

June 16, 1995

Alaska Mechanical Fuel Services
P. O. Box 70890
Fairbanks, Alaska 99707

JUL 14 1995

DEPT. OF ENVIRONMENTAL
CONSERVATION
N.D.

Attn: Mr. Chet Eldridge

RE: UST REMOVAL SITE ASSESSMENT, ALASKA MECHANICAL FUEL SERVICES, 1600 RICHARDSON HIGHWAY, DELTA JUNCTION, ALASKA

At your request, Shannon & Wilson, Inc. has completed its observation of the removal of four underground storage tanks (USTs) and associated piping and dispensing apparatus at the above mentioned property. The work was performed in accordance with our proposal dated May 2, 1995, and in general accordance with the Alaska Department of Environmental Conservation (ADEC) UST Regulations, 18 AAC 78, and our ADEC-approved Quality Assurance Program Plan for UST Site Assessment, dated March 23, 1992. The scope of work performed by Shannon & Wilson included observation of excavations and UST and piping removals, field monitoring of excavated soils, collection of soil samples for analytical testing, and the preparation of this site assessment report. Our work was authorized by Mr. Jim Weymiller on May 1, 1995. The excavation and removal of the USTs were performed by Soil Services, Inc. (SSI) of Fairbanks, Alaska. Soil Services, Inc. is certified by ADEC to perform UST removal activities.

Background

The site is located at 1600 Richardson Highway, east of the highway, in the town of Delta Junction, Alaska. The site, also known as Delta Texaco, consists of a two-story building with an attached garage and tire shop. Prior to our work, there were three dispensing islands and four USTs on the site, and a loading rack for fuel dispensing on the north side of the building, as shown in Figure 1. Stained surficial soils were noted around the loading rack area, and over the USTs where the turbines were located. We understand that the USTs have been in use for about 20 to 25 years.

We understand a water well is located at the adjacent motel (see Figure 1), and the aquifer is located at a depth of about 90 feet. We further understand contamination has not been detected in the well water, though this information has not been verified by ADEC. We have not sampled or tested the water from the well.

Field Activities

Our field activities were performed in two stages. Initially, the dispensing islands south of the building were removed. A new UST and fuel dispensing system was then installed in that area. Once the new system was operational, the remaining dispensing islands and the four USTs were removed.

Dispensing Islands South of the Building

On May 3 and 4, 1995, the dispensing islands south of the building, as shown in Figures 1 and 2, were removed, and several trenches were excavated to screen the soils for potential contamination. Mr. David Dinkuhn, an engineer with our firm, monitored and documented these operations. Field screening was performed during excavation activities using a Microtip 2000 photoionization detector (PID). The PID measures the relative concentration of volatile organic compounds present in the soil. The field screenings indicated that some soils at the site were contaminated. Soils were separated into potentially-clean and dirty stockpiles.

As piping was removed, several of the joints were noted to be loose or were not threaded fully. In general, the pipes were laid out in a disorganized fashion, with one product line (for regular leaded gasoline) going under the building and another (for unleaded) going around the front of the building. The product lines consisted of 2-inch O. D. galvanized steel pipe, buried about 10 inches below grade and below a concrete slab. These lines were blown out with air prior to removal. Pipes were cut off and capped as shown in Figure 2.

In order to determine the extent of potential contamination, several trenches were excavated around the former dispenser island to depths of 4 to 17 feet. Field screening with the PID indicated contaminated soils may extend to depths of 17 feet. Four analytical samples were collected from the trench excavations and submitted for testing. The samples were tested for gasoline range petroleum hydrocarbons (GRPH) and volatile aromatic hydrocarbons (BTEX - benzene, toluene, ethylbenzene and xylene), since the dispensers were for gasoline only. The locations of these samples are shown in Figure 2, and the depths are shown in Table 1, along with the PID readings and the test results.

Subsequent to the above work, the excavation was expanded to accommodate the new UST and dispensing islands system. During this excavating the soils were separated into potentially clean and dirty stockpiles, as before. The contaminated soils were stockpiled on visqueen along the eastern side of the property. The potentially-clean soil was placed to the south of the excavation, and was spread out as fill across the lot. The thickness of the pile ranged from

about 2 feet to 2 inches. The quantity of the clean stockpile was estimated to be about 250 cubic yards. During our second trip to the site, six samples were collected from the clean stockpile and were tested for GRPH and BTEX. Results are presented in Table 1, and are discussed in following sections.

Dispensing Islands West of the Building

On June 9, 1995, the dispensing islands and associated piping west of the building were removed (see Figure 3). Ms. Julie Rowland, a geologist with our firm, was on site to observe and document the activities. The 4-inch-thick concrete slab between the gasoline dispensing island and the building was removed, and the underlying pipes were exposed and removed. The concrete island was also removed. Field screening samples were collected at several locations under piping and at pipe joints. PID readings and visual observation indicated that the soils beneath piping and the dispensers were contaminated. One soil sample, 551-2-05, was collected from under one of the gasoline dispensing units. This sample was tested for GRPH and BTEX compounds. Since the piping and dispensing units were at a shallow depth, less than 1 foot below grade, they were removed without significant soil excavation. No overexcavation was conducted in this area.

During the removal of piping several of the joints were noted to be loose, and pipes were rusted. Three product lines extend under the building, as shown in Figure 3. The product lines consisted of 2-inch O.D., galvanized steel pipe, buried about 10 inches below grade and below a concrete slab. These lines were blown out with air prior to removal. Pipes were cut off and capped as shown in Figure 3.

The diesel dispensing unit, located near the diesel UST, was also removed on June 9th (see Figure 3). At this island, a sign post foundation made of concrete extended to about 3 feet below grade. This was removed, and a soil sample, 551-2-10, was collected from the base of the open hole. The sample was tested for diesel range hydrocarbons (DRPH), GRPH, and BTEX. PID readings from samples at this site and visual observation indicate soil contamination below the dispenser. The locations of the samples are shown in Figure 3, and the depths are shown in Table 1, along with PID readings and test results.

UST Removals

On June 9 and 10, 1995, the four 12,000-gallon USTs were removed from the ground, starting with the diesel tank and ending with the unleaded gasoline tank (see Figure 4). The tanks' dimensions were 9 feet in diameter by 25 feet long. The top of the tanks were about 2 feet

below grade, and the bases were 11 feet below grade. The tanks were pumped out prior to removal activities. Observation and monitoring was conducted by Ms. Rowland.

As excavation and removal of the tanks proceeded, soils were either temporarily stockpiled adjacent to the excavation or were placed in the excavation, to the west of the tank being removed. Field screening samples were collected during the excavation process and were screened using the Microtip 2000 PID. The screening results, the strong odor, and visual observations indicated the presence of soil contamination throughout the excavation, and therefore, no "clean" stockpile was generated from this area. Once the top of a tank was exposed, the fill, vent, and dispensing pipes were removed and the tank was properly ventilated. The tank was then pulled from the ground and stored temporarily on the east side of the property. We understand that these tanks will be hauled to Fairbanks, steam-cleaned, tightness-tested, and possibly reused. The tanks appeared to be in relatively good condition with some surface rust, but no apparent holes, cracks, or excessive corrosion pitting.

Analytical samples were collected from beneath each UST once it was removed; samples were taken from the bucket of the backhoe. Three samples were collected from below each tank, however, only two sample were tested per tank, due to the indications that soil contamination was present. The samples below the diesel tank were tested for DRPH as well as GRPH and BTEX. Analytical samples from beneath the other tanks were tested for GRPH and BTEX only. Figure 4 shows the sample numbers and locations of the analytical samples. Sample depths are listed in Table 1, along with PID readings and test results.

In the area of the loading rack, between the south end of the tanks and the building (see Figure 4), the soils were stained and had a strong odor. The loading rack and two turbines which were mounted over the two unleaded tanks had been removed prior to our arrival on site. The vent pipes and dispensing pipes throughout this area were laid out in a disorganized pattern, and at least three pipes went under the building slab. These were cut and capped adjacent to the building.

As shown in Figure 4, the south end of two tanks lay directly below the north wall of the building, and the other two tanks were within 4 feet of the building's outer wall. When these tanks were excavated and removed, the concrete slab on which the building's northwest corner rests was undermined by nearly 1 foot. The 4-inch-thick slab had little to no support along its length. With a significant amount of weight bearing on the outer edge of the slab, the conditions were, in our opinion, unstable and unsafe. Out of concern for the buildings integrity and safety

for the UST workers, SSI decided to shore up the exposed wall with the stockpiled, contaminated soils at the site. These were bulldozed into the excavation and placed against the exposed wall, reestablishing support for the building's foundation. Subsequently, the whole excavation was backfilled with stockpiled contaminated soils, and a visqueen liner was placed over the excavation. From discussions with ADEC, we understand that a visqueen liner was desired to be placed in the bottom of the excavation; however, due to the unstable conditions in the excavation, it would have been unsafe to send workers in to place the liner.

Soils samples collected in the field were placed immediately into a cooler with ice packs, and were kept in a chilled state (less than 40 degrees F) until they were received at the laboratory for testing.

Subsurface Conditions

The soil stratigraphy varied across the site, but generally consisted of about 3 feet of sandy gravel fill overlying silt to silty fine sand to a depth of about 7 to 8 feet. Underlying the silty soils were interbedded sands, gravelly sands, and sandy gravels to the depth explored (17 feet in one area). These interbedded sands were light in color and appeared to contain few to no fines.

Frozen soils were not encountered during the work performed; however, discontinuous frozen soils may underlie other portions of the site. Groundwater was not encountered within any of the excavations. We understand that groundwater at this site may be on the order of 90 feet deep.

Analytical Test Results

Soils samples were sent to North Creek Analytical, in Bothell, Washington, for analytical testing. Each of the samples was analyzed for gasoline range petroleum hydrocarbons by EPA Method 8015 Modified, and volatile aromatic hydrocarbons including benzene, toluene, ethylbenzene, and xylene by EPA Method 8020. Those samples collected under the diesel UST and dispenser were also tested for diesel range petroleum hydrocarbons by EPA Method 8100 Modified. A summary of the analytical test results is presented in Table 1, and a copy of the analytical laboratory report is included in Attachment A. Sample locations are shown in Figure 2, 3, and 4.

In the area of the south dispensing island the concentrations of GRPH ranged from not above method detection limits (MDL) for samples 551-503-01 and 551-504-02, collected at the edge

of excavation limits, to 6,400 ppm for sample 551-503-02, collected between the island and the building. Likewise, the BTEX concentrations of these samples ranged from not above MDL to 693 ppm (combined BTEX). Xylenes accounted for 450 ppm of that total.

In the area of the western dispensing island, sample 551-2-05 which was collected below a gasoline dispenser had a GRPH concentration of 4,900 ppm and a combined BTEX of 737.8 ppm, with xylenes accounting for 700 ppm of the total. The sample collected under the diesel dispenser, 551-2-10, showed concentration of GRPH and BTEX as not above MDL, but DRPH were reported to be 180 ppm.

In the UST excavation area GRPH concentrations ranged from not above MDL to 12,000 ppm, benzene concentrations ranged from not above MDL to 120 ppm; toluene levels ranged from not above MDL to 990 ppm; ethylbenzene levels ranged from not above MDL to 190 ppm; and xylenes ranged from 0.085 to 1,600 ppm. DRPH concentrations in samples collected below the diesel UST ranged from 24 to 8,600 ppm. According to the laboratory report, diesel range organics were suspected in several of the samples collected in this area, which were only tested for gasoline range organics.

In the clean stockpile area, the GRPH and BTEX concentrations were not above MDL except for sample 551-2-31, which had a toluene level of 0.088 ppm and an xylene level of 0.14 ppm.

Quality assurance and quality control (QA/QC) procedures were used by Shannon & Wilson and the laboratory, North Creek Analytical, to see that sampling, documentation, and laboratory data were of known and acceptable quality and reliability. QA/QC procedures, used to validate the analytical results, included laboratory quality control and the collection of field duplicate samples. Field duplicate samples were collected to evaluate the measure of analytical precision, measured in relative percent difference or RPD. Three field duplicate samples were collected for this project, out of a total of nineteen samples. The duplicates were analyzed for GRPH and BTEX. RPD values were calculated to be less than the maximum allowable RPD value of 50 percent for these analyses, and are therefore acceptable.

Laboratory method blank analyses are performed by the laboratory to demonstrate the measure of their own precision. The laboratory assesses the accuracy of the analytical process by performing matrix spike and matrix spike duplicate analyses, in which a known concentration of an analyte is injected into a sample and then the sample is reanalyzed. The analytical data

obtained from North Creek Analytical were evaluated for accuracy based on the summary statistics of percent recovery of surrogate spikes (internal standards), matrix spikes, and matrix spike duplicates. Laboratory accuracy and precision on this project were within Shannon & Wilson's QA objectives as defined in our QAPP.

Discussions and Conclusions

The results of our site assessment indicate that soils beneath the four USTs, and beneath the dispenser islands, are contaminated with petroleum hydrocarbons. The vertical and lateral extent of contamination, beyond the areas sampled in this study, are unknown. It appears likely that contamination extends under the building. Contaminated soils remain in the area of the backfilled UST excavation, and in the areas beneath the dispensers and some of the piping. About 60 cubic yards of contaminated soils remains in a stockpile at the eastern edge of the property.

The soils which were placed into the "clean" stockpile, south of the new dispensing island do not exceed the most stringent ADEC cleanup level.

Based on these findings, we recommend that a release investigation and corrective action plan be prepared presenting remedial alternatives. This work should lead into remedial action and design for cleanup of the site.

Limitations

This letter report presents conclusions based on the sampling and analyses criteria established by ADEC for UST closures. The soil samples were intended to evaluate the presence or absence of hydrocarbon-affected soil at the locations selected. It was not the intent of our investigation to detect the presence of soil affected by contaminants other than those for which the laboratory analyses were performed. No conclusions can be drawn on the presence or absence of other contaminants.

Shannon & Wilson, Inc. conducted this study according to engineering standards at the time and place where the project was conducted. The data presented in this report should be considered representative of the time of our site observations and sample collection. It is possible that our subsurface samples do not represent the highest level of contamination present at the site. Changes in the conditions of the property can occur with the passage of time, whether they are due to natural processes or from human activities on this or adjacent properties. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, or others

Alaska Mechanical Fuel Services
Attn: Mr. Chet Eldridge
June 16, 1995
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SHANNON & WILSON, INC.

beyond our control, our observations and recommendations applicable to this site may need to be revised wholly or in part.

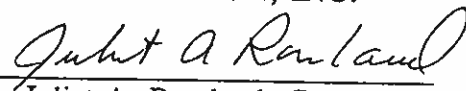
The findings we have presented within this report are based on the scope of our described services and budgetary constraints; they should not be construed as a definite conclusion about the environmental characteristics at the site.

This report was prepared for Alaska Mechanical Fuel Services, its owners, and representatives in the performance of a site assessment for the closure of the USTs at 1600 Richardson Highway, Delta Junction, Alaska, in accordance with our scope of work. If it is made available to others, it should be for information on factual data only and not as a warranty of subsurface conditions included in this report.

We trust this information is sufficient for your needs at the present time. Shannon & Wilson has prepared the enclosed "Important Information About Your Geotechnical Engineering/Subsurface Waste Management (Remediation) Report" to assist you and others in understanding the use and limitations of our reports. If you have any questions, please do not hesitate to call.

Sincerely,

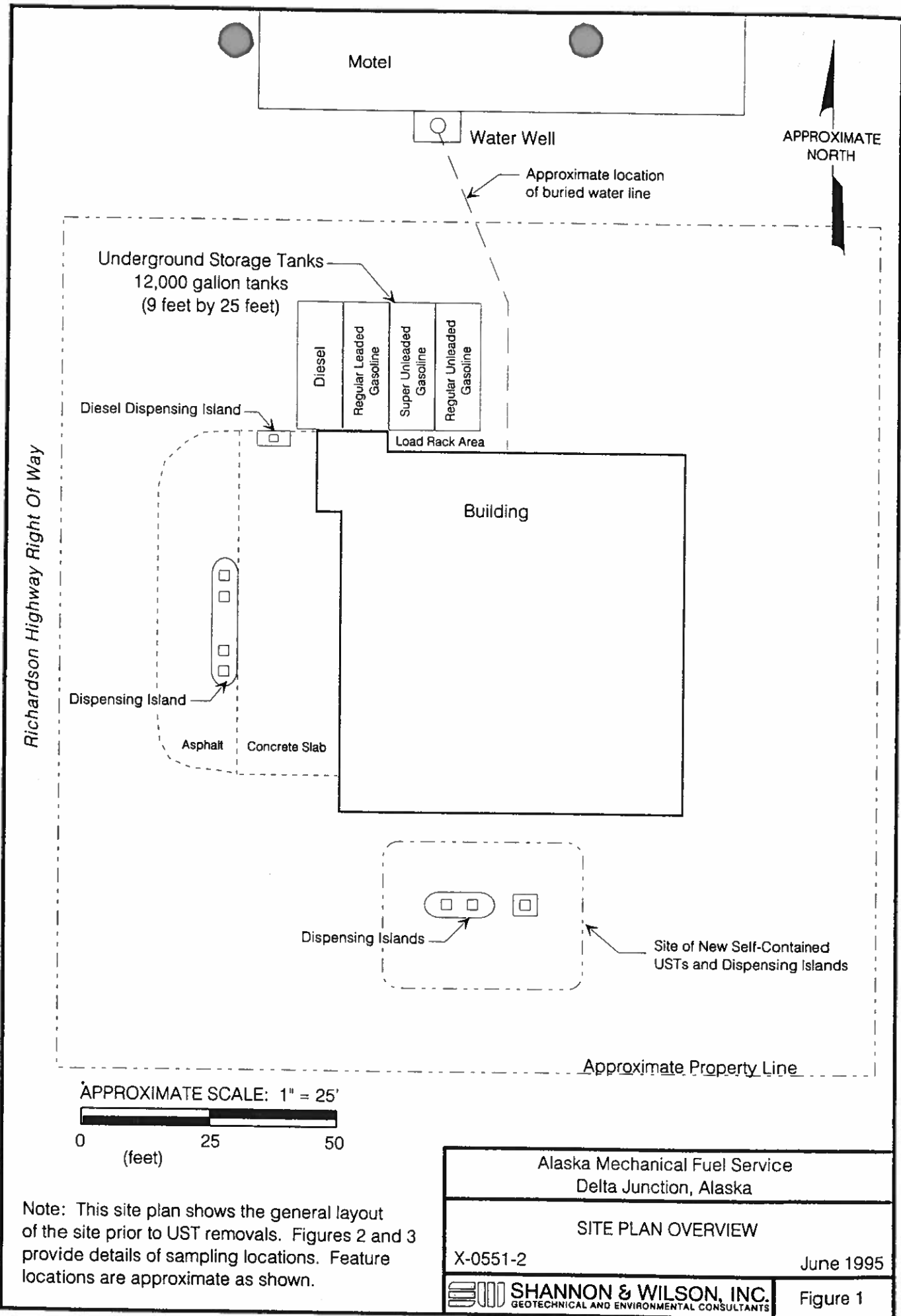
SHANNON & WILSON, INC.

By: 
Juliet A. Rowland, Geologist


Reviewed by: 
David McDowell, Associate

Enclosures: Figure 1 Site Plan Overview
Figure 2 Soil Sample Locations, South Dispensing Islands
Figure 3 Soil sample Locations, West Dispensing Islands
Figure 4 Soil Sample Locations, UST Excavation
Table 1 Summary of Analytical Results
Attachment A: Analytical Laboratory Report
Post-Closure Information for Alaska Underground Storage Tanks
"Important Information About Your Geotechnical Engineering/Subsurface Waste Management (Remediation) Report"

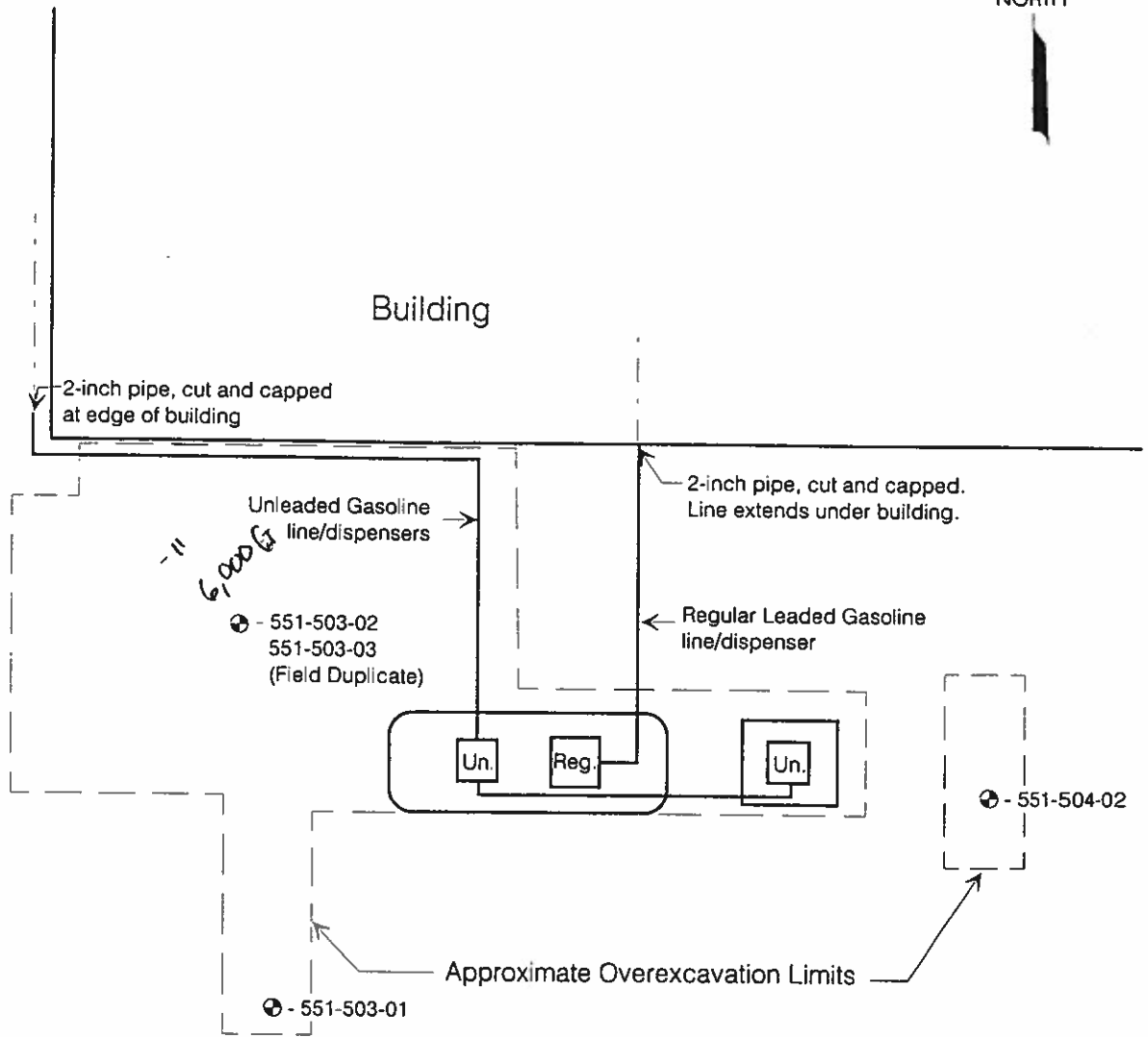
X-0551-2



Note: This site plan shows the general layout of the site prior to UST removals. Figures 2 and 3 provide details of sampling locations. Feature locations are approximate as shown.

Alaska Mechanical Fuel Service Delta Junction, Alaska	
SITE PLAN OVERVIEW	
X-0551-2	June 1995
 SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS	
Figure 1	

APPROXIMATE NORTH



Depth of overexcavation trenches ranges from 5 to 18 feet deep.
Field screening samples were collected throughout the excavations.


LEGEND

⊕ - 551-504-02 Sample location and number

APPROXIMATE SCALE: 1" = 12'



Note: Feature locations are approximate as shown.
A description of sampling procedures and observations is provided in the text of this report.

Alaska Mechanical Fuel Service Delta Junction, Alaska	
SOIL SAMPLE LOCATIONS SOUTH DISPENSING ISLANDS	
X-0551-2	June 1995
 SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS	Figure 2

APPROXIMATE NORTH

Diesel Dispensing Island

Product line goes directly to diesel UST.

- 551-2-10

Building

2-inch product pipes, cut and capped. Lines extend under concrete slab and building.

Gasoline Dispenser Island

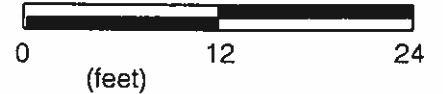
-1.5
5/10/00 G

- 551-2-05

2-inch product pipe, cut and capped. Line extends under building.

4-inch thick concrete slab was removed from between the island and the building. No over-excavation was performed at this part of the site.

APPROXIMATE SCALE: 1" = 12'



LEGEND

⊕ - 551-504-02 Sample location and number

Note: Feature locations are approximate as shown. A description of sampling procedures and observations is provided in the text of this report.

Alaska Mechanical Fuel Service
Delta Junction, Alaska

SOIL SAMPLE LOCATIONS
WEST DISPENSING ISLANDS

X-0551-2

June 1995

 SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 3

APPROXIMATE NORTH

Approximate limits of excavation

Diesel

Regular, Leaded

Super Unleaded

Unleaded

⊕ - 551-2-13
○ F

○ F

⊕ - 551-2-18
○ F

⊕ - 551-2-23
○ F

12'
1200 GAO

⊕ - 551-2-12

12'
clean

⊕ - 551-2-15

12'
1700 GAO

⊕ - 551-2-19

12'
20,000 GAO

V ○ - 551-2-25
T ○ - 551-2-26

V ○
T ○

V ○ - 551-2-16
T ○ - 551-2-17

(field duplicate)

V ○
T ○

(field duplicate)

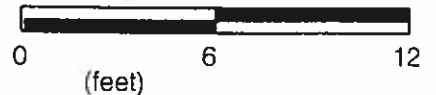
Concrete Slab

Building

Vent Outlets

All piping and turbines removed in this area and from tanks

APPROXIMATE SCALE: 1" = 6'



LEGEND

⊕ - 551-504-02 Sample location and number

V, F, T - Vent, Fill or Turbine pipes

Note: Feature locations are approximate as shown. A description of sampling procedures and observations is provided in the text of this report.

Alaska Mechanical Fuel Service
Delta Junction, Alaska

SOIL SAMPLE LOCATIONS
UST EXCAVATION

X-0551-2

June 1995

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 4

TABLE 1: SUMMARY OF ANALYTICAL RESULTS

Sample Number	Sample Location	Depth (ft)	PID (ppm)	GRPH (ppm)	Volatile Aromatic Hydrocarbons (ppm)				DRPH (ppm)
					Benzene	Toluene	Ethylbenzene	Xylenes	
551-503-01	Overexcavation limit, islands	17	10	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-503-02	Overexcavation limit, islands	11	2330	6,400	27	170	46	450	~
551-503-03	Field duplicate (551-503-02)	11	2330	4,800	17	130	35	360	~
551-504-02	Overexcavation limit, islands	15	20	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-2-05	Below west dispenser island	1.5	1820	4,900	4.4	28	5.4	700	~
551-2-10	Below diesel dispenser	3	60	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	180
551-2-12	Below center, diesel UST	11.5	940	1,200	N.D. (1.0)	3.1	2	62	8,600
551-2-13	Below north end, diesel UST	11.5	340	24	N.D. (0.050)	0.36	0.13	1.1	24
551-2-15	Below center, leaded UST	11.5	270	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-2-16	Below south end, leaded UST	11.5	> 2,500	5,500	26	200	20	520	~
551-2-17	Field duplicate (551-2-16)	11.5	> 2,500	5,900	29	230	23	620	~
551-2-18	North end, super unlead. UST	11.5	> 2,500	3,700	14	160	7	490	~
551-2-19	Center, super unlead UST	11.5	> 2,500	1,700	7.1	98	26	230	~
551-2-23	Below north end, unleaded UST	11.5	2000	400	N.D. (0.20)	3.6	0.63	46	~
551-2-25	Below south end, unleaded UST	11.5	> 2,500	9,000	110	660	130	1,100	~
551-2-26	Field duplicate (551-2-25)	11.5	> 2,500	12,000	120	990	190	1,600	~
551-2-27	"Clean" stockpile	1.5	10	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-2-28	"Clean" stockpile	1.5	20	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-2-29	"Clean" stockpile	1.5	10	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-2-30	"Clean" stockpile	1.5	10	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~
551-2-31	"Clean" stockpile	1.5	20	N.D. (5.0)	N.D. (0.050)	0.088	N.D. (0.050)	0.14	~
551-2-32	"Clean" stockpile	1.5	10	N.D. (5.0)	N.D. (0.050)	N.D. (0.050)	N.D. (0.050)	N.D. (0.10)	~

Notes: PID Readings from Microtip 2000 Photoionization detector.
 Gasoline Range Petroleum Hydrocarbons (GRPH) by EPA Method 8015 Modified.
 Volatile Aromatic Hydrocarbons (BTEX) by EPA Method 8020.
 Diesel Range Petroleum Hydrocarbons (DRPH) by EPA Method 8100 Modified.
 ~ - Not tested for.

ATTACHMENT A
ANALYTICAL LABORATORY REPORTS

Shannon and Wilson
2055 Hill Road
Fairbanks, AK 99707
Attention: David Dinkuhn

Project Name: AMFS
Client Project #: #X-0551-2
NCA Project #: B505117


Received: May 5, 1995
Reported: May 15, 1995

PROJECT SUMMARY PAGE

Laboratory Sample Number	Sample Description	Sample Matrix	Date Sampled
B505117-01	#551-503-01	Soil	5/3/95
B505117-02	#551-503-02	Soil	5/3/95
B505117-03	#551-503-03	Soil	5/3/95
B505117-04	#551-504-02	Soil	5/4/95

The results in this report apply to the samples analyzed in accordance with the chain of custody document.
This analytical report must be reproduced in its entirety.

NORTH CREEK ANALYTICAL Inc.


Shannon Stowell
Project Manager

Shannon and Wilson
2055 Hill Road
Fairbanks, AK 99707
Attention: David Dinkuhn

Client Project ID: AMFS
Sample Matrix: Soil
First Sample #: B505117-01

Received: May 5, 1995
Reported: May 15, 1995

TOTAL SOLIDS & MOISTURE CONTENT REPORT

Sample Number	Sample Description	Total Solids %	Moisture Content %
B505117-01	#551-503-01	78	22
B505117-02	#551-503-02	88	12
B505117-03	#551-503-03	87	13
B505117-04	#551-504-02	98	2.0

The enclosed analytical results for soils, sediments and sludges have been converted to a DRY WEIGHT reporting basis. To attain the wet weight "as received" equivalent, multiply the dry weight result by the decimal fraction of percent Total Solids.

NORTH CREEK ANALYTICAL Inc.


Shannon Stowell
Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: David Dinkuhn

 Client Project ID: AMFS
 Matrix Descript: Soil
 Analysis Method: EPA 8015 Modified
 First Sample #: B505117-01

 Sampled: May 3, 1995
 Received: May 5, 1995
 Analyzed: May 11, 1995
 Reported: May 15, 1995

VOLATILE PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Sample Result mg/kg (ppm)	Surrogate Recovery %
B505117-01	#551-503-01	N.D.	99
B505117-02	#551-503-02	6,400	Diluted Out
B505117-03	#551-503-03	4,800	Diluted Out
B505117-04	#551-504-02 5/4/95	N.D.	114
BLK051195	Method Blank	N.D.	126

Reporting Limit:	5.0
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Volatile Petroleum Hydrocarbons are quantitated as Gasoline Range Organics (2-Methylpentane - 1,2,4-Trimethylbenzene).
 Surrogate recovery reported is for Bromofluorobenzene. Analytes reported as N.D. were not detected above the stated Reporting Limit.
 The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.

 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: David Dinkuhn

 Client Project ID: AMFS
 Sample Matrix: Water
 Analysis Method: EPA 8015 Modified
 Units: µg/L (ppb)

 Analyst: B. Christlieb
 F. Shino

 Analyzed: May 8, 1995
 Reported: May 15, 1995

HYDROCARBON QUALITY CONTROL DATA REPORT

ACCURACY ASSESSMENT

Laboratory Control Sample

Gasoline

**Spike Conc.
Added:** 5.0

**Spike
Result:** 3.4

**%
Recovery:** 68

**Upper Control
Limit %:** 132

**Lower Control
Limit %:** 56

PRECISION ASSESSMENT

Sample Duplicate

Gasoline Range Organics

**Sample
Number:** B505163-08

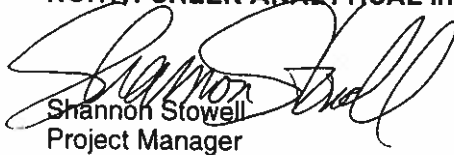
**Original
Result:** 4,000

**Duplicate
Result:** 3,400

**Relative
% Difference:** 16

**Maximum
RPD:** 50

NORTH CREEK ANALYTICAL Inc.



Shannon Stowell
Project Manager

% Recovery: $\frac{\text{Spike Result}}{\text{Spike Concentration Added}} \times 100$

Relative % Difference: $\frac{\text{Original Result} - \text{Duplicate Result}}{(\text{Original Result} + \text{Duplicate Result}) / 2} \times 100$

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: David Dinkuhn

 Client Project ID: AMFS
 Sample Matrix: Soil
 Analysis Method: EPA 8020
 First Sample #: B505117-01

 Sampled: May 3, 1995
 Received: May 5, 1995
 Analyzed: May 11, 1995
 Reported: May 15, 1995

BTEX DISTINCTION

Sample Number	Sample Description	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)	Surrogate Recovery %
B505117-01	#551-503-01	N.D.	N.D.	N.D.	N.D.	98
B505117-02	#551-503-02	27	170	46	450	Diluted Out
B505117-03	#551-503-03	17	130	35	360	Diluted Out
B505117-04	#551-504-02 5/4/95	N.D.	N.D.	N.D.	N.D.	112
BLK051195	Method Blank	N.D.	N.D.	N.D.	N.D.	91

Reporting Limits:
0.050
0.050
0.050
0.10

4-Bromofluorobenzene surrogate recovery control limits are 34 - 166 %.
 Analytes reported as N.D. were not detected above the stated Reporting Limit.
 The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.

 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: David Dinkuhn

 Client Project ID: AMFS
 Sample Matrix: Soil
 Analysis Method: EPA 8020
 Units: mg/kg (ppm)
 QC Sample #: B505096-02

 Analyst: B. Christlieb
 F. Shino
 Analyzed: May 9, 1995
 Reported: May 15, 1995

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	Matrix			
	Benzene	Toluene	Ethyl Benzene	Xylenes
Sample Result:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.65	0.65	0.65	1.94
Spike Result:	0.49	0.49	0.51	1.56
Spike % Recovery:	75%	75%	78%	80%
Spike Dup. Result:	0.49	0.50	0.52	1.57
Spike Duplicate % Recovery:	75%	77%	80%	81%
Upper Control Limit %:	111	118	120	128
Lower Control Limit %:	59	55	61	55
Relative % Difference:	0.0%	2.0%	1.9%	<1.0%
Maximum RPD:	17	16	17	17

NORTH CREEK ANALYTICAL Inc.

% Recovery:	$\frac{\text{Spike Result} - \text{Sample Result}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Spike Result} - \text{Spike Dup. Result}}{(\text{Spike Result} + \text{Spike Dup. Result}) / 2} \times 100$


 Shannon Stowell
 Project Manager



Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

11500 Olive Blvd., Suite 276
St. Louis, MO 63141
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2055 Hill Road
Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120
Fax: (907) 561-4483

Chain of Custody Record

Analysis Parameters/Sample Container Description
(include preservative if used)

Page 1 of 1
Laboratory _____
Attn: _____

Sample Identity	Lab No.	Time Sampled	Date Sampled	Comp.	Grab	Geo/BTEX	Total Number of Containers	Remarks/Matrix
551-503-01	8505117-01		5/3/95		X			SOIL
551-503-02	-02				X			
551-503-03	-03				X			
551-504-02	-04		5/4/95		X			

Project Information	Sample Receipt
Project Number: X-0551-Z	Total Number of Containers
Project Name: AMFS	COC Seals/Intact Y/N/NA
Contact: D. DINKLHIN	Received Good Cond./Cold
Ongoing Project? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Delivery Method:
Sampler: JAMES	(attached shipping bill, if any)
Instructions	
Requested Turn Around Time: 3DP	
Special Instructions:	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: <i>[Signature]</i>	Signature: _____	Signature: _____
Printed Name: DAVID DINKLHIN	Printed Name: _____	Printed Name: _____
Company: SHANNON & WILSON	Company: _____	Company: _____
Time: 1:33	Time: _____	Time: _____
Date: 5/4/95	Date: _____	Date: _____
Received By: 1.	Received By: 2.	Received By: 3.
Signature: <i>[Signature]</i>	Signature: _____	Signature: _____
Printed Name: JEFF CARREER	Printed Name: _____	Printed Name: _____
Company: NCA	Company: _____	Company: _____
Time: 11AM	Time: _____	Time: _____
Date: 5/4/95	Date: _____	Date: _____

Distribution: White - w/ shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/ shipment - for consignee files
Pink - Shannon & Wilson - job file

Shannon and Wilson
2055 Hill Road
Fairbanks, AK 99707
Attention: Julie RowlandProject Name: AK Mechanical Fuel
Client Project : #X-0551-2
NCA Project #: B506187Received: Jun 12, 1995
Reported: Jun 15, 1995**PROJECT SUMMARY PAGE**

Laboratory Sample Number	Sample Description	Sample Matrix	Date Sampled
B506187-01	#551-2-05	Soil	6/9/95
B506187-06	#551-2-10	Soil	6/9/95
B506187-08	#551-2-12	Soil	6/9/95
B506187-09	#551-2-13	Soil	6/9/95
B506187-11	#551-2-15	Soil	6/9/95
B506187-12	#551-2-16	Soil	6/9/95
B506187-13	#551-2-17	Soil	6/9/95
B506187-14	#551-2-18	Soil	6/10/95
B506187-15	#551-2-19	Soil	6/10/95
B506187-19	#551-2-23	Soil	6/10/95
B506187-21	#551-2-25	Soil	6/10/95

The results in this report apply to the samples analyzed in accordance with the chain of custody document.
This analytical report must be reproduced in its entirety.

NORTH CREEK ANALYTICAL Inc.
Shannon Stowell
Project Manager

Shannon and Wilson
2055 Hill Road
Fairbanks, AK 99707
Attention: Julie Rowland

Project Name: AK Mechanical Fuel
Client Project : #X-0551-2
NCA Project #: B506187

Received: Jun 12, 1995
Reported: Jun 15, 1995

PROJECT SUMMARY PAGE

Laboratory Sample Number	Sample Description	Sample Matrix	Date Sampled
B506187-22	#551-2-26	Soil	6/9/95
B506187-23	#551-2-27	Soil	6/9/95
B506187-24	#551-2-28	Soil	6/9/95
B506187-25	#551-2-29	Soil	6/9/95
B506187-26	#551-2-30	Soil	6/9/95
B506187-27	#551-2-31	Soil	6/9/95
B506187-28	#551-2-32	Soil	6/9/95

The results in this report apply to the samples analyzed in accordance with the chain of custody document.
This analytical report must be reproduced in its entirety.

NORTH CREEK ANALYTICAL Inc.


Shannon Stowell
Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil

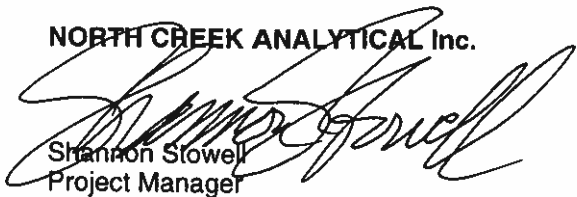
First Sample #: B506187-01

 Received: Jun 12, 1995
 Reported: Jun 15, 1995

TOTAL SOLIDS & MOISTURE CONTENT REPORT

Sample Number	Sample Description	Total Solids %	Moisture Content %
B506187-01	#551-2-05	96	3.6
B506187-06	#551-2-10	78	23
B506187-08	#551-2-12	84	17
B506187-09	#551-2-13	99	0.70
B506187-11	#551-2-15	99	1.4
B506187-12	#551-2-16	94	6.1
B506187-13	#551-2-17	96	4.0
B506187-14	#551-2-18	97	3.3
B506187-15	#551-2-19	98	1.7
B506187-19	#551-2-23	94	5.9
B506187-21	#551-2-25	96	3.9

The enclosed analytical results for soils, sediments and sludges have been converted to a DRY WEIGHT reporting basis. To attain the wet weight "as received" equivalent, multiply the dry weight result by the decimal fraction of percent Total Solids.

NORTH CREEK ANALYTICAL Inc.

 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil

First Sample #: B506187-22

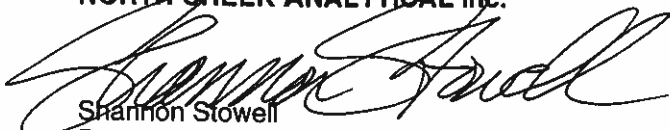
 Received: Jun 12, 1995
 Reported: Jun 15, 1995

TOTAL SOLIDS & MOISTURE CONTENT REPORT

Sample Number	Sample Description	Total Solids %	Moisture Content %
B506187-22	#551-2-26	94	5.6
B506187-23	#551-2-27	99	1.4
B506187-24	#551-2-28	99	0.60
B506187-25	#551-2-29	98	2.3
B506187-26	#551-2-30	97	2.7
B506187-27	#551-2-31	98	1.7
B506187-28	#551-2-32	98	2.2

The enclosed analytical results for soils, sediments and sludges have been converted to a DRY WEIGHT reporting basis.
 To attain the wet weight "as received" equivalent, multiply the dry weight result by the decimal fraction of percent Total Solids.

NORTH CREEK ANALYTICAL Inc.


 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Matrix Descript: Soil
 Analysis Method: EPA 8015 Modified
 First Sample #: B506187-01

 Sampled: Jun 9, 1995
 Received: Jun 12, 1995
 Analyzed: Jun 13-15, 1995
 Reported: Jun 15, 1995

VOLATILE PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Sample Result mg/kg (ppm)	Surrogate Recovery %
B506187-01	#551-2-05	4,900	S-2
B506187-06	#551-2-10	N.D.	97
B506187-08	#551-2-12	1,200 G-1	S-2
B506187-09	#551-2-13	24 G-1	127
B506187-11	#551-2-15	N.D.	122
B506187-12	#551-2-16	5,500 G-1	S-2
B506187-13	#551-2-17	5,900 G-1	Diluted Out
B506187-14	#551-2-18 6/10/95	3,700 G-1	S-2
B506187-15	#551-2-19 6/10/95	1,700	S-2
B506187-19	#551-2-23 6/10/95	400 G-1	139

Reporting Limit:	5.0
-------------------------	------------

Volatile Petroleum Hydrocarbons are quantitated as Gasoline Range Organics (2-Methylpentane - 1,2,4-Trimethylbenzene).
 Surrogate recovery reported is for Bromofluorobenzene. Analytes reported as N.D. were not detected above the stated Reporting Limit.
 The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.

Please Note:

S-2 - The Surrogate Recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.


 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

Client Project ID: AK Mechanical Fuel
 Matrix Descript: Soil
 Analysis Method: EPA 8015 Modified
 First Sample #: B506187-21

Sampled: Jun 10, 1995
 Received: Jun 12, 1995
 Analyzed: Jun 13, 1995
 Reported: Jun 15, 1995

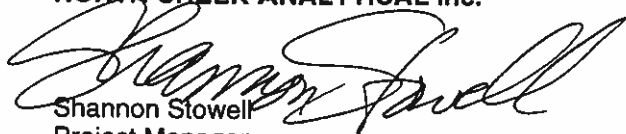
VOLATILE PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

Sample Number	Sample Description	Sample Result mg/kg (ppm)	Surrogate Recovery %
B506187-21	#551-2-25	9,000	Diluted Out
B506187-22	#551-2-26	12,000	Diluted Out
B506187-23	#551-2-27	N.D.	122
B506187-24	#551-2-28	N.D.	115
B506187-25	#551-2-29	N.D.	112
B506187-26	#551-2-30	N.D.	105
B506187-27	#551-2-31	N.D.	113
B506187-28	#551-2-32	N.D.	111
BLK061395	Method Blank	N.D.	113

Reporting Limit: 5.0

Volatile Petroleum Hydrocarbons are quantitated as Gasoline Range Organics (2-Methylpentane - 1,2,4-Trimethylbenzene).
 Surrogate recovery reported is for Bromofluorobenzene. Analytes reported as N.D. were not detected above the stated Reporting Limit.
 The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.



Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil
 Analysis Method: EPA 8015 Modified
 Units: mg/kg (ppm)

 Analyst: B. Christlieb
 F. Shino

 Analyzed: Jun 13, 1995
 Reported: Jun 15, 1995

HYDROCARBON QUALITY CONTROL DATA REPORT

ACCURACY ASSESSMENT Laboratory Control Sample

Gasoline

Spike Conc. Added:	5.0
Spike Result:	3.7
% Recovery:	74
Upper Control Limit %:	115
Lower Control Limit %:	33

PRECISION ASSESSMENT Sample Duplicate

 Gasoline Range
Hydrocarbons

Sample Number:	B506187-01
Original Result:	4900
Duplicate Result:	6100
Relative % Difference:	23
Maximum RPD:	67

NORTH CREEK ANALYTICAL Inc.

% Recovery:	$\frac{\text{Spike Result}}{\text{Spike Concentration Added}} \times 100$
-------------	---

Relative % Difference:	$\frac{\text{Original Result} - \text{Duplicate Result}}{(\text{Original Result} + \text{Duplicate Result}) / 2} \times 100$
------------------------	--


 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil
 Analysis Method: EPA 8020
 First Sample #: B506187-01

 Sampled: Jun 9, 1995
 Received: Jun 12, 1995
 Analyzed: Jun 13, 1995
 Reported: Jun 15, 1995

BTEX DISTINCTION

Sample Number	Sample Description	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)	Surrogate Recovery %
B506187-01	#551-2-05	4.4	28	5.4	700	S-2
B506187-06	#551-2-10	N.D.	N.D.	N.D.	N.D.	95
B506187-08	#551-2-12	N.D. (R.L. = 1.0)	3.1	2.0	62	S-2
B506187-09	#551-2-13	N.D.	0.37	0.13	1.1	131
B506187-11	#551-2-15	N.D.	N.D.	N.D.	N.D.	112
B506187-12	#551-2-16	26	200	20	520	S-2
B506187-13	#551-2-17	29	230	23	620	Diluted Out
B506187-14	#551-2-18 6/10/95	14	160	7.0	490	S-2
B506187-15	#551-2-19 6/10/95	7.1	98	26	230	S-2
B506187-19	#551-2-23 6/10/95	N.D. (R.L. = 0.20)	3.6	0.63	46	136

Reporting Limits:	0.050	0.050	0.050	0.10
--------------------------	--------------	--------------	--------------	-------------

4-Bromofluorobenzene surrogate recovery control limits are 34 - 166 %.
 Analytes reported as N.D. were not detected above the stated Reporting Limit.
 The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.

Please Note:

S-2 = The Surrogate Recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.


 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil
 Analysis Method: EPA 8020
 First Sample #: B506187-21


 Sampled: Jun 10, 1995
 Received: Jun 12, 1995
 Analyzed: Jun 13, 1995
 Reported: Jun 15, 1995

BTEX DISTINCTION

Sample Number	Sample Description	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)	Surrogate Recovery %
B506187-21	#551-2-25	110	660	130	1,100	Diluted Out
B506187-22	#551-2-26	120	990	190	1,600	Diluted Out
B506187-23	#551-2-27	N.D.	N.D.	N.D.	N.D.	111
B506187-24	#551-2-28	N.D.	N.D.	N.D.	N.D.	110
B506187-25	#551-2-29	N.D.	N.D.	N.D.	N.D.	107
B506187-26	#551-2-30	N.D.	N.D.	N.D.	N.D.	102
B506187-27	#551-2-31	N.D.	0.088	N.D.	0.14	100
B506187-28	#551-2-32	N.D.	N.D.	N.D.	N.D.	106
BLK061395	Method Blank	N.D.	N.D.	N.D.	N.D.	103

Reporting Limits:	0.050	0.050	0.050	0.10
--------------------------	--------------	--------------	--------------	-------------

4-Bromofluorobenzene surrogate recovery control limits are 34 - 166 %.
 Analytes reported as N.D. were not detected above the stated Reporting Limit.
 The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.


Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil
 Analysis Method: EPA 8020
 Units: mg/kg (ppm)
 QC Sample #: B506187-27

 Analyst: B. Christlieb
 F. Shino
 Analyzed: Jun 14, 1995
 Reported: Jun 15, 1995

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	ANALYTE			
	Benzene	Toluene	Ethyl Benzene	Xylenes
Sample Result:	N.D.	0.086	N.D.	0.14
Spike Conc. Added:	0.50	0.50	0.50	1.50
Spike Result:	0.46	0.48	0.48	1.42
Spike % Recovery:	92%	79%	96%	85%
Spike Dup. Result:	0.46	0.47	0.47	1.41
Spike Duplicate % Recovery:	92%	77%	94%	85%
Upper Control Limit %:	111	118	120	128
Lower Control Limit %:	59	55	61	55
Relative % Difference:	0.0%	2.1%	2.1%	<1.0%
Maximum RPD:	17	16	17	17

NORTH CREEK ANALYTICAL Inc.

% Recovery:	$\frac{\text{Spike Result} - \text{Sample Result}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Spike Result} - \text{Spike Dup. Result}}{(\text{Spike Result} + \text{Spike Dup. Result}) / 2} \times 100$


 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Matrix Descript: Soil
 Analysis Method: EPA 8100 Modified
 First Sample #: B506187-06

 Sampled: Jun 9, 1995
 Received: Jun 12, 1995
 Extracted: Jun 13, 1995
 Analyzed: Jun 14-16, 1995
 Reported: Jun 15, 1995

EXTRACTABLE PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS

Sample Number	Sample Description	Sample Result mg/kg (ppm)	Surrogate Recovery %
B506187-06	#551-2-10	180	65
B506187-08	#551-2-12	8,600	94
B506187-09	#551-2-13	24	74
BLK061395	Method Blank	N.D.	76

Reporting Limit:	4.0
-------------------------	------------

Extractable Petroleum Hydrocarbons are quantitated as Diesel Range Organics (C10 - C28). Surrogate recovery reported is for 2-Fluorobiphenyl. Analytes reported as N.D. were not detected above the stated Reporting Limit. The results reported above are on a dry weight basis.

NORTH CREEK ANALYTICAL Inc.

 Shannon Stowell
 Project Manager

Shannon and Wilson
 2055 Hill Road
 Fairbanks, AK 99707
 Attention: Julie Rowland

 Client Project ID: AK Mechanical Fuel
 Sample Matrix: Soil
 Analysis Method: EPA 8100 Modified
 Units: mg/kg (ppm)
 QC Sample #: BLK061395

 Analyst: T. Fitzgibbon
 Extracted: Jun 13, 1995
 Analyzed: Jun 14, 1995
 Reported: Jun 15, 1995

BLANK SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	Diesel Fuel
---------	-------------

Sample Result: N.D.

Spike Conc. Added: 68

Spike Result: 58

Spike % Recovery: 85%

Spike Dup. Result: 52

Spike Duplicate % Recovery: 76%


Upper Control Limit %: 118

Lower Control Limit %: 71

Relative % Difference: 11%

Maximum RPD: 13

NORTH CREEK ANALYTICAL Inc.


 Shannon Stowell
 Project Manager

% Recovery:	$\frac{\text{Spike Result} - \text{Sample Result}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Spike Result} - \text{Spike Dup. Result}}{(\text{Spike Result} + \text{Spike Dup. Result}) / 2} \times 100$



Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

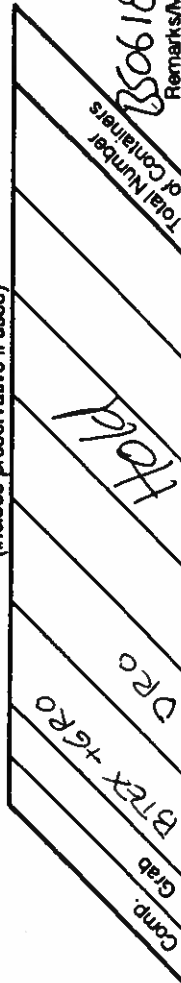
11500 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

2055 Hill Road
Fairbanks, AK 99707
(907) 478-0600

6430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 581-2120

Chain of Custody Record

Analysis Parameters/Sample Container Description (include preservative if used)



18506187
Remarks/Matrix

Sample Identity	Lab No.	Time	Date Sampled	Camp	Grab	BTEX+GRO	DRO	Total Number of Containers	Remarks/Matrix
551-2-15		2115	6-9-95			✓		1	SOIL
551-2-16		2121	"			✓		1	"
551-2-17		2121	"			✓		1	"
551-2-18		1130	6-10			✓		1	"
551-2-19		1135	6-10			✓		1	"
551-2-20		1138	"			✓		1	"
551-2-21		0945	"			✓		2	"
551-2-22		1230	"			✓		1	"
551-2-23		1515	"			✓		1	"
551-2-24		1520	"			✓		1	"

Project Information	Sample Receipt	Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Project Number: <u>551-2</u>	Total Number of Containers: <u>34</u>	Signature: <u>Dubut & Rowland</u>	Signature: _____	Signature: _____
Project Name: <u>DeHe Texco</u>	COC Seals/Intact? <u>YN/NA</u>	Printed Name: _____	Printed Name: _____	Printed Name: _____
Contact: <u>Julie Rowland</u>	Received Good Cond./Cold: _____	Date: <u>6-1-95</u>	Date: _____	Date: _____
Ongoing Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Delivery Method: <u>DHL</u>	Company: <u>Shannon & Wilson</u>	Company: _____	Company: _____
Sampler: <u>JR</u>	(attach shipping bill, if any)	Received By: 1. Signature: <u>[Signature]</u>	Received By: 2. Signature: _____	Received By: 3. Signature: _____
Instructions		Time: <u>1:00</u>	Time: _____	Time: _____
Requested Turn Around Time: <u>3 DAY - FAST</u>		Printed Name: <u>[Signature]</u>	Printed Name: _____	Printed Name: _____
Special Instructions: <u>Request ADE - Date Determined</u>		Date: <u>6/2/95</u>	Date: _____	Date: _____
<u>I will call Monday - (6-2-95) to let you know which samples here do NOT need testing</u>		Company: <u>NCA</u>	Company: _____	Company: _____

Shannon & Wilson, Inc.
 400 N. 34th Street, Suite 100
 Seattle, WA 98103
 (206) 632-8020

11500 Olive Blvd., Suite 276
 St. Louis, MO 63141
 (314) 872-8170

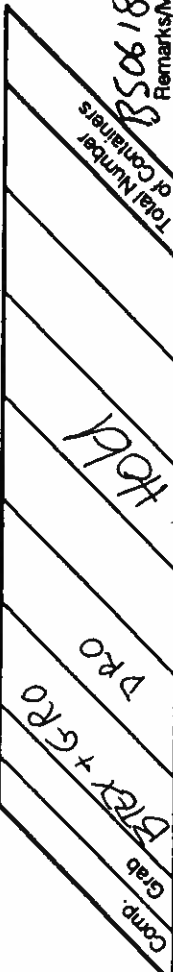
5430 Fairbanks Street, Suite 3
 Anchorage, AK 99518
 (907) 561-2120

2055 Hill Road
 Fairbanks, AK 99707
 (907) 479-0600

Chain of Custody Record

Page 1 of 3
 Laboratory NCL
 Attn: SHANNON S.

Analysis Parameters/Sample Container Description
 (include preservative if used)



Sample Identity	Lab No.	Date Sampled	Time	Comp	Grab	Analysis Parameters/Sample Container Description	Total Number of Containers	Remarks/Matrix
551-2-05	1340	6-9-95	6:45	✓			1	SOIL -9
551-2-06		"	1340	✓		*	1	02
551-2-07		"	1350	✓		*	1	03
551-2-08		"	1345	✓		*	1	04
551-2-09		"	1545	✓		*	2	05
551-2-10		"	1545	✓		*	2	06
551-2-11		"	1838	✓		*	2	07
551-2-12		"	1835	✓			2	08
551-2-13		"	1830	✓			2	09
551-2-14		"	2118	✓		*	1	10

Project Information	Sample Receipt	Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Project Number: <u>X-0551-2</u>	Total Number of Containers: <u>34</u>	Signature: <u>Gabriel Rowland</u>	Signature: _____	Signature: _____
Project Name: <u>AK Mechanical Inc</u>	COC Seals/Intact? <u>Y/N/A</u>	Printed Name: <u>Julie Rowland</u>	Printed Name: _____	Printed Name: _____
Contact: <u>Julie Rowland</u>	Received Good Cond./Cold	Date: <u>6-11-95</u>	Date: _____	Date: _____
Ongoing Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Delivery Method: <u>DHL</u>	Company: <u>Shannon & Wilson</u>	Company: _____	Company: _____
Sampler: <u>JR</u>	(attach shipping bill, if any)	Received By: <u>1.</u>	Received By: <u>2.</u>	Received By: <u>3.</u>
Instructions Requested Turn Around Time: <u>3DAY - FAST</u> Special Instructions: <u>Request DEC date Determination. I will call Monday (6-12-95) to let you know which of these Do NOT need testing.</u>				
Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File				

Shannon & Wilson, Inc.
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Chain of Custody Record

Page 3 of 3
 Laboratory NCL
 Attn: SS

Analysis Parameters/Sample Container Description
 (include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp		Total Containers		Remarks/Matrix
				Grab	BRX+GRD			
551-2-25		1523	6-10	1		1		SOIL -21
551-2-26		1525		1		1		22
551-2-27		1550		1		1		23
551-2-28		1558		1		1		24
551-2-29		1600		1		1		25
551-2-30		1603		1		1		26
551-2-31		1607		1		1		27
551-2-32		1610		1		1		28

Project Information	Sample Receipt	Relinquished By: 1	Relinquished By: 2	Relinquished By: 3
Project Number: X-0551-2	Total Number of Containers: 34	Signature: <i>Robert Rowland</i>	Signature: _____	Signature: _____
Project Name: Delta Texaco	COC Seals/Intact? Y/N/NA: -	Printed Name: <i>Robert Rowland</i>	Printed Name: _____	Printed Name: _____
Contact: <i>Julie Rowland</i>	Received Good Cond./Cold: _____	Date: <i>6-11-95</i>	Date: _____	Date: _____
Ongoing Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Delivery Method: <i>DHL</i>	Company: <i>Shannon & Wilson</i>	Company: _____	Company: _____
Sampler: <i>JR</i>	(attach shipping bill, if any)	Received By: <i>[Signature]</i>	Received By: <i>[Signature]</i>	Received By: <i>[Signature]</i>
Requested Turn Around Time: <i>3 DAY - FAST</i>		Time: <i>1100</i>	Time: _____	Time: _____
Special Instructions: <i>NEED ADEC DATA REZULTABLES I WILL CALL MONDAY (6/12) TO LET YOU KNOW WHICH SAMPLE DO NOT NEED TESTING.</i>		Printed Name: <i>HERE</i>	Printed Name: _____	Printed Name: _____
Distribution: <i>White - w/shipment - returned to Shannon & Wilson w/ Laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File</i>		Company: <i>NCA</i>	Company: _____	Company: _____



**POST-CLOSURE INFORMATION
FOR ALASKA UNDERGROUND STORAGE TANKS**
Post Closure information and site assessment report is required 30 days closure activities.



Facility - Location
(Do not use P.O. Box)

Tank Owner

Name ALASKA MECHANICAL FUEL SERVICE
Address 1600 RICHARDSON HIGHWAY
DELTA JUNCTION, AK
Phone 907 895 4067

Name CHESTER ELDRIDGE
Address Box 284
DELTA JUNCTION, AK 9973
Phone 907 895 4067

Facility ID # 0125

SITE ASSESSMENT MUST BE COMPLETED FOR ANY TANK CLOSURE

Site Assessment Performed By: Shannon + Wilson Inc.

Closure Performed By: Soil Services, Inc UST License # 318

Date Site Assessment Performed: MAY 3-4 and JUNE 9-10, 1995

SITE ASSESSMENT REPORT MUST BE SUBMITTED TO DEPARTMENT OF ENVIRONMENTAL CONSERVATION DISTRICT OFFICE

Was the closed tank replaced by new UST? Yes ✓ No
If yes, please submit a new registration form containing information on the new tanks.

Tanks Removed Or Closed In-ground

<u>Tank Number</u>	<u>Tank Size</u>	<u>Removed or Closed In-ground</u>	<u>Last Product Stored</u>	<u>Leaking?</u>
<u>1</u>	<u>12,000 g</u>	<u>Removed</u>	<u>May 1995</u>	<u>YES</u>
<u>2</u>	<u>12,000 g</u>	<u>Removed</u>	<u>May 1995</u>	<u>YES</u>
<u>3</u>	<u>12,000 g</u>	<u>Removed</u>	<u>May 1995</u>	<u>YES</u>
<u>4</u>	<u>12,000 g</u>	<u>Removed</u>	<u>May 1995</u>	<u>YES</u>

All releases should be reported to a DEC District Office within 24 hours. For further information refer to the Alaska Underground Storage Tank Regulations (18 AAC 78) or contact the Department of Environmental Conservation.

Submitted By: Juliet A. Rowland Shannon+Wilson 479 0600
(Name) (Firm) (Phone)

Return Completed Form to: Alaska Department of Environmental Conservation
3601 C Street, Suite 398
Anchorage, AK 99503
FAX # (907) 563-6032

Dated: June 15, 1995

To: Mr. Jim Weymiller

Alaska Mechanical Fuel Service

X-0551-2

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland