



September 13, 2010

Construction Machinery Industrial, LLC
5400 Homer Drive
Anchorage, AK 99518

Sent via email to
r.gerondal@cmiak.com

**RE: Groundwater Sampling and Stockpile Characterization Report
1952 Ada Street, Fairbanks, Alaska**

Bob:

NORTECH Environmental Engineering, Health, and Safety (**NORTECH**) is pleased to provide this letter report documenting the groundwater sampling and stockpile characterization activities conducted at the property located at 1952 Ada Street, Fairbanks, Alaska (Site). The following text is a summary of the project history, field activities, laboratory results, data analysis, and **NORTECH's** conclusions and recommendations regarding the Site.

The recommendations are based on the regulations and guidance documents of the Alaska Department of Environmental Conservation (ADEC). ADEC notification requirements are attached and indicate that any release to water must be reported as soon as the person has knowledge of the discharge. ADEC has previously interpreted this to mean the landowner and/or operator of a facility, but not an environmental consultant working on a property. The existing results have not been reviewed by ADEC, nor has this report been submitted to ADEC for comment.

Project Background and Objectives

NORTECH was retained by Construction Machinery Industrial, LLC (CMI) to complete a Phase I ESA at 1952 Ada Street as part of a proposed land transfer from Mr. Quake Haydon. An underground storage tank containing gasoline was identified and was found not to be registered with the ADEC UST program. Permanent removal or registration with the ADEC was recommended. CMI and Mr. Haydon requested a site assessment following removal of the tank.

The tank was excavated and removed from the ground by Mr. Haydon on September 5, 2009. **NORTECH** personnel mobilized to the Site subsequent to the tank removal to complete an assessment of the tank excavation. Field screening results and olfactory indications of a limited quantity of contamination were observed in the soil at the excavation limits. Approximately three to four yards of contaminated soil material were removed until the apparent clean limits had been reached.





The deepest portion of the excavation was observed to be below the water table, and a temporary sand point monitoring well was installed within the excavation. A total of three laboratory soil samples were collected at the excavation limits and submitted for gasoline range organic (GRO) and benzene, toluene, ethylbenzene, and total xylene (BTEX) contaminant analysis. Two laboratory groundwater samples (a primary and duplicate) were collected and submitted for GRO and BTEX analysis.

All laboratory soil sample results were non-detect for each contaminant of concern. Laboratory sample results showed GRO and benzene contaminants were present in the groundwater in concentrations exceeding the applicable ADEC Cleanup Levels, and toluene, ethylbenzene, and total xylene contaminants were present in concentrations below the applicable ADEC Cleanup Levels.

The report for these activities recommended field screening and segregating the stockpiles at the site for disposal. The report also recommended confirming groundwater contaminant concentrations in the single well prior to developing a work plan. The objective of this project was to complete the recommended activities and **NORTECH** completed the following activities:

- Field screening the existing soil stockpiles utilizing headspace monitoring techniques
- Purging and laboratory sampling of the existing monitoring well

Methodology

Field Screening Equipment and Methodology

A PhotoVac 2020PRO Hand Held Air Monitor/Photoionization Detector (PID) was the primary instrument used to field screen the soils for POL contamination. The PhotoVac PID is the primary field-screening instrument of choice as field screening with a PID allows for semi-quantitative real time analysis as compared to some of the other field screening methods that either use qualitative analysis or are more sensitive to temperature, humidity and hydrocarbon concentration variations.

Additionally, the PhotoVac-2020 is intrinsically safe and approved for use in Class 1, Division 2, Groups A, B, C, & D Hazardous Locations and is rugged in construction. Field screening by a PID involves measuring the concentration vapors generated by the POL contaminants in soils. The PID yields semi-quantitative values for soil gas concerning how much contaminant(s) are present, in reference to a certified isobutylene gas standard. Important specifications of the PhotoVac PID are as follows:

Instrument:	PhotoVac 2020PRO PID
Detection Limit:	0.1 ppm
Response Time:	Less than 5 seconds
Calibration:	Certified Isobutylene Standard (nominal 100 ppm)
Operating Temperature Range:	32 to 105°F (0 to 40°C)



NORTECH used the headspace method of field screening in general accordance with ADEC's Guidance for Treatment of Petroleum-Contaminated Soil and Water and Standard Sampling Procedures (referred to as the SSP in this document), Section 4, dated November 7, 2002. Headspace screening consists of partially filling (one-third to one-half) a clean resealable bag with freshly uncovered soils to be field screened. The bag was sealed and headspace vapors are allowed to develop. The bag was agitated at the beginning and end of the headspace development period. The soil and headspace were warmed to at least 40 degrees F (5 degrees C). A small opening was made in the top of the bag and the PID probe was inserted into the bag and the soil gas drawn from the center of the space above the soils and analyzed for hydrocarbon vapors. The highest PID reading from each sample was recorded in the field book.

POL Contaminant Level Classification

Headspace field screening is a method of quickly assessing potential POL contamination in the field without the need for laboratory results. However, a correlation between PID field screening results and laboratory results is generally site specific. Based on experience with recent heating oil releases, PID field screening results greater than 20 ppm are considered above background and typically correlate to either suspect or known heating oil contamination. Field screening results between 20 ppm and 100 ppm are often in excess of ADEC's Method 2 cleanup level for this area and considered potentially contaminated. Field screening levels greater than 100 ppm is almost always in excess of this cleanup level and considered contaminated. Due to the limited nature of the contamination, all material that had a field screening result above 20 ppm was segregated for disposal as contaminated.

Groundwater Purging and Sampling

Groundwater purging and sampling was completed using a peristaltic pump, new clean sample tubing, and following low-flow techniques. Prior to purging and sampling, the depth to water and total well depth measurements were made and a well volume was calculated based on this data.

Groundwater samples were collected to evaluate the site relative to ADEC groundwater cleanup levels. Sampling was conducted following ADEC procedures outlined in the ADEC guidance, including the use of laboratory provided glassware and sample storage in a chilled cooler. SGS Environmental Services in Anchorage, Alaska, provided laboratory analysis.

Samples were analyzed for the following constituents:

- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA Method 8021
- Gasoline Range Organics (GRO) by Alaska Method AK 101



Cleanup Levels

Applicable soil and groundwater cleanup levels for this site were developed using ADEC Method 2. Method Two soil cleanup levels are located in Tables B1 and B2 of 18 AAC 75.341 for the "under-40 inch" zone. Groundwater cleanup levels are shown in Table C of the same section. Groundwater cleanup levels are also shown in Table 1 with the current and previous laboratory analysis results.

Groundwater Sampling

Groundwater sampling was accomplished in general accordance with the SSP. Prior to sample collection, depth to water and total depth measurements were obtained and this information was utilized to calculate well volume capacity. The well was purged using a peristaltic pump utilizing low-flow techniques until suspended silt was minimized and monitored groundwater field parameters including pH, temperature, dissolved oxygen, conductivity, and oxidation/reduction potential had stabilized for three successive well volumes.

Subsequent to purging, groundwater samples were collected into clean glass sample containers provided by the lab utilizing low-flow techniques. Samples were submitted to an ADEC approved laboratory and analyzed for GRO and BTEX contaminants using approved test methods AK 101 and 8021, respectively.

Field Activities

Ron Pratt and Kelly Cannon of **NORTECH** mobilized to the Site on August 6, 2010, to complete the groundwater sampling and stockpile characterization effort. Two soil stockpiles and one pile of concrete debris (SP1-SP3) were identified at the Site and shown in Figure 3. Stockpile SP1 and SP2 were comprised primarily of excavated soil material with some remnant concrete debris intermixed. SP1 and SP2 had estimated soil volumes of 13 cubic yards (CY) and 28 CY, respectively. SP3 was comprised primarily of larger concrete blocks, pipe, and wooden debris and contained a minimal volume of soil estimated to be less than 1 CY. The small amount of contaminated soil was placed on SP2 by Mr. Haydon following completion of the site assessment work in 2009. The tank excavation remained open and evidence of some sidewall subsidence was observed. The monitoring well remained in the former tank excavation.

Stockpile Soil Field Screening

Soil field screening samples were collected from SP1 and SP2 by digging a minimum of 20 inches into the pile prior to collection of a soil sample. Soil samples were collected from SP3 by digging horizontally into the pile a minimum of 15 inches prior to sample collection. Figure 4 shows the stockpile sampling locations and field screening results.

Groundwater Purging, Monitoring and Sampling

The existing groundwater monitoring well was purged and sampled with a peristaltic pump utilizing low-flow techniques and new clean sample tubing. Approximately five well volumes were purged from the well prior to sample collection. Groundwater



monitoring was conducted subsequent to purging the second through fifth well volumes using a Horiba multi parameter groundwater monitoring probe. Specific parameters monitored included temperature, pH, conductivity, dissolved oxygen, total dissolved solids and oxidation reduction potential.

Subsequent to stabilization, the well was sampled utilizing low-flow techniques. The samples were collected in clean glassware supplied by the laboratory, packed in a cooler with ice, and submitted under chain of custody to SGS laboratory to be analyzed for gasoline range organic (GRO) and benzene, toluene, ethylbenzene, and total xylene (BTEX) contaminants using approved methodologies AK 101 and 8021, respectively.

Headspace Monitoring and Laboratory Results

The soil stockpile characterization effort was based on headspace field screening results for discreet soil samples collected from each stockpile. Stockpile SP1 was characterized by six samples with the highest recorded result of 2.8 ppm. Stockpile SP2 was characterized by eight samples with the highest recorded result of 3.2 ppm. Stockpile SP3 was characterized by three samples with the highest recorded result of 2.2 ppm. No sample exhibited field screening results greater than background concentrations (>20 ppm). As a result, no laboratory soil samples were collected from the stockpiles.

A total of two laboratory groundwater samples, including one field duplicate, were collected from the existing monitoring point and analyzed for GRO and BTEX contaminants. The well location is shown in Figure 4, laboratory results are summarized in Table 1, and these results are also in the attached laboratory report. Benzene was detected in the primary and duplicate samples in concentrations of 0.0108 and 0.0126 mg/L, respectively, which exceed the ADEC cleanup level of 0.005 mg/L. GRO, ethylbenzene and total xylene contaminants were detected in both the primary and duplicate samples in concentrations below the respective ADEC cleanup levels. The field duplicate quality control data is also summarized in Table 1 and is acceptable for these samples. These results are also compiled with the 2009 data in Table 2.

Analysis

NORTECH has completed the stockpile characterization and groundwater sampling activities at 1952 Ada Street in Fairbanks, Alaska. These activities were related to an unregistered underground gasoline storage tank that was removed on September 5, 2009. Field screening included the collection of 17 soil samples from the three existing soil stockpiles for headspace monitoring. Field screening results indicate that no evidence of contaminated soil material was present in any of the soil stockpiles. This is consistent with the expected volatilization from the small amount of contaminated soil that was originally observed in 2009. Laboratory samples should be collected from the two stockpiles for analysis. With clean laboratory results, the soil should be spread in a thin layer on the gravel surface of the site.

A steel sand point monitoring well was installed at the former tank location in September, 2009. Analysis of the primary and duplicate sample collected from this well on August 6, 2010 confirm that GRO and BTEX contaminants remain in the groundwater beneath the former tank location. The laboratory sample results show that benzene concentrations exceed the ADEC cleanup levels in both the primary and duplicate sample. GRO, ethylbenzene, and total xylene contaminants were present in both primary and duplicate samples in concentrations below the ADEC cleanup levels. Toluene was not detected in either sample at the laboratory method detection limit. These results confirm that groundwater has been impacted by a release of gasoline related to the former tank.

In general, contaminant concentrations have decreased by approximately one order of magnitude from the 2009 concentrations. The current and historic groundwater sample results and limited soil contamination suggest that groundwater contamination may also be limited. The significant drop in contaminant concentrations is consistent with the removal of the source and secondary source soils. This location is also within an area that is known to be impacted by dissolved benzene on an area-wide scale. While the existing data does not indicate the site is contaminated from this, no testing has been done to evaluate this potential source of dissolved benzene.

A limited groundwater assessment around the former tank location is recommended to evaluate the contamination in this area. Two new monitoring wells, one upgradient and one downgradient, are recommended to evaluate the source and/or extent of the dissolved benzene contamination. Coordination with ADEC is recommended to develop a work plan for groundwater assessment.

Conclusions and Recommendations

Based on the groundwater sampling results, stockpile screening data, and previous assessment data, a limited release of gasoline appears to have impacted the soil and groundwater in the vicinity of a former underground gasoline tank at 1952 Ada Street. **NORTECH** has developed the following conclusions and recommendations about the site:

Existing Excavation

- Previous reports indicated that the soils at the excavation limits are clean
- The former tank excavation should be backfilled with clean imported fill material

Stockpiled Soil

- The two soil stockpiles appear to meet ADEC cleanup levels for on-site re-use based on field screening results
- Laboratory of the two soil stockpiles is recommended in accordance with an ADEC approved work plan
 - Field screening of the stockpile should be conducted

- Laboratory analysis should be conducted at the two locations with highest recorded field screening results
- Laboratory should be for GRO and BTEX contaminants
- If clean, the stockpiled soil can be spread across the gravel driveway

Groundwater

- A steel sand point monitoring well was sampled to assess the groundwater conditions at the former tank location
 - 2009 results indicated some GRO and BTEX contaminants exceeded the ADEC Cleanup Levels
 - 2010 results confirmed benzene remains above the ADEC Cleanup Level
 - These results indicate that
 - The limited release has impacted groundwater at the site, or
 - This location is within a larger area-wide benzene plume known to impact some other properties in the area
- A limited groundwater assessment is recommended to evaluate and source and/or extent of the contaminated groundwater
 - Two additional monitoring wells should be installed at the Site
 - One upgradient well
 - One down gradient well

NORTECH has provided you a draft work plan and cost estimate to complete the limited groundwater assessment under separate cover. This draft work plan also includes a conceptual site model and spill reporting form as required by ADEC guidance. Based on our recent discussions and correspondence, **NORTECH** is going to conduct the ADEC coordination needed to complete the recommended soil testing and disposal and limited groundwater assessment.

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 CMI. 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.

We trust that this information is sufficient for your needs at the present time. If you have any questions or comments about the activities documented or recommended in this report, please contact me at your earliest convenience.

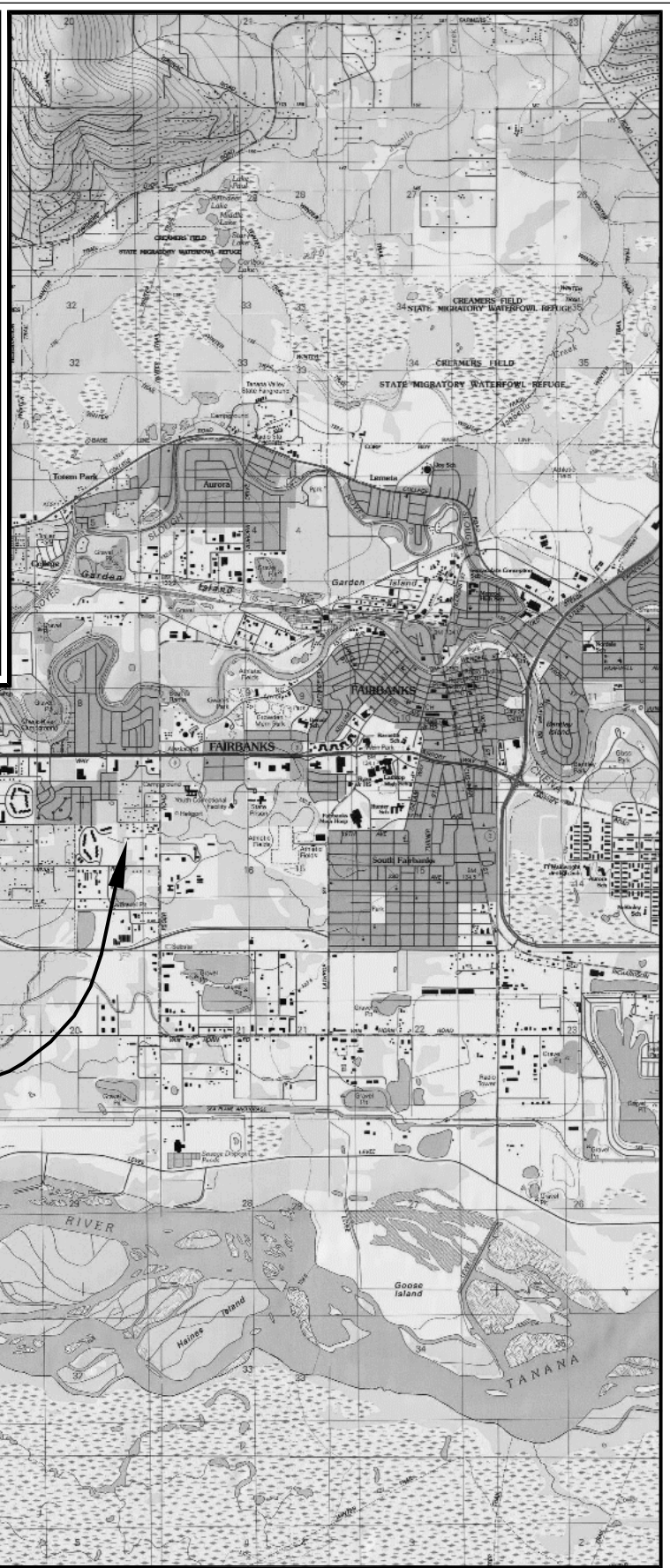
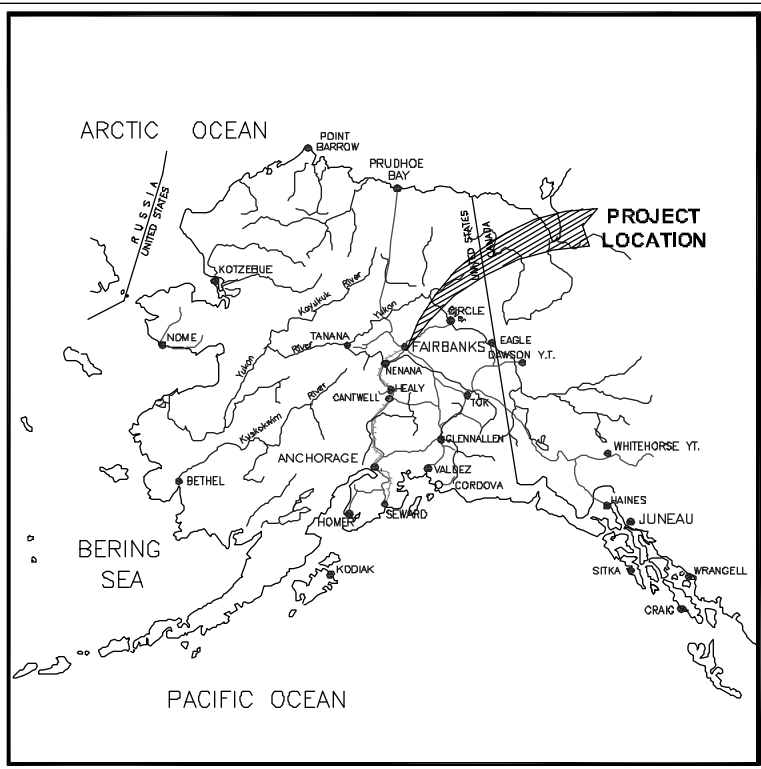
Sincerely,
NORTECH

A handwritten signature in black ink, appearing to read "Peter Beardsley".

Peter Beardsley, PE
Environmental Engineer

Attachment: Figures 1 – 4
Tables 1 – 2
Copy of Laboratory Report

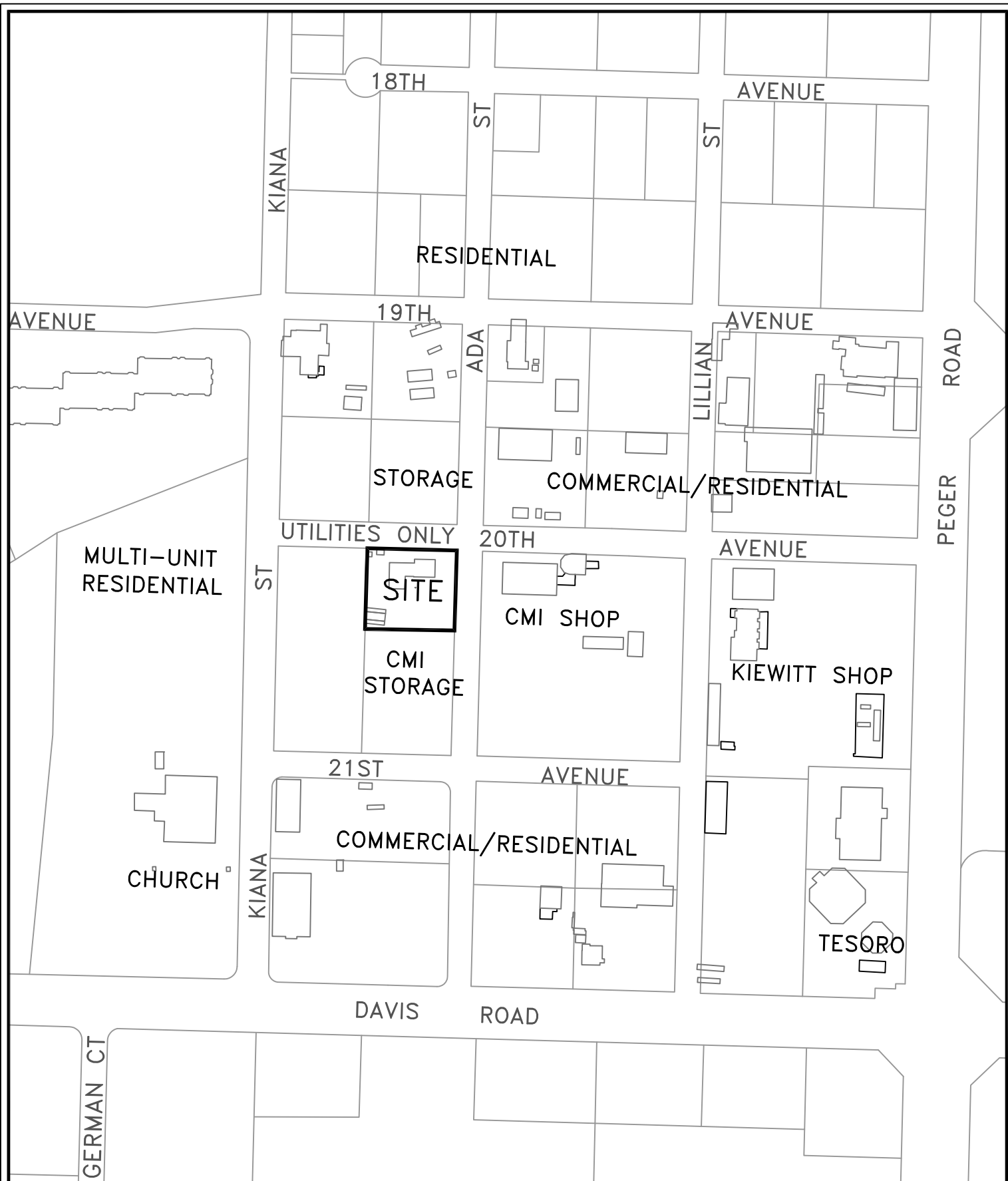




ENVIRONMENTAL ENGINEERING HEALTH & SAFETY
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 3105 Lakeshore Dr. Anch, Alaska 99517, Ph: 907-222-2445
 119 Seward St. #10, Juneau, Alaska 99801 Ph: 907-586-6813

Location Map
 1952 Ada Street - CMI/Haydon Property
 Fairbanks, Alaska

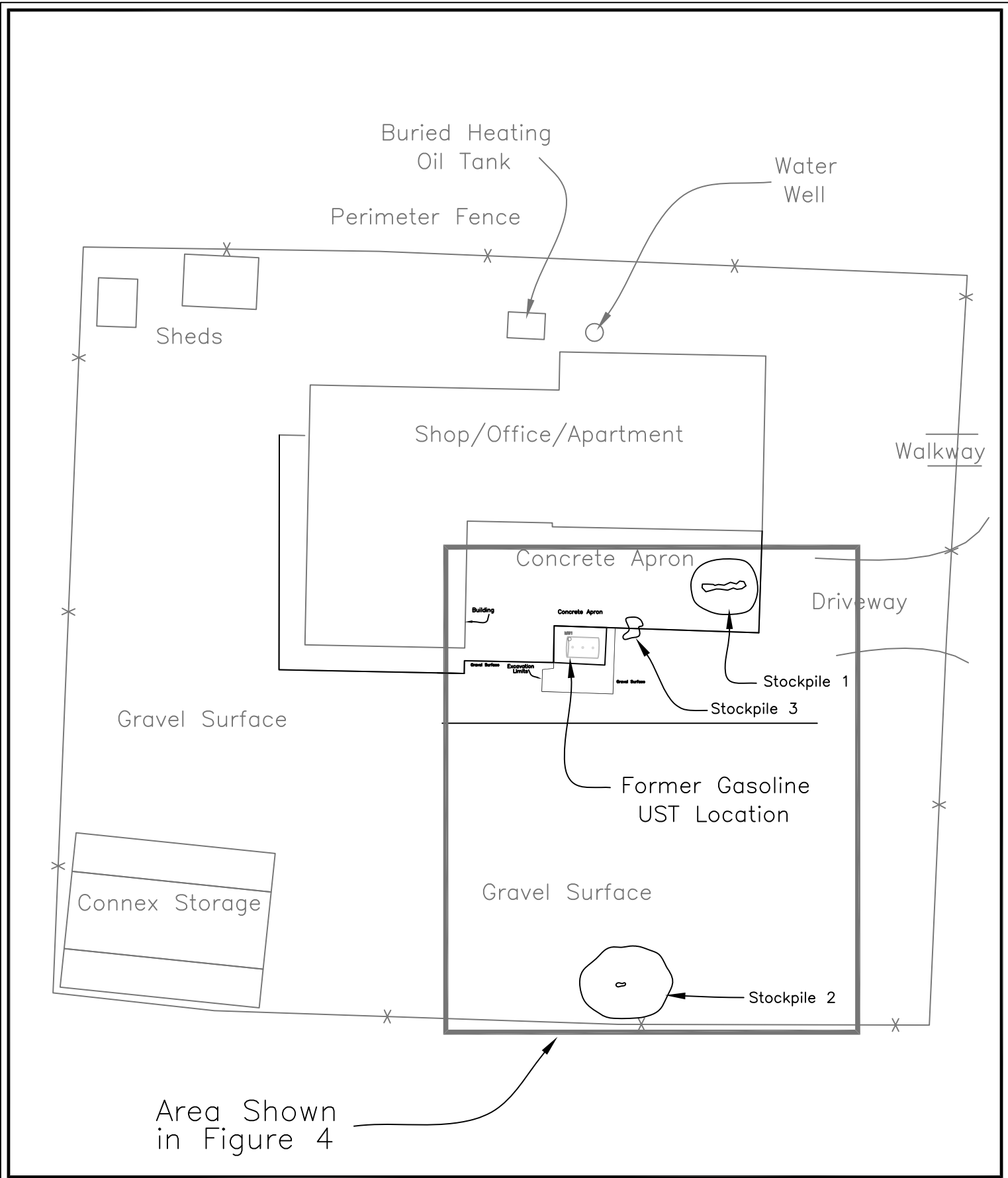
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DRAWN: PLB	
PROJECT NO: 10-1088	
DWG: 101088a(1)	
DATE: 08/19/10	



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Vicinity Map
 1952 Ada Street - CMI/Haydon Property
 Fairbanks, Alaska

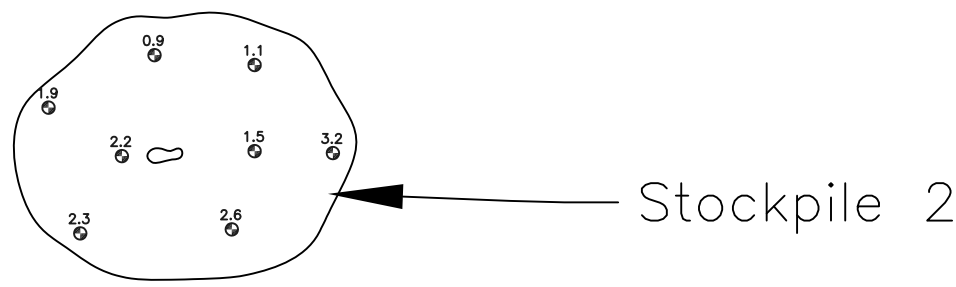
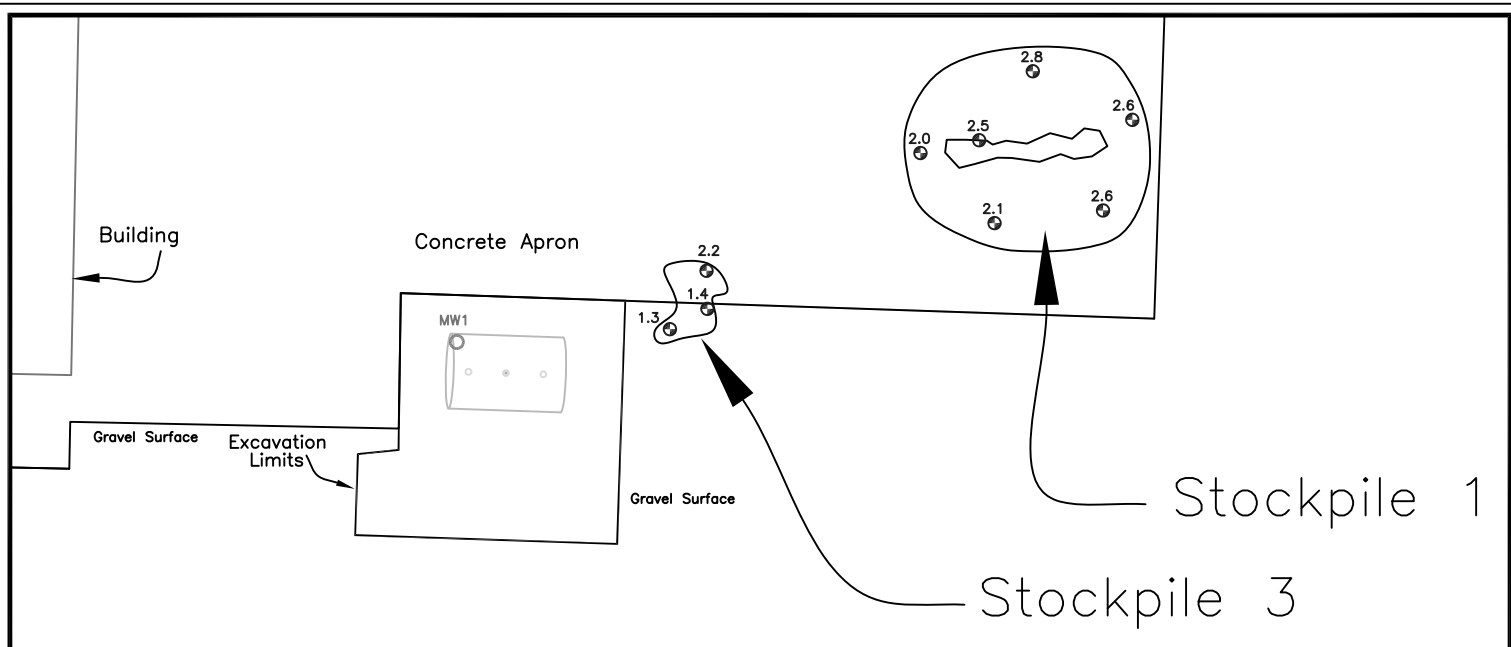
SCALE: 1" = 250'	FIGURE:
DESIGN: PLB	2
DRAWN: PLB	
PROJECT NO: 10-1088	
DWG: 101088a(2)	
DATE: 08/19/10	



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Site Map
 1952 Ada Street - CMI/Haydon Property
 Fairbanks, Alaska

SCALE: 1" = 25'	FIGURE: 3
DESIGN: PLB	
DRAWN: PLB	
PROJECT NO: 10-1088	
DWG: 101088a(3)	
DATE: 08/19/10	



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Groundwater Sample and Soil Screening Locations
 1952 Ada Street – CMI/Haydon Property
 Fairbanks, Alaska

SCALE: 1" = 10'	FIGURE: 4
DESIGN: PLB	
DRAWN: PLB	
PROJECT NO: 10-108809-1061	
DWG: 101088a(4)	
DATE: 08/19/10	

Table 1
Groundwater Laboratory Results GRO and BTEX
 Lot 1 - Haydon Subdivision - Former Tank Assessment

Sample ID	GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Units	mg/L	mg/L	mg/L	mg/L	mg/L
Method	AK101	8021B	8021B	8021B	8021B
Reg Limit	1.5	0.005	1	0.7	10
MW1	0.569	0.0108	0.002U	0.0793	0.0816
MW2 *	0.587	0.0126	0.002U	0.0812	0.0823

Notes:

U	Contaminant not detected at specified laboratory detection limit
shade	Result is above detection limit, but below ADEC regulatory limit
bold	Result is above ADEC regulatory limit
*	Field duplicate of MW1

Groundwater Duplicate QC Results

Sample ID	MW1	MW2	Average	Difference	RPD
Analyte	mg/L	mg/L	mg/L	mg/L	%
GRO	0.57	0.59	0.58	0.02	3%
B	0.011	0.013	0.012	0.002	15%
T	0.002U	0.002U	NA	NA	NA
E	0.079	0.081	0.080	0.002	2%
X	0.082	0.082	0.082	0.001	1%

RPD Relative percent difference
 NA Calculation not applicable

Table 2
Historic Groundwater Results GRO and BTEX
 Lot 1 - Haydon Subdivision - Former Tank Assessment

Sample ID	Sampling Date	GRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes
Units		mg/L	mg/L	mg/L	mg/L	mg/L
Method		AK101	8021B	8021B	8021B	8021B
Reg Limit		1.5	0.005	1	0.7	10
MW1	10-Sep-09	2.5300	0.4930	0.2520	0.1340	0.3670
MW2 *	10-Sep-09	2.7000	0.4450	0.2400	0.1370	0.3740
MW1	6-Aug-10	0.569	0.0108	0.002U	0.0793	0.0816
MW2 *	6-Aug-10	0.587	0.0126	0.002U	0.0812	0.0823

Notes:

- U Contaminant not detected at specified laboratory detection limit
- shade Result is above detection limit, but below ADEC regulatory limit
- bold** Result is above ADEC regulatory limit
- * Field duplicate of MW1



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

Project: 10-1088 CMI/Haydon
Client: Nortech
SGS Work Order: 1104959

Released by:

Contents (Bookmarked in PDF):

Cover Page
Case Narrative
Sample Results Forms
Quality Control Summary Forms
Chain of Custody/Sample Receipt Forms
Attachments (if applicable)



Case Narrative

Client NORTECH Nortech
Workorder 1104959 10-1088 CMI/Haydon

Printed Date/Time 8/18/2010 11:52

Sample ID **Client Sample ID**

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

1104959001 PS MW-1

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.

1104959002 PS MW-2

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.

Peter Beardsley
Nortech
2400 College Rd.
Fairbanks, AK 99709

Work Order: 1104959
10-1088 CMI/Haydon

Client: Nortech

Report Date: August 18, 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: 8/18/2010 11:53 am

Client Sample ID: **MW-1**

SGS Ref. #: 1104959001

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.569	mg/L
Benzene	10.8	ug/L
Ethylbenzene	79.3	ug/L
o-Xylene	7.32	ug/L
P & M -Xylene	74.3	ug/L

Client Sample ID: **MW-2**

SGS Ref. #: 1104959002

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.587	mg/L
Benzene	12.6	ug/L
Ethylbenzene	81.2	ug/L
o-Xylene	6.38	ug/L
P & M -Xylene	75.9	ug/L



SGS Ref.# 1104959001
Client Name Nortech
Project Name/# 10-1088 CMI/Haydon
Client Sample ID MW-1
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 08/18/2010 11:53
Collected Date/Time 08/06/2010 11:30
Received Date/Time 08/07/2010 9:50
Technical Director Stephen C. Ede

Sample Remarks:

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	10.8	0.500	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Ethylbenzene	79.3	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Gasoline Range Organics	0.569	0.100	mg/L	AK101	A		08/17/10	08/17/10	EAB
o-Xylene	7.32	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
P & M -Xylene	74.3	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Toluene	ND	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Surrogates									
1,4-Difluorobenzene <surr>	108		%	SW8021B	A	80-120	08/17/10	08/17/10	EAB
4-Bromofluorobenzene <surr>	239	!	%	AK101	A	50-150	08/17/10	08/17/10	EAB



SGS Ref.# 1104959002
Client Name Nortech
Project Name/# 10-1088 CMI/Haydon
Client Sample ID MW-2
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 08/18/2010 11:53
Collected Date/Time 08/06/2010 11:40
Received Date/Time 08/07/2010 9:50
Technical Director Stephen C. Ede

Sample Remarks:

AK101 - BFB (surrogate) recovery does not meet QC criteria (biased high) due to matrix interference.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	12.6	0.500	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Ethylbenzene	81.2	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Gasoline Range Organics	0.587	0.100	mg/L	AK101	A		08/17/10	08/17/10	EAB
o-Xylene	6.38	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
P & M -Xylene	75.9	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Toluene	ND	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Surrogates									
1,4-Difluorobenzene <surr>	108		%	SW8021B	A	80-120	08/17/10	08/17/10	EAB
4-Bromofluorobenzene <surr>	248	!	%	AK101	A	50-150	08/17/10	08/17/10	EAB



SGS Ref.# 1104959003
Client Name Nortech
Project Name/# 10-1088 CMI/Haydon
Client Sample ID TB
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 08/18/2010 11:53
Collected Date/Time 08/06/2010 11:30
Received Date/Time 08/07/2010 9:50
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Gasoline Range Organics	ND	0.100	mg/L	AK101	A		08/17/10	08/17/10	EAB
o-Xylene	ND	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Toluene	ND	2.00	ug/L	SW8021B	A		08/17/10	08/17/10	EAB
Surrogates									
1,4-Difluorobenzene <surr>	85.8		%	SW8021B	A	80-120	08/17/10	08/17/10	EAB
4-Bromofluorobenzene <surr>	98		%	AK101	A	50-150	08/17/10	08/17/10	EAB



SGS Ref.# 981958 Method Blank
Client Name Nortech
Project Name/# 10-1088 CMI/Haydon
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 08/18/2010 11:53
Prep Batch VXX21114
Method SW5030B
Date 08/17/2010

QC results affect the following production samples:
 1104959001, 1104959002, 1104959003

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
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Volatile Fuels Department

Gasoline Range Organics	ND	0.100	0.0310	mg/L	08/17/10
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Surrogates

4-Bromofluorobenzene <surr>	96.1	50-150		%	08/17/10
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Batch VFC10081
Method AK101
Instrument HP 5890 Series II PID+FID VCA

Benzene	ND	0.500	0.150	ug/L	08/17/10
Ethylbenzene	ND	2.00	0.620	ug/L	08/17/10
o-Xylene	ND	2.00	0.620	ug/L	08/17/10
P & M -Xylene	ND	2.00	0.620	ug/L	08/17/10
Toluene	ND	2.00	0.620	ug/L	08/17/10

Surrogates

1,4-Difluorobenzene <surr>	85.5	80-120		%	08/17/10
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Batch VFC10081
Method SW8021B
Instrument HP 5890 Series II PID+FID VCA



SGS Ref.# 981959 Lab Control Sample
 981960 Lab Control Sample Duplicate
Client Name Nortech
Project Name/# 10-1088 CMI/Haydon
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 08/18/2010 11:53
Prep Batch VXX21114
Method SW5030B
Date 08/17/2010

QC results affect the following production samples:
 1104959001, 1104959002, 1104959003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Fuels Department</u>							
Benzene	LCS	111	(80-120)			100 ug/L	08/17/2010
	LCSD	93.1					
Ethylbenzene	LCS	112	(87-125)			100 ug/L	08/17/2010
	LCSD	96.2					
o-Xylene	LCS	108	(85-120)			100 ug/L	08/17/2010
	LCSD	90.6					
P & M -Xylene	LCS	220	(87-125)			200 ug/L	08/17/2010
	LCSD	185					
Toluene	LCS	107	(80-120)			100 ug/L	08/17/2010
	LCSD	90.0					
Surrogates							
1,4-Difluorobenzene <surr>	LCS		(80-120)				08/17/2010
	LCSD						

Batch VFC10081
Method SW8021B
Instrument HP 5890 Series II PID+FID VCA



SGS Ref.# 981961 Lab Control Sample
 981962 Lab Control Sample Duplicate
Client Name Nortech
Project Name/# 10-1088 CMI/Haydon
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 08/18/2010 11:53
Prep Batch VXX21114
Method SW5030B
Date 08/17/2010

QC results affect the following production samples:
 1104959001, 1104959002, 1104959003

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Fuels Department</u>							
Gasoline Range Organics	LCS	0.211	105	(60-120)		0.200 mg/L	08/17/2010
	LCSD	0.206	103		3	(< 20)	0.200 mg/L 08/17/2010
Surrogates							
4-Bromofluorobenzene <surr>	LCS		95	(50-150)			08/17/2010
	LCSD		100		5		08/17/2010

Batch VFC10081
Method AK101
Instrument HP 5890 Series II PID+FID VCA



- Locations Nationwide
- Alaska
 - Maryland
 - New Jersey
 - North Carolina
 - West Virginia
- www.us.sgs.com

1 CLIENT: NORTECH, Inc.
 CONTACT: Ron Pratt PHONE NO: 907-452-5688
 PROJECT: 10-1088 CM11 SITE/PWSID#: _____
 REPORTS TO: Hayden
 Ron Pratt EMAIL: rpratt@nortechgr.com

INVOICE TO: Peter Beardsley QUOTE #: _____
2400 College Rd. P.O. #: 10-1088
Hayden, Alaska

SGS Reference #: _____

# CONTAINERS				SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS/ LOC ID
C	COMP	G	GRAB				
3				G	X	3	HC1HCL
3				G	X	3	AK-101 BTKX 8021
				G	X	3	
				G	X	3	
				G	X	3	

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	MATRIX CODE
<u>0</u>	<u>AC MW-1</u>	<u>8/6/10</u>	<u>11:30am</u>	<u>W</u>	
<u>2</u>	<u>MW-2</u>	<u>8/6/10</u>	<u>11:40am</u>	<u>W</u>	
<u>3</u>	<u>V TB</u>				

4

Collected/Relinquished By: (1)	Date	Time	Received By:
<u>[Signature]</u>	<u>8/6/10</u>	<u>1240</u>	<u>CAMPBELL</u>
Relinquished By: (2)	Date	Time	Received By:
<u>CAMPBELL</u>	<u>8/6/10</u>	<u>1430</u>	
Relinquished By: (3)	Date	Time	Received By:
	<u>8/7/2010</u>	<u>0950</u>	<u>[Signature]</u>
Relinquished By: (4)	Date	Time	Received For Laboratory By:

5

DOD Project? YES NO
 Cooler ID _____
 Cooler Temp °C _____
 Special Deliverable Requirements: _____
 Requested Turnaround Time and/or Special Instructions: _____

Temperature Blank Therm # _____
 °C: 67
 In Air Storage = 1.9 203
 Or Ambient

Chain of Custody Seal: (Circle)
 INTACT BROKEN ABSENT

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5001



SAMPLE RECEIPT FORM

Review Criteria:	Condition:	Comments/Action Taken:
Were custody seals intact? Note # & location, if applicable. COC accompanied samples?	Yes No N/A <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
Temperature blank compliant* (i.e., 0-6°C after correction factor)? <i>* Note: Exemption permitted for chilled samples collected less than 8 hours ago.</i> Cooler ID: <u>1</u> @ <u>6.3</u> w/ Therm.ID: <u>204</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: <u>Andis 1</u> @ <u>1.9</u> w/ Therm.ID: <u>203</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ <i>Note: If non-compliant, use form FS-0029 to document affected samples/analyses.</i> 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 sample containers ice free?	Yes No N/A <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	samples received same day of collection CAB/16
Delivery method (specify all that apply): USPS Alert Courier Road Runner AK Air <input checked="" type="radio"/> Lynden Carlisle ERA PenAir FedEx UPS NAC Other:	Client 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.		SRF Initiated by: <u>CLP</u> N/A
Do samples match COC* (i.e., sample IDs, dates/times collected)? <i>* Note: Exemption permitted if collection times differ by less than an hour; in which case, the times on the COC will be used.</i>	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
Are analyses requested unambiguous?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> 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: <u>Styrofoam cubes</u>	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
Were all VOA vials free of headspace (i.e., bubbles ≤6 mm)? Were all soil VOAs field extracted with MeOH+BFB? Were the bottles provided by SGS? (Note apparent exceptions.)	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
Were proper containers (type/mass/volume/preservative*) used? <i>* Note: Exemption permitted for waters to be analyzed for metals.</i> Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> 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)? <i>Refer to attached bottle sheet (form F066) for documentation.</i>	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
For RUSH or SHORT HOLD TIME samples, were the COC & this SRF flagged, bottles flagged (e.g., stickers) and lab notified?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
For client requested, site-specific QC (e.g., MS/MSD/DUP), were bottles flagged (e.g., stickers) and numbered accordingly?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
For special handling (e.g., "MI" or foreign soils, lab filter, limited volume, Ref Lab), were bottles/paperwork flagged (e.g., sticker)?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	
Was the WO# recorded in Front Counter/Sample Receiving log? For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	SRF Completed by: Bottle Sheet by: PM = _____ N/A
Was PEER REVIEW of sample numbering completed (i.e., compare WO# on containers to COC, container ID on containers to COC, unique lab ID on each container)?	<input checked="" type="radio"/> Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> N/A	Peer Reviewed by: Metrics:
Additional notes (if applicable):		

WO# (7 digits)	Sample #	Sample #	Container ID	Container ID	Matrix	QC	Preservative (CHECKED)	TEST GROUP	PRINT LABELS	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:	
1104959	001	002	A	C	1 Water		HCl * VOA or LL-Hg *	W_GRO/VOA		
1104959	003	003	A	B	1 Water	Trip Blank	HCl * VOA or LL-Hg *	W_GRO/VOA		