmental fieldwork throughout Alaska.



Jason Ginter
Principle, Juneau Technical Manager

Appendix A
Figures



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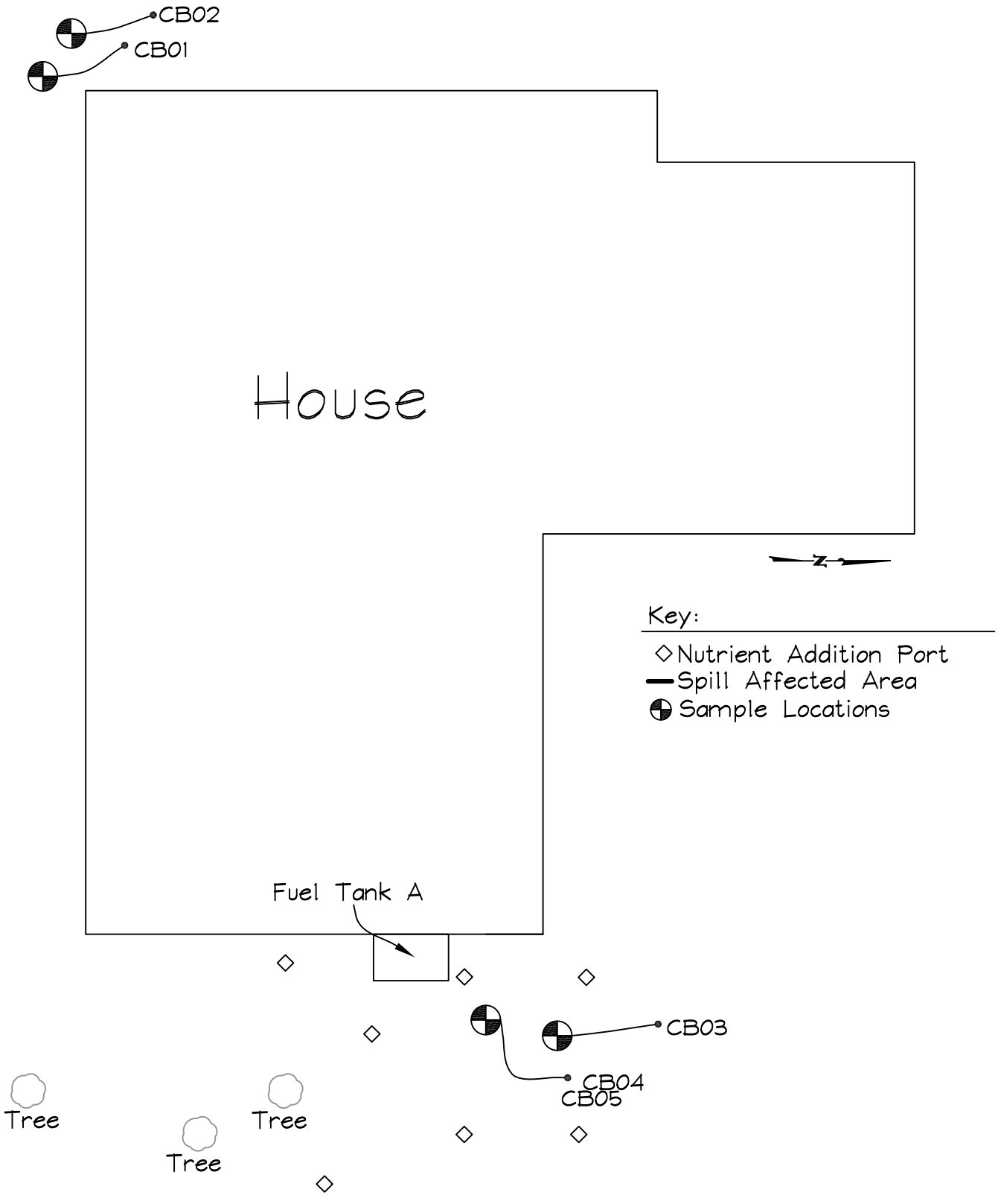
Site Map
Sharon Street Spill
Juneau, Alaska

SCALE: NTS	FIGURE: 1
DESIGN: JG	
DRAWN: BPC	
PROJECT NO: 10-1080	
DWG: 101080a(01)	
DATE: 08/30/10	



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Heating Oil Spill
9209 &9211 Sharon St
Juneau, Alaska

SCALE: 1" = 10'	FIGURE: 2
DESIGN: JG	
DRAWN: BPC	
PROJECT NO: 10-1080	
DWG: 10-1080a(02)	
DATE: 08/12/2010	

Appendix B
Laboratory Reports

SGS North America Inc.
Alaska Division
Level II Laboratory Data Report

Project:	10-1080
Client:	Nortech
SGS Work Order:	1103480

Released by:

Contents (Bookmarked in PDF):

Case Narrative

Client	NORTECH	Nortech	**Printed Date/Time**	7/26/2010	8:26
Workorder	1103480	10-1080			

Sample ID	Client Sample ID

Refer to the sample receipt form for information on sample condition.

1103480001 **PS** **CB01**

AK102 - The pattern is consistent with a weathered middle distillate.

1103480002 **PS** **CB02**

AK102 - The pattern is consistent with a weathered middle distillate.

1103480003 **PS** **CB03**

AK102 - The pattern is consistent with a weathered middle distillate.

1103480004 **PS** **CB04**

AK102 - The pattern is consistent with a weathered middle distillate.

1103480005 **PS** **CB05**

AK102 - The pattern is consistent with a weathered middle distillate.

Laboratory Analysis Report

Jason Ginter
Nortech
4402 Thane Rd
Juneau, AK 99801

Work Order:	1103480
	10-1080
Client:	Nortech
Report Date:	July 26, 2010

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (<http://www.sgs.com/terms_and_conditions.htm>), unless other written agreements have been accepted by both parties.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035B, 6010B, 6020, 7470A, 7471B, 8021B, 8081B, 8082A, 8260B, 8270D, 8270D-SIM, 9040B, 9045C, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, the National Environmental Laboratory Accreditation Program and other regulatory authorities. The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV	Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 2xDL)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.
All DRO/RRO analyses are integrated per SOP.

Detectable Results Summary

Print Date: 7/26/2010 8:26 am

Client Sample ID: **CB01**
SGS Ref. #: 1103480001

Parameter	Result	Units
Semivolatile Organic Fuels Department		
Diesel Range Organics	978	mg/Kg

Client Sample ID: **CB02**
SGS Ref. #: 1103480002

Parameter	Result	Units
Semivolatile Organic Fuels Department		
Diesel Range Organics	2560	mg/Kg

Client Sample ID: **CB03**
SGS Ref. #: 1103480003

Parameter	Result	Units
Semivolatile Organic Fuels Department		
Diesel Range Organics	76.0	mg/Kg

Client Sample ID: **CB04**
SGS Ref. #: 1103480004

Parameter	Result	Units
Semivolatile Organic Fuels Department		
Diesel Range Organics	1710	mg/Kg

Client Sample ID: **CB05**
SGS Ref. #: 1103480005

Parameter	Result	Units
Semivolatile Organic Fuels Department		
Diesel Range Organics	1270	mg/Kg

SGS Ref.#	1103480001		
Client Name	Nortech	**Printed Date/Time**	07/26/2010 8:26
Project Name/#	10-1080	**Collected Date/Time**	07/15/2010 13:44
Client Sample ID	CB01	**Received Date/Time**	07/16/2010 16:00
Matrix	Soil/Solid (dry weight)	**Technical Director**	**Stephen C. Ede**

Sample Remarks:

AK102 - The pattern is consistent with a weathered middle distillate.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Semivolatile Organic Fuels Department									
Diesel Range Organics	978	88.5	mg/Kg	AK102	A		07/19/10	07/22/10	LCE
Surrogates									
5a Androstane <surr>	64.8		%	AK102	A	50-150	07/19/10	07/22/10	LCE
Solids									
Total Solids	89.0		%	SM20 2540G	A			07/19/10	AHJ

SGS Ref.#	1103480002		
Client Name	Nortech	**Printed Date/Time**	07/26/2010 8:26
Project Name/#	10-1080	**Collected Date/Time**	07/15/2010 13:59
Client Sample ID	CB02	**Received Date/Time**	07/16/2010 16:00
Matrix	Soil/Solid (dry weight)	**Technical Director**	**Stephen C. Ede**

Sample Remarks:

AK102 - The pattern is consistent with a weathered middle distillate.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Semivolatile Organic Fuels Department									
Diesel Range Organics	2560	89.9	mg/Kg	AK102	A		07/19/10	07/22/10	LCE
Surrogates									
5a Androstane <surr>	61.5		%	AK102	A	50-150	07/19/10	07/22/10	LCE
Solids									
Total Solids	89.0		%	SM20 2540G	A			07/19/10	AHJ

SGS Ref.#	1103480003		
Client Name	Nortech	**Printed Date/Time**	07/26/2010 8:26
Project Name/#	10-1080	**Collected Date/Time**	07/15/2010 14:13
Client Sample ID	CB03	**Received Date/Time**	07/16/2010 16:00
Matrix	Soil/Solid (dry weight)	**Technical Director**	**Stephen C. Ede**

Sample Remarks:

AK102 - The pattern is consistent with a weathered middle distillate.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Semivolatile Organic Fuels Department									
Diesel Range Organics	76.0	23.2	mg/Kg	AK102	A		07/19/10	07/20/10	LCE
Surrogates									
5a Androstane <surr>	104		%	AK102	A	50-150	07/19/10	07/20/10	LCE
Solids									
Total Solids	86.0		%	SM20 2540G	A			07/19/10	AHJ

SGS Ref.#	1103480004		
Client Name	Nortech	**Printed Date/Time**	07/26/2010 8:26
Project Name/#	10-1080	**Collected Date/Time**	07/15/2010 14:29
Client Sample ID	CB04	**Received Date/Time**	07/16/2010 16:00
Matrix	Soil/Solid (dry weight)	**Technical Director**	**Stephen C. Ede**

Sample Remarks:

AK102 - The pattern is consistent with a weathered middle distillate.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Semivolatile Organic Fuels Department									
Diesel Range Organics	1710	109	mg/Kg	AK102	A		07/19/10	07/22/10	LCE
Surrogates									
5a Androstane <surr>	66.9		%	AK102	A	50-150	07/19/10	07/22/10	LCE
Solids									
Total Solids	72.3		%	SM20 2540G	A			07/19/10	AHJ

SGS Ref.#	1103480005		
Client Name	Nortech	**Printed Date/Time**	07/26/2010 8:26
Project Name/#	10-1080	**Collected Date/Time**	07/15/2010 14:32
Client Sample ID	CB05	**Received Date/Time**	07/16/2010 16:00
Matrix	Soil/Solid (dry weight)	**Technical Director**	**Stephen C. Ede**

Sample Remarks:

AK102 - The pattern is consistent with a weathered middle distillate.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Semivolatile Organic Fuels Department									
Diesel Range Organics	1270	96.1	mg/Kg	AK102	A		07/19/10	07/22/10	LCE
Surrogates									
5a Androstane <surr>	62.8		%	AK102	A	50-150	07/19/10	07/22/10	LCE
Solids									
Total Solids	82.6		%	SM20 2540G	A			07/19/10	AHJ

SGS Ref.#	974368	Method Blank	**Printed Date/Time**	07/26/2010 8:26
Client Name	Nortech		**Prep Batch**	XXX23081
Project Name/#	10-1080		**Method**	SW3550C
Matrix	Soil/Solid (dry weight)		**Date**	07/19/2010

QC results affect the following production samples:

1103480001, 1103480002, 1103480003, 1103480004, 1103480005

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Semivolatile Organic Fuels Department					
Diesel Range Organics	ND	20.0	6.20	mg/Kg	07/20/10
Surrogates					
5a Androstane <surr>	61.8	60-120		%	07/20/10

Batch XFC9355
Method AK102
Instrument HP 6890 Series II FID SV D R

SGS Ref.#	974523	Method Blank	**Printed Date/Time**	07/26/2010 8:26
Client Name	Nortech		**Prep Batch**	
Project Name/#	10-1080		**Method**	
Matrix	Soil/Solid (dry weight)		**Date**	

QC results affect the following production samples:

1103480001, 1103480002, 1103480003, 1103480004, 1103480005

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
Solids					
Total Solids	100			%	07/19/10
Batch SPT8185					
Method SM20 2540G					
Instrument					

SGS Ref.#	974524	Duplicate	**Printed Date/Time**	07/26/2010 8:26
Client Name	Nortech		**Prep Batch**	
Project Name/#	10-1080		**Method**	
Original	1103502001		**Date**	
Matrix	Soil/Solid (dry weight)			

QC results affect the following production samples:

1103480001, 1103480002, 1103480003, 1103480004, 1103480005

Parameter	Original Result	QC Result	Units	RPD	RPD Limits	Analysis Date
Solids						
Total Solids	79.1	75.0	%	5	(< 15)	07/19/2010

Batch SPT8185
Method SM20 2540G
Instrument

SGS Ref.#	974369	Lab Control Sample	**Printed Date/Time**	07/26/2010	8:26
	974370	Lab Control Sample Duplicate	**Prep Batch**	XXX23081	
Client Name	Nortech		**Method**	SW3550C	
Project Name/#	10-1080		**Date**	07/19/2010	
Matrix	Soil/Solid (dry weight)				

QC results affect the following production samples:

1103480001, 1103480002, 1103480003, 1103480004, 1103480005

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Semivolatile Organic Fuels Department								
Diesel Range Organics	LCS	125	75	(75-125)			167 mg/Kg	07/20/2010
	LCSD	127	76		1	(< 20)	167 mg/Kg	07/20/2010
Surrogates								
5a Androstane <surr>	LCS		70	(60-120)				07/20/2010
	LCSD		72		2			07/20/2010

Batch XFC9355
Method AK102
Instrument HP 6890 Series II FID SV D R

SGS

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CHAIN OF CUSTODY R

1103480

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West Virginia

www.us.sgs.com

(1)

CLIENT: Nortech

CONTACT: Jason Ginter PHONE NO: 907-586-6813

PROJECT: 10-1080 SITE/PWSID# :

REPORTS TO: EMAIL:

Jason JginterNortechengr.com

INVOICE TO: 2400 College Rd QUOTE #: 8884

Fairbanks AK 99709 P.O. #:

SGS Reference #:

page 1 of 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB MI= Multi Incremental Samples	Preservatives Used	Analysis Required (3) D20/10	REMARKS/ LOC ID
1	CB01	7/15/10	1344	S	1	G		+	
2	CB02	7/15/10	1359	S	1	G		+	
3	CB03	7/15/10	1413	S	1	G		+	
4	CB04	7/15/10	1429	S	1	G		+	
5	CB05	7/15/10	1432	S	1	G		+	

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
	7/15/10	1600	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By: 7/16/10

(4)

DOD Project? YES NO

Cooler ID _____

Cooler Temp °C _____

Special Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:

Temperature Blank °C: 1.0 or Ambient ☐

Therm # 110

Chain of Custody Seal: (Circle)

INTACT BROKEN ABSENT

SGS

SAMPLE RECEIPT FORM

SGS WO# 1103480

Review Criteria:	Condition:	Comments/Action Taken:
Were **custody seals** intact? Note # & location if applicable. COC accompanied samples?	(Yes) No N/A (Yes) No N/A	
Temperature blank compliant (i.e., 0-6°C after correction factor)? Cooler ID: 1 @ 1.0 w/ Therm.ID: 11D Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ ***Note: If non-compliant, use form FS-0029 to document affected samples/analyses.*** If samples are received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled." If temperature(s) <0°C, were all containers ice free?	(Yes) No N/A Yes No (N/A)	
Delivery method (specify all that apply): Client USPS ~~Alert Courier~~ Road Runner ~~AK Air~~ Lynden Carlile ERA FedEx UPS NAC PenAir Other:	Note airbill/tracking # See Attached or N/A	
* For samples received with payment, note amount ($) and cash / check / CC (circle one). * For samples received in FBKS, ANCH staff will verify all criteria are reviewed.		N/A SRF Initiated by: N/A
Do samples **match COC** (i.e., sample IDs, dates/times collected)? Are analyses requested unambiguous?	(Yes) No N/A (Yes) No N/A	
Were samples in **good condition** (no leaks/cracks/breakage)? Packing material used (specify all that apply): ~~Bubble wrap~~ Separate plastic bags Vermiculite Other:	(Yes) No N/A	
Were all VOA vials **free of headspace** (i.e., bubbles ≤6 mm)? Were all soil VOAs **field extracted** with MeOH+BFB?	Yes No (N/A) Yes No (N/A)	
Were **proper containers** (type/mass/volume/preservative) used? Were the bottles provided by SGS? (Note apparent exceptions.) Were **Trip Blanks** (VOAs, LL-Hg) in cooler with samples?	(Yes) No N/A (Yes) No N/A Yes No (N/A)	
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was **pH verified and compliant**? If pH was adjusted, were bottles flagged (i.e., stickers)? ***Refer to attached bottle sheet (form F066) for documentation.***	Yes No (N/A) Yes No (N/A)	
For **RUSH** or **SHORT HOLD TIME** samples, were the COC & this SRF flagged, bottles flagged (e.g., stickers) and lab notified?	Yes No (N/A)	
For client requested, **site-specific QC** (e.g., MS/MSD/DUP), were bottles flagged (e.g., stickers) and numbered accordingly?	Yes No ~~N/A~~	
For **special handling** (e.g., "MI" or foreign soils, lab filter, limited volume, Ref Lab), were bottles/paperwork flagged (e.g., sticker)?	Yes No (N/A)	
Was **PEER REVIEW** of sample numbering completed (i.e., compare WO# on containers to COC, container ID on containers to COC, each container had a unique container ID)? Was the WO# recorded in Front Counter/Sample Receiving log?	(Yes) No N/A (Yes) No N/A	SRF Completed by: AEA Bottle Sheet by: AEA Peer Reviewed by: KMB
For any questions answered "NO," was the PM notified?	Yes No (N/A)	PM = N/A
Additional notes (if applicable):		

WO# (7 digits)	Sample # - Sample #	Container ID - Container ID	Matrix	QC	Preservative (CHECKED)	TEST GROUP	Notes: ANOMALIES - *e.g., preservative added* or SPECIAL HANDLING - *e.g., Multi-Incremental (MI), Field Filter (FF), Lab Filter (LF), use "same jar as" (SJA) for QC, 2xMeOH, bubbles, etc.*
SAMPLE ID			TYPE		CONTAINERS	ANALYSIS	Type comments below:
1103480	1-5	A-A	2	NA	NA	S-Weight	
~~1103480~~							

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7/14

Shipper's Name and Address
NORTECH
2400 COLLEGE RD
FAIRBANKS, AK 99709
USA
Tel: 9074525688

Shipper's Account Number: 27442126076
Customer's ID Number: 10588

Not Negotiable
Air Waybill
Issued By

Alaska Air Cargo
ALASKA AIRLINES & HORIZON AIR
P.O. BOX 68900 SEATTLE, WA 98168
800-225-2752 ALASKACARGO.COM

Consignee's Name and Address
SGS North America Inc
200 W Potter Drive
Anchorage, AK 99518
USA
Tel: 9075622343

Consignee's Account Number: 27400215947

Also notify
Tel:

Issuing Carrier's Agent and City

Accounting Information
10588
NORTECH
2400 COLLEGE RD
FAIRBANKS, AK 99709
USA

1103480

Agent's IATA Code

Account No.

Airport of Departure (Addr. of First Carrier) and Requested Routing
Juneau

GoldStreak

To	By First Carrier	To / By	To / By	Currency		WT/VAL		Other		Declared Value For Carriage	Declared Value For Customs
ANC	Alaska Airlines			USD	PX	X		X		NVD	NCV

Airport of Destination	Flight/Date	Flight/Date	Amount of Insurance
Anchorage	AS 067/15		XXX

Handling Information
NOA 907-562-2343
KEEP COOL

SCI

No of Pieces	Gross Weight	kg lb	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (Incl. Dimensions or Volume)
1	13.0	L		13.0		AS AGREED	SOIL SAMPLES Dims: 12 x 9 x12 x 1 GSX
1	13.0					AS AGREED	Volume: 0.750

Prepaid: AS AGREED
Weight Charge
Collect
Valuation Charge
Tax
Total Other Charges Due Agent
Total Other Charges Due Carrier
Total Prepaid: AS AGREED
Total Collect

Other Charges
MYC 1.56
SCC 2.00

Shipper certifies that the particulars on the face hereof are correct and that **insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.**

For: NORTECH

Signature of Shipper or his Agent

[AB] THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS

[ ] THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS

15 Jul 2010 18:29 — Executed On (Date)
Juneau — at (Place)
Alaska Airlines — Signature of Issuing Carrier or its Agent

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Appendix C
Laboratory Data Review Checklists

Laboratory Data Review Checklist

Completed by: Ashely Bruce

Title:

Date: August 10, 2010

CS Report Name:

Report Date: July 27, 2010

Consultant Firm: Nortech

Laboratory Name: SGS Environmental Services

Laboratory Report Number: 1103480

ADEC File Number:

ADEC RecKey Number:

1. Laboratory

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

      ☒ Yes ☐ No 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:

      No Lab Transfers

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° ± 2° C)?

☑ Yes ☐ No Comments:

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

☑ Yes ☐ No Comments:

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

☐ Yes ☐ No Comments:

no damages or discrepancies

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

☐ Yes ☐ No Comments:

no discrepancies

e. Data quality or usability affected? Explain.

Comments:

data useable

4. Case Narrative

a. Present and understandable?

☑ Yes ☐ No Comments:

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

☐ Yes ☐ No Comments:

no discrepancies

c. Were all corrective actions documented?

☐ Yes ☒ No Comments:

no actions needed

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

Comments:

data useable

5. Samples 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:

N/A: Water Samples

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.

Comments:

data useable

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?

Comments:

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

☐ Yes ☐ No Comments:

no affected samples

v. Data quality or usability affected? Explain.

Comments:

data useable

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

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples?

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☑ No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☑ Yes ☐ No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

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

☐ Yes ☐ No Comments:

no affected samples

vii. Data quality or usability affected? Explain.

Comments:

Data Useable

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? And project specified DQOs, if applicable. (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:

no failed surrogates

iv. Data quality or usability affected? Explain.

Comments:

data useable

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and Soil</u>

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

☐ Yes ☑ No Comments:

ii. All results less than PQL?

☐ Yes ☐ No Comments:

not applicable

iii. If above PQL, what samples are affected?

Comments:

not applicable

iv. Data quality or usability affected? Explain.

Comments:

not applicable

e. Field Duplicate

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

☒ Yes ☐ No Comments:

ii. Submitted blind to lab?

☒ Yes ☐ No Comments:

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

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☒ Yes ☐ No Comments:

not applicable

iv. Data quality or usability affected? Explain.

Comments:

Data Useable

f. Decontamination or Equipment Blank (if applicable)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

not applicable

ii. If above PQL, what samples are affected?

Comments:

not applicable

iii. Data quality or usability affected? Explain.

Comments:

not applicable

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

a. Defined and appropriate?

☒ Yes ☐ No Comments: