

**UST CLOSURE SITE ASSESSMENT
SEEKINS FORD-LINCOLN-MERCURY
FAIRBANKS, ALASKA**

File # 100-26-131

ISSUE NO. 1

Submitted To:

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1180 Chena Pump Road
Fairbanks, Alaska 99709

Submitted By:

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UST CLOSURE SITE ASSESSMENT

Seekins Ford-Lincoln-Mercury

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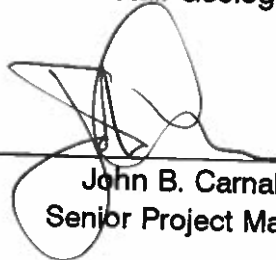
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32-01136-00



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1.0 INTRODUCTION

In September and October 1994, AGRA Earth & Environmental, Inc. (AGRA) completed the closure site assessment for two separate underground storage tank (UST) systems, formerly located on the Seekins Ford-Lincoln-Mercury, Inc. (Seekins) property. One system was composed of two 500-gallon used oil tanks and was located on the southwestern portion of the Seekins lot near the automotive service center. The second system consisted of a 5,000-gallon gasoline tank and a 2,000-gallon diesel tank. The gasoline and diesel USTs were used for refueling both company vehicles and vehicles for sale. A septic tank was additionally removed during the excavation operations conducted in the gasoline/diesel tank area. The property is located at 1625 Old Steese Highway in Fairbanks and is legally described as Tract C, Maija Subdivision, Fairbanks, Alaska. Figure 1 (page 2) shows the project vicinity. Figure 2 (page 3) depicts the generalized site layout.

AGRA has prepared this UST Closure Site Assessment to document the removal of the four USTs and potentially impacted soils and to present closure soil sample analytical results. This report contains:

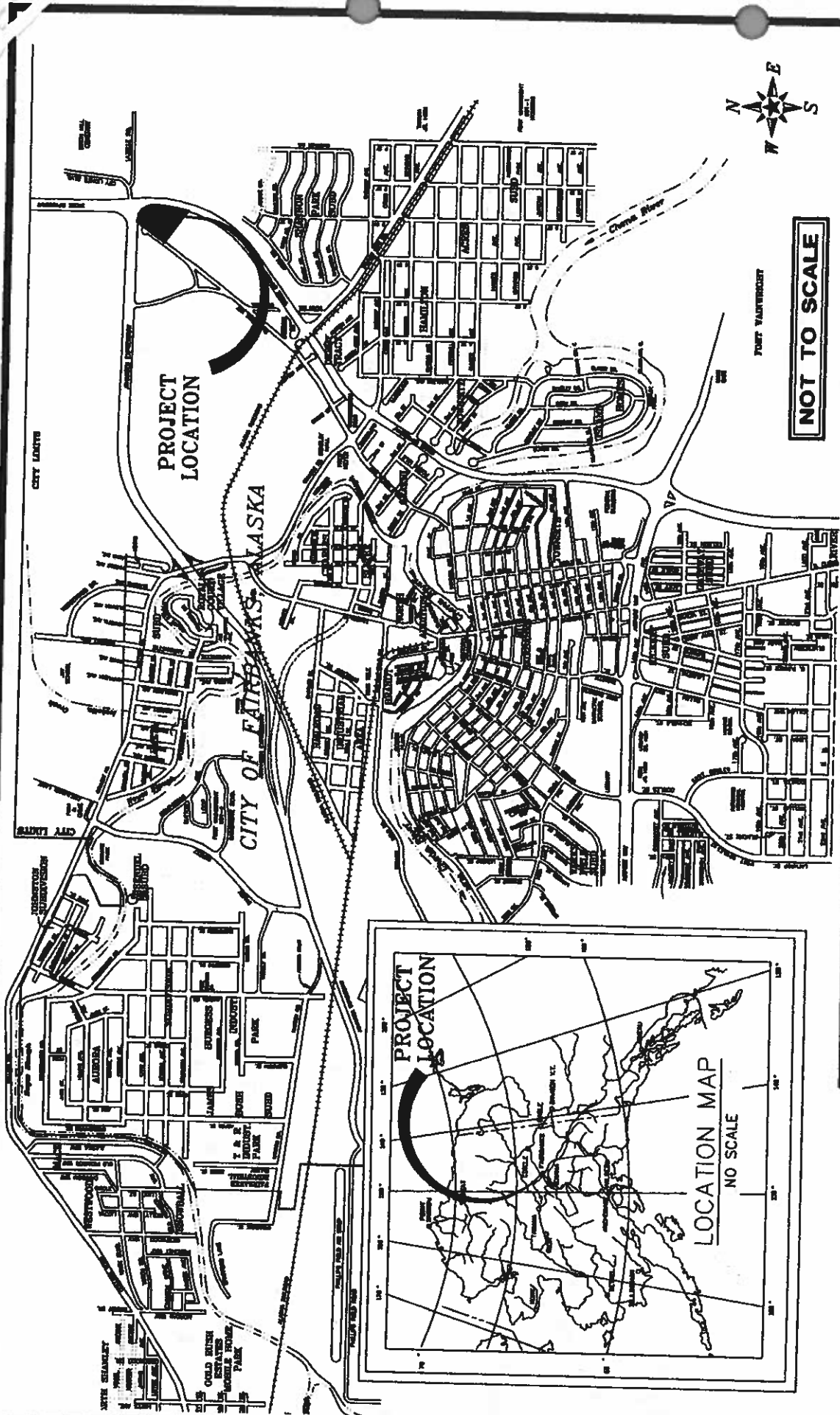
- (1) A summary of on-site work conducted by M&M Constructors and AGRA personnel;
- (2) Photographs of work in progress;
- (3) Observations noting subsurface conditions, soil types, stratification, and zones of potential hydrocarbon impacts;
- (4) Results obtained for soil samples submitted for laboratory analysis;
- (5) Site drawings and maps locating the site and depicting the project area; and
- (6) Disposition of all petroleum-impacted soils.

In addition, we provide our recommendations for further assessment at the Seekins property.

1.1 PROJECT DESCRIPTION

The objective of the project was to remove the four referenced tanks in accordance with the Alaska Department of Environmental Conservation (ADEC) *Underground Storage Tank* regulations (18 AAC 78). AGRA was responsible for conducting site monitoring, collecting representative soil samples from the base of each excavated area, and completing this site assessment report. M&M Constructors, Inc. (M&M) of Fairbanks performed the tank system decommissioning and removed the USTs (Certified UST License No. AA 119), excavated and transported the impacted soil, and backfilled the excavation. Prior to the start of work and on a continuing basis during the project operations, M&M and AGRA personnel coordinated with Mr. Al Haynes of Seekins Ford to minimize any disruptions to daily operations at the Seekins property.





VICINITY MAP

SEEKINS FORD UST
 1625 OLD STEESE HWY
 FAIRBANKS, AK

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FROM CITY OF FAIRBANKS
 VICINITY MAP

FIGURE 1

OLD STEESE HIGHWAY

JOHANSEN EXPRESSWAY

STEESE EXPRESSWAY

SITE ENTRANCE

MEDIAN

GARAGE AREA

SEEKINS FORD
LINCOLN-MERCURY

ADMINISTRATIVE
OFFICES/
SHOWROOM

GARAGE AREA

GARAGE ENTRANCE

FORMER GASOLINE
/DIESEL TANK
AREA

FORMER USED OIL
TANK AREA

DIKED ABOVE-GROUND
STORAGE TANK

PARKING AREA

PARKING AREA

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SITE PLAN

SEEKINS FORD UST
1625 OLD STEESE HWY
FAIRBANKS, AK

FIGURE 2

Preliminary characterization samples were analyzed by Boreochem of Fairbanks, Alaska, on a rush basis when necessary. Excavation closure samples and samples collected from the temporarily stockpiled soils were submitted to Superior Precision Analytical Laboratories (SPAL) of Martinez, California.

The project included the following activities:

- Health and Safety Plan development;
- Excavation and removal of two 500-gallon single-walled metal USTs, formerly containing used oil;
- Excavation and removal of one 5,000-gallon and one 2,000-gallon single-walled metals USTs, formerly containing gasoline and diesel fuel products, respectively;
- Environmental monitoring and sampling during the removal process;
- Collection and submittal of representative soil samples to document potential hydrocarbon impacts at the excavation limits and in the stockpiled soils; and
- Preparation of this UST Closure Site Assessment.

1.2 SITE DESCRIPTION

The Seekins property is located near the intersection of the Johansen Expressway and the Steese Highway, approximately one-quarter mile southwest of the Birch Hill Cemetery in Fairbanks. The site is generally flat with a sandy gravel surface. The property slopes gently to the east and runoff from the site is channeled into a drainage ditch that parallels the west side of the Steese Highway. The soils overlying the tanks appeared to be a loose to medium dense fine sand with some silt. The apparent water table beneath the project site was encountered during excavation activities at approximately 17 feet below the ground surface.

The Seekins facility consists of a large building that supports administrative offices and a sales showroom. A garage is located in the southeastern corner of the building and is used for automotive repair work. The entire property is enclosed by a security fence with the main entrance to the site on the northwest central portion of the lot. A second security fence separates the storage yard from the administrative offices and showroom as shown in Figure 2.



The northern portion of the property is used for saleable vehicle parking. The gasoline and diesel tanks referenced above were located near the administrative offices and showroom portion of the lot. The two used oil tanks were situated within the secondary fenced enclosure just east of the garage area. Figures 3 and 4 indicate the site layout in the two UST areas on site. Table 1 summarizes the former tank system components.

TABLE 1
Summary of Tank Types and Sizes

Tank ID	Tank Size (gal)	Tank Description	Product Type
UST No. 1	500	Steel with steel piping	Used Oil
UST No. 2	500	Steel with steel piping	Used Oil
UST No. 3	2,000	Steel with steel piping	Diesel
UST No. 4	5,000	Steel with steel piping	Gasoline

The two used oil tanks were situated end-to-end beneath approximately 4 feet of fill material with the long axis oriented roughly northeast. The gasoline and diesel tanks were positioned end-to-end with the long axis oriented approximately northwest. A dispenser island was located directly above the gasoline and diesel tanks and was dismantled during the site work in this area.

Climatic conditions during this project included temperatures varying from 15 to 55 degrees Fahrenheit during midday with partly cloudy skies and mild winds. Site logistics were coordinated and managed in order to minimize the potential for generating excess dust and debris spillage from the excavation work. At the close of the excavation portion of the project, the work area was cleared of debris and other deleterious materials.

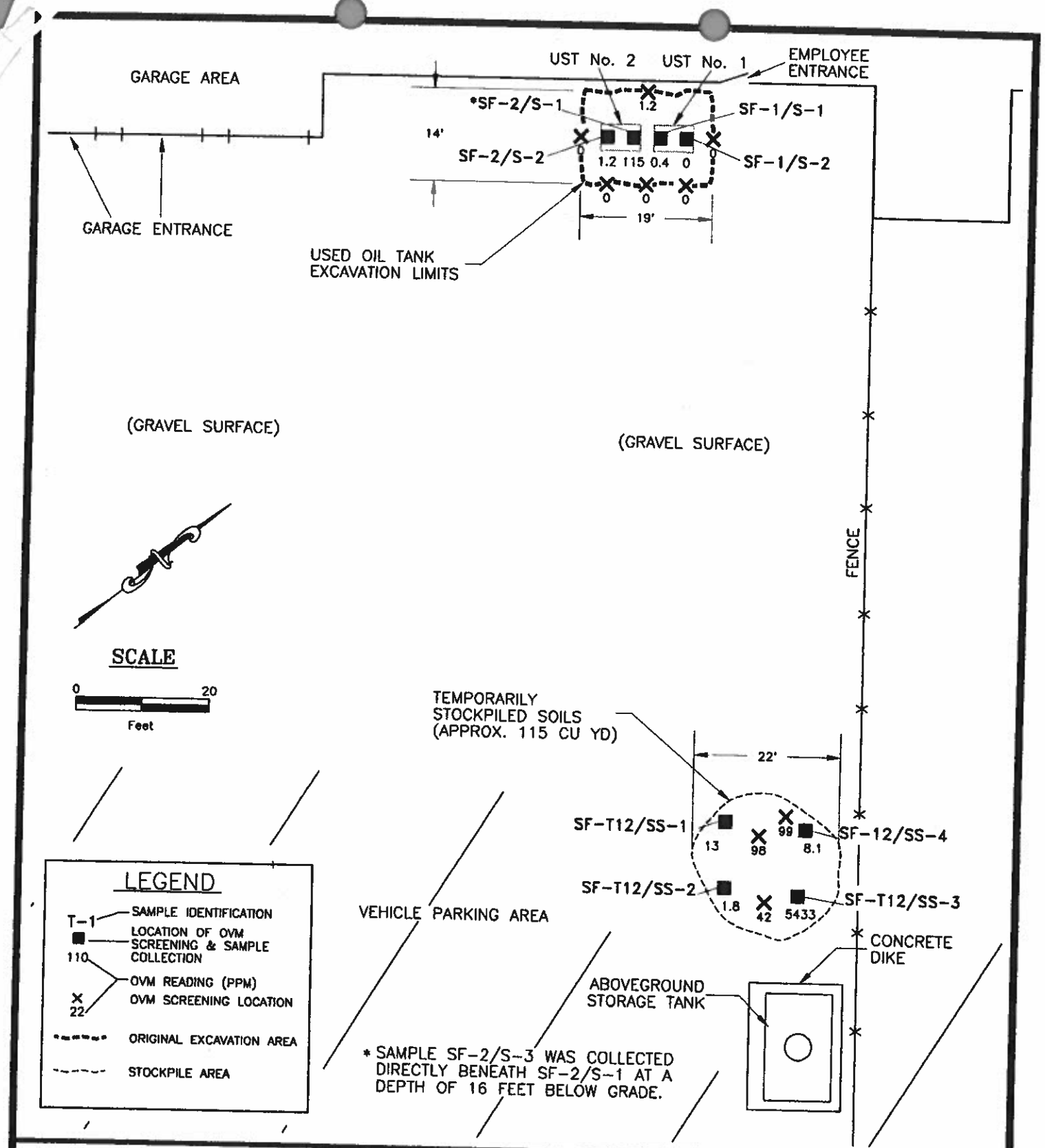
2.0 METHODS

In each of the following subsections, AGRA provides a summary of plan development and pertinent field methods used during the UST removal and site assessment operations.

2.1 HEALTH AND SAFETY PLAN

AGRA performed site monitoring and assessment activities under a site-specific health and safety (H&S) plan. The H&S plan included the following major categories:





* SAMPLE SF-2/S-3 WAS COLLECTED DIRECTLY BENEATH SF-2/S-1 AT A DEPTH OF 16 FEET BELOW GRADE.

UST DECOMMISSIONING

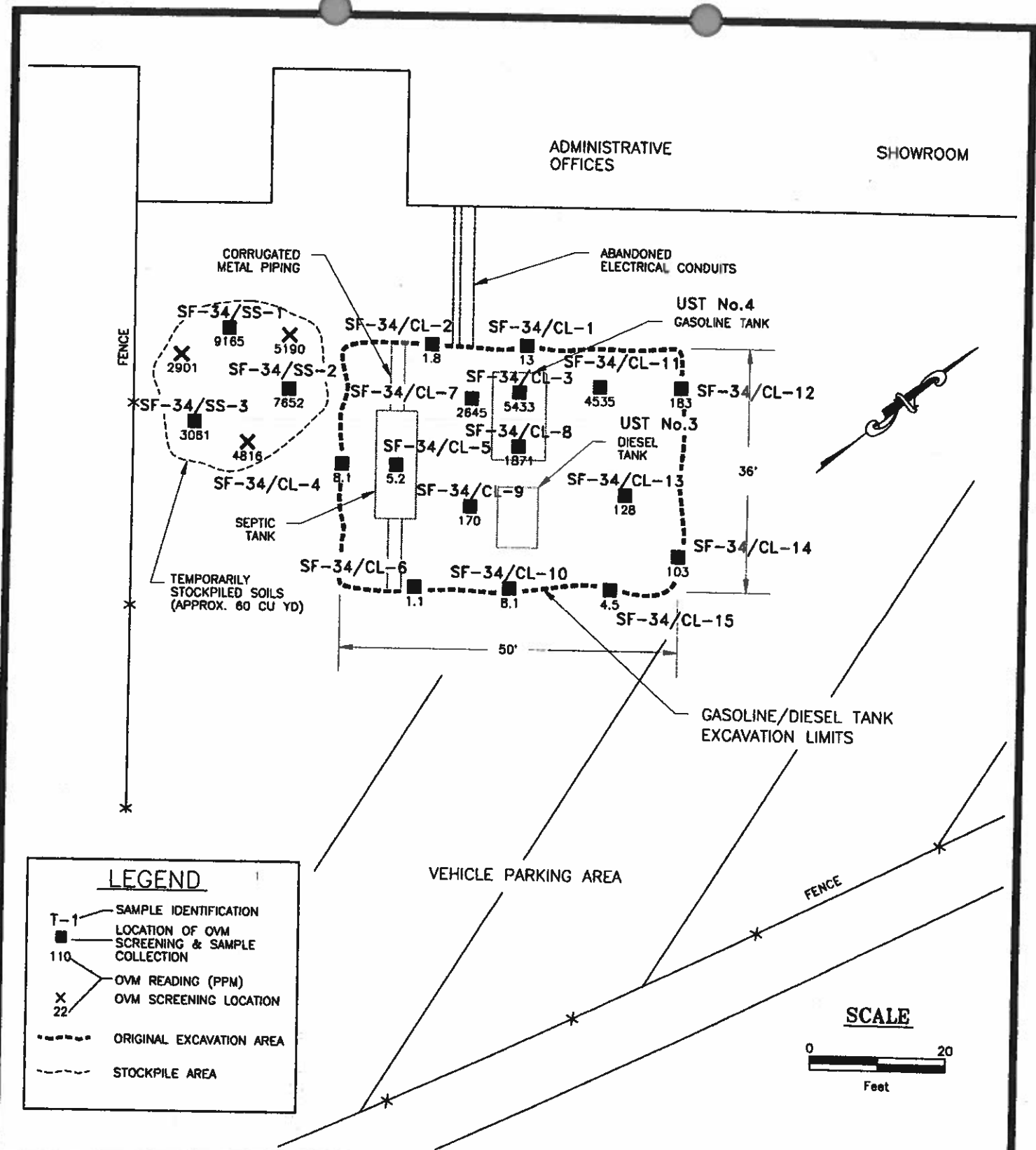
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USED OIL TANK AREA DETAIL

SEEKINS FORD UST
 1625 OLD STEESE HWY
 FAIRBANKS, AK

FIGURE 3



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GASOLINE/DIESEL TANK AREA

SEEKINS FORD UST
 1625 OLD STEESE HWY
 FAIRBANKS, AK

FIGURE 4

- Key personnel within the AGRA H&S administration;
- A hazard analysis, on-site monitoring plan, and emergency procedures;
- A site characterization based on past experience with UST investigations, including site control measures and an action plan; and
- Training requirements and project roles for all key individuals.

AGRA personnel reviewed and signed the H&S plan prior to commencing field work. The focus of the plan was to increase worker awareness of potential hazards that might be encountered during field work. AGRA personnel are certified to work in hazardous environments in accordance with OSHA requirements. Copies of all training and medical surveillance records were kept on file at the AGRA Fairbanks office. A signed copy of the H&S plan is available for review at our Fairbanks office.

2.2 TANK REMOVAL AND SOIL EXCAVATION

M&M personnel prepared the tanks and associated piping for closure using the following sequence:

- 1) Careful excavation exposed the tops of the tanks and the underground piping;
- 2) The gasoline tank was purged with air and inerted with dry ice, then tested with a combustible gas meter to check that safe handling conditions existed prior to removal of the tank; and
- 3) The decommissioned tanks were transported to the M&M equipment yard prior to final disposition at the Fairbanks North Star Borough (FNSB) Solid Waste Landfill.

M&M personnel prepared the tanks for removal in accordance with the American Petroleum Institute Recommended Practice 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks*. The site work completed in the gasoline/diesel tank area included the removal of an 18-inch thick concrete dispenser island overlying the tanks. The concrete was broken up and hauled to the FNSB landfill for disposal. After removing the concrete island, the tops of the tanks and the associated piping were exposed by careful excavation. The piping was drained of any residual fuel and then removed. Sorbent pads and 5-gallon buckets were placed beneath each joint to capture any product released from the pipe during removal.



In the used oil tank area, Seekins personnel pumped the residual product from the two USTs for disposal. Once the product was removed and safe handling conditions were achieved, the tanks were secured with steel chains and removed from the ground.

Potentially impacted soils removed from the used oil tank area were temporarily stockpiled on site adjacent to the recently installed aboveground storage tank system. The soil was placed on a 10-mil reinforced polyethylene liner in accordance with ADEC guidelines. In total, approximately 115 cubic yards (yd³) of soil were removed from this area and stockpiled for characterization purposes.

In the gasoline/diesel tank area, the cut piping was loaded directly for disposal hauling. Electrical conduits were cut at the limits of the excavation and were abandoned in place. The gasoline tank was purged with air to reduce the level of hazardous vapors inside the tank and then was inerted with dry ice. The tank was tested using a combustible gas meter to check that vapor levels were below 10 percent of the lower explosive limit (LEL) prior to removing the two USTs in this area for disposal.

Approximately 60 yd³ of hydrocarbon-impacted soils excavated during removal of the gasoline and diesel tanks were temporarily stockpiled on the southwest side of the excavation pending the results of analytical testing. Based on the laboratory results from preliminary characterization samples and corresponding soil screening measurements, the original 60 yd³ of impacted soil and additional soils removed from this area were loaded directly into trucks for transportation to Organic Incineration Technology, Inc. (OIT) for thermal treatment and subsequent disposal. In total, approximately 1,000 yd³ of soil were removed from the gasoline/diesel excavation area.

2.3 ENVIRONMENTAL ASSESSMENT MONITORING

AGRA performed assessment monitoring in accordance with the ADEC UST regulations and the AGRA Quality Assurance Program Plan (QAPP). The QAPP is approved by and is on file with the Northern Regional Office of the ADEC.

Throughout the soil excavation and tank removal process, AGRA personnel were on site to observe and document the project activities. A photographic log for each UST area is included as Appendices A and C of this report. Additional site-specific field documentation included:

- Qualitative observations of the excavated soil (visual discoloration or odors);
- Visual inspection of tanks and piping for signs of leakage upon removal;



- Field screening of the excavated soil using a Thermo Environmental Instruments, Model 580D Organic Vapor Monitor (OVM);
- Visual inspection of the limits of each excavation for signs of potential petroleum hydrocarbon impact; and
- Field drawings depicting the former location of each tank, associated piping, excavation limits, location of stockpiled soil, soil sample locations, and associated field soil screening measurements.

2.4 SAMPLE COLLECTION AND LABORATORY ANALYSES

AGRA personnel collected documentary soil samples at the close of each major portion of the project activities. We summarize the methods used for each UST area separately below.

2.4.1 Used Oil Tank Area

Upon completion of tank removal operations, AGRA collected two representative soil samples from the base of the excavation beneath each former storage tank in accordance with ADEC UST regulations. These four samples (SF-1/S-1, SF-1/S-2, SF-2/S-1, and SF-2/S-2) were collected at a depth of approximately 12 feet below grade. When a zone of hydrocarbon-impacted soil was detected, additional vertical excavation was performed. One sample (SF-2/S-3) was collected at a depth of 16 feet below grade directly beneath sample SF-2/S-2 to document potential hydrocarbon impacts at the limits of the excavation after the impacted soil was removed. All analytical samples collected from the excavation area were obtained from the backhoe bucket and were placed into laboratory-prepared sample jars with teflon-lined lids. The samples were stored in a chilled cooler while on site.

AGRA collected duplicate soil samples for headspace analysis in conjunction with laboratory sample procurement. The headspace sample collection method consisted of filling a clean plastic sealable bag half full of soil and then sealing the bag. The headspace samples were allowed to warm in a heated vehicle for approximately 20 minutes. The OVM probe was then gently inserted into the plastic bag to sample the headspace in the bag. The highest measured OVM reading was recorded as the soil vapor headspace measurement for each sample.

To characterize the excavated, stockpiled soils prior to thermal treatment, AGRA collected four soil samples (SF-T12/SS-1 through SF-T12/SS-3, and SF-12/SS-4) from the temporary soil stockpile (Figure 3). The samples were obtained from test pits manually formed approximately 18 inches into the soil pile to allow sampling of a fresh surface. Sample locations were based on the results of OVM screening shown in Figure 3.



Soil samples submitted for laboratory analysis were shipped in a chilled cooler to Superior Precision Analytical Laboratories (SPAL) of Martinez, California. AGRA selected five test methods to document the potential contaminant levels at the excavation limits. These methods include: benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020, gasoline range petroleum hydrocarbons (GRPH) by EPA Method 8015 modified, diesel range petroleum hydrocarbons (DRPH) by EPA Method 8100 modified, halogenated volatile organics (HVOs) by EPA Method 8010, and total metals (As, Cd, Cr, and Pb) by EPA Series 6000 and 7000.

2.4.2 Gasoline/Diesel Tank Area

AGRA collected four samples from the base of the excavation beneath the gasoline and diesel storage tanks immediately following the tank removal process. These samples were analyzed on a rush basis to aid in site characterization while the excavation remained open. Based on the results obtained for these samples, additional soils were excavated and removed from the former tank location. In total, 15 closure soil samples were collected from the excavation base and sidewalls as shown in Figure 4. These samples served to document the levels of potential hydrocarbon impacts at the limits of the excavation. OVM screening for headspace analysis and soil sample collection methods used at this location are described in Section 2.4.1.

Three samples were collected from the temporarily stockpiled soils excavated from the gasoline/diesel tank area. These samples provided the necessary characterization parameters prior to thermal treatment.

The initial excavation samples and eight of the 15 closure samples were transported to Boreochem in Fairbanks for rush analysis. The remaining excavation bottom and stockpile samples were shipped to SPAL of California. In both cases, the samples were tested for BTEX by EPA Method 8020, GRPH by EPA Method 8015 modified, and DRPH by EPA Method 8100 modified. Stockpile samples were additionally analyzed for total lead by EPA Method 6010 to characterize potential lead impacts.

2.5 SOIL DISPOSAL

During the excavation of impacted soils in each location, the removed materials were loaded directly into trucks for transportation to OIT for thermal treatment. This effort was based on the noted OVM screening measurements at each location and the results of initial sampling of the temporarily stockpiled soils. In total, approximately 115 yd³ of impacted soil derived from the used oil tank area and 1,000 yd³ of soil removed from the gasoline/diesel tank area were transported for treatment.



3.0 OBSERVATIONS

In each of the following subsections, AGRA details the observations noted during the tank excavation and soil removal operations.

3.1 TANKS AND PIPING

3.1.1 500-Gallon Used Oil Tanks

M&M personnel removed the used oil tanks on August 31, 1994. The USTs were situated end-to-end with approximately 2 inches separating the two tanks. The tanks were buried approximately 4 feet below ground surface with the long axis oriented roughly northeast.

Upon removal of each tank, AGRA personnel inspected the tank metal and associated piping. AGRA observed that the removed piping was in fair condition with no noticeable wetted joints or unions, or other signs of potential leakage. However, the piping showed significant surface rusting. The main pipe connecting the tank to the Seekins building was cut at the excavation building interface and was plugged with sorbent materials. This pipe was located approximately 3 feet below grade (see photos in Appendix A).

The decommissioned tanks were in fair condition with heavy surface corrosion and no apparent holes or leaks. The tanks appeared to be deformed at the central tank ends. UST No. 2 was observed to have expanded into (convex-shaped) the end of UST No. 1 (concave-shaped). However, no fractures in the tank base metal were apparent at the time of this assessment. The photographs included with this report show the conditions of the USTs upon removal.

3.1.2 5,000-Gallon Gasoline Tank and 2,000-Gallon Diesel Tank

The USTs in this area were situated end-to-end with the long axis oriented roughly northwest and were buried approximately 2.5 feet below grade. A 5-foot by 25-foot by 18-inch thick concrete dispenser island, formerly located directly above the tanks, was removed from the excavation area and loaded for disposal hauling. Prior to removing the two tanks, M&M personnel removed the piping associated with the former USTs.

Upon removal of each tank, AGRA personnel inspected the tank metal. The two tanks were in good to fair condition with moderate surface rusting and no apparent holes or leaks. The photographs in Appendix C show the condition of the removed tanks at the time of this assessment.



A third tank was situated on the western portion of the excavation area. The tank was used as a septic tank supporting the Seekins facility. The tank surface was covered with a 3-inch layer of sprayed insulating foam. Exposed parts of the tank metal indicated that the tank was in good condition with only slight surface corrosion. A 12-inch corrugated metal pipe (CMP) and a 4-inch ID pipe contained within the protective CMP casing were observed to extend from the septic tank area to a clean-out riser approximately 21 feet from the Seekins building.

3.2 SUBSURFACE CONDITIONS

3.2.1 Used Oil Tank Excavation

The used oil tank excavation measured approximately 14 feet by 19 feet at ground surface with a depth of 16.5 feet. The native soils within the excavation were visually identified as medium brown, sandy gravel from ground surface to approximately 4 feet below grade. A gradational contact to finer-grained soils was observed at this depth. The soils below the 4-foot depth were predominantly fine sand with some silt fining downwards to a silty sand which continued to the excavation bottom.

AGRA field personnel screened the in situ soils as the excavation work was completed for each tank removal. The soil excavated from the tops of the tanks produced OVM screening measurements ranging from 22 ppm to 87 ppm. Direct OVM screening measurements reported levels of 140 ppm to 160 ppm beneath the former tanks at a depth of 10 feet. Samples collected at a depth of 12 feet below ground surface produced OVM headspace readings ranging from 0 to 115 ppm. The excavation sidewalls at this depth indicated only background levels of organic vapors as shown in Figure 3. The sample collected from the sidewall adjacent to the Seekins building produced an OVM headspace reading of 2.1 ppm.

Upon receipt of the analytical results for sample SF-2/S-1, additional excavation was performed directly beneath the location of this sample. OVM screening at a depth of 14 feet below grade, approximately 2 feet below the former submitted soil sample, indicated hydrocarbon vapor concentrations of 105 ppm. Therefore, the excavation was continued to within 6 inches of the soil/groundwater interface. The apparent soil/groundwater interface was located at approximately 16.5 feet below grade. An additional soil sample, SF-2/S-3, was collected at a depth of 16 feet. The sampled soils were moist, but not saturated. OVM screening of this sample recorded a headspace level of 39 ppm, indicating dissipating vapor levels at the apparent interface.



3.2.2 Gasoline/Diesel Tank Excavation

The gasoline/diesel tank excavation measured approximately 1,800 square feet at ground surface with an approximate depth of 16 feet. Soils encountered consisted of medium brown, sandy gravel to a depth of 2.5 feet below grade. A gradual change to finer-grained soils was observed to extend from 2.5 feet to 6 feet below grade. Increasing silt content was noted at a depth of 6 feet, grading from a sand with silt and gravel to a silty sand. This stratum extended to 12 feet below grade where the soil type was visually classified as a silty sand or a silt with sand which continued to the pit base.

OVM screening of the soil excavated from the top and sides of the two tanks produced vapor concentrations ranging from 1,800 ppm to 2,000 ppm. Headspace samples collected with the initial soil samples obtained from beneath the former tanks produced OVM readings that varied between 299 ppm and 9,581 ppm. The excavated soils temporarily stockpiled on site during the removal process exhibited vapor concentrations ranging from 2,901 ppm to 9,165 ppm.

AGRA personnel observed a blue-grey coloration to the soils beneath the former diesel tank, typically indicative of petroleum-type staining. The apparently stained area was noted to extend to the excavation limits in the southeast corner of the excavation. The soils beneath the gasoline tank location were noticeably darkened and moist, producing strong petroleum-type odors. The photographs in Appendix C depict the subsurface conditions at the time of the UST removal.

Soils screened in the former septic tank area at a depth of 13 feet below grade produced OVM levels ranging from 1.1 ppm to 13 ppm. The depth of the excavation beneath the septic tank location was due in part to the approximate 6-foot depth of burial of the tank.

M&M discontinued excavation beneath the two USTs at the apparent soil/groundwater interface located at a depth of approximately 16 feet below grade. Direct OVM screening of the soils at this depth indicated soil vapor levels up to 4,439 ppm with strong petroleum odors. A petroleum-type sheen was observed on the water surface at the base of the excavation. Headspace soil samples collected from the pit base beneath the location of the former gasoline and diesel USTs reported OVM levels that ranged from 128 ppm in the southeast corner of the excavation to 5,433 ppm in the northeastern corner.

Headspace screening performed on the samples obtained from the sidewalls of the excavation in the area of the two USTs indicated dissipating concentrations of hydrocarbon vapors in the soil. Sample SF-34/CL-1, collected from the northwest sidewall, produced an OVM measurement of 13 ppm. Samples SF-34/CL-10 and SF-34/CL-15 reported OVM readings of 8.1 ppm and 4.5

ppm, respectively. The two samples collected from the northeastern sidewall recorded OVM headspace readings of 103 ppm (SF-34/CL-14) and 183 ppm (SF-34/CL-12). Confirmational testing using the Hanby method for sample SF-34/CL-12 indicated that hydrocarbon concentrations were between 10 ppm and 100 ppm. Because of the nature of the overlying coarse-grained materials, the sidewall samples were obtained from the backhoe bucket from soils at a depth of approximately 12 to 14 feet below grade.

4.0 ANALYTICAL RESULTS

The analytical results for the samples collected from the used oil excavation area and the gasoline/diesel excavation area are discussed separately in the following sections.

4.1 USED OIL TANK AREA SAMPLES

Laboratory analysis of the two soil samples obtained from beneath UST No. 1 (see Figure 3) indicated non-detectable concentrations for BTEX, GRPH, and DRPH. Analysis of the samples collected beneath UST No.2 reported elevated hydrocarbon levels in sample SF-2/S-1. BTEX and GRPH concentrations in this sample were detected at 15.28 mg/kg and 250 mg/kg, respectively. The concentration of diesel range compounds was reported to be 860 mg/kg. Sample SF-2/S-3, obtained approximately 4 feet below the location of sample SF-2/S-1, exhibited non-detectable levels of benzene, total BTEX, and GRPH. DRPH concentrations were noted to be 290 mg/kg in this sample.

The reported hydrocarbon concentrations in the temporarily stockpiled soils included a maximum total BTEX value of 88.8 mg/kg in sample SF-12/SS-4. GRPH levels ranged from 7 mg/kg in sample SF-T12/SS-3 to 300 mg/kg in sample SF-12/SS-4. Diesel range concentrations were highest in sample SF-12/SS-4 at 13,000 mg/kg with levels in the other three samples ranging from 1,200 mg/kg to 5,100 mg/kg. A summary of the hydrocarbon data for the used oil excavation area is presented in Table 2.

Additional analyses were completed for HVOs and total metals. These data are summarized in Table 3. Only two HVO compounds were detected in the used oil area samples. Tetrachloroethene was detected in samples SF-2/S-1 and SF-2/S-3 at concentrations of 11 mg/kg and 0.25 mg/kg, respectively. Sample SF-2/S-1 reported a concentration of 1,1,1-trichloroethane at 0.46 mg/kg. Sample SF-12/SS-4, collected from the temporary soil stockpile, exhibited the highest levels of both these compounds with concentrations of 14 mg/kg 1,1,1-trichloroethane and 16 mg/kg tetrachloroethene.

Table 2
Summary of Sample Analytical Data - Used Oil Tank Area
BTEX, GRPH, and DRPH
 (Results in mg/kg)

Sample ID	Lab ID	Collection Area	OVM Reading (ppm)	Benzene	Total BTEX	GRPH	DRPH
SF-1/S-1	92493-1	Excavation Base	0.4	ND(0.005)	ND	ND(1)	ND(4)
SF-1/S-2	92493-2		0	ND(0.005)	ND	ND(1)	ND(4)
SF-2/S-1	92493-3		115	ND(0.05)	15.28	250	860
SF-2/S-2	92493-4		1.2	ND(0.005)	ND	ND(1)	ND(4)
SF-2/S-3	92563-1		39	ND(0.005)	ND	ND(1)	290
SF-T12/SS-1	92493-5	Temporarily Stockpiled Soils	105	ND(0.25)	6.4	110	5100
SF-T12/SS-2	92493-6		83	ND(0.05)	0.18	10	1500
SF-T12/SS-3	92493-7		61	ND(0.005)	0.043	7	1200
SF-12/SS-4	92563-2		97	ND(0.5)	88.8	300	13000

Table 3
Summary of Sample Analytical Data - Used Oil Tank Area
HVOs and Total Metals
 (Results in mg/kg)

(see also Tetrachloroethane) ASR For TCLP

Sample ID	Lab ID	Collection Area	OVM Reading (ppm)	HVOs*		Total Metals			
				1,1,1-Trichloro ethane	Tetrachloro ethene	As	Cd	Cr	Pb
SF-1/S-1	92493-1	Excavation Base	0.4	ND(0.005)	ND(0.005)	2	0.2	9.1	3
SF-1/S-2	92493-2		0	ND(0.005)	ND(0.005)	2	0.4	11	3
SF-2/S-1	92493-3		115	0.46	11	2	0.2	9.1	4
SF-2/S-2	92493-4		1.2	ND(0.005)	ND(0.005)	2	0.2	5.7	3
SF-2/S-3	92563-1		39	ND(0.025)	0.25	11	0.1	3.5	2
SF-T12/SS-1	92493-5	Temporarily Stockpiled Soils	105	0.46	4.3	3	0.4	8.7	12
SF-T12/SS-2	92493-6		83	ND(0.005)	0.3	3	0.4	12	11
SF-T12/SS-3	92493-7		61	ND(0.005)	0.15	3	0.4	12	16
SF-12/SS-4	92563-2		97	14	18	0.7	0.2	2.4	9

ND - indicates the analyte was not detected above the method detection limit; the detection limit is shown in parentheses.

NT - indicates that the sample was not tested for the given parameter.

* All others HVO compounds were reported to be below the detection limit. See Appendix B for full laboratory report.



Samples collected from the pit base reported low-level metals concentrations. Sample SF-2/S-3 reported the highest arsenic concentrations at 11 mg/kg. Cadmium levels ranged from 0.1 mg/kg in sample SF-2/S-3 to 0.4 mg/kg in sample SF-1/S-2. Chromium and lead concentrations were highest in samples SF-1/S-2 and SF-2/S-1, respectively. Sample SF-T12/SS-3, obtained from the stockpiled soils, displayed the highest concentrations of all four metals with 3 mg/kg As, 0.4 mg/kg Cd, 12 mg/kg Cr, and 16 mg/kg Pb. Laboratory analytical reports for this area are included in Appendix B.

4.2 GASOLINE/DIESEL TANK AREA SAMPLES

Table 4 summarizes the data obtained for the gasoline/diesel excavation area. Analytical reports are included in Appendix D. Laboratory analysis of the initial characterization soil samples collected from beneath the tanks reported benzene concentrations ranging from 0.09 mg/kg in sample SF-3/S-1 to 158.78 mg/kg in sample SF-4/S-1. This latter sample also reported the highest total BTEX, GRPH, and DRPH concentrations at levels of 2,094 mg/kg, 13,755 mg/kg, and 436 mg/kg, respectively.

Closure soil samples collected from the excavation base reported minor impacts to the soils on the diesel tank side of the pit and more significant hydrocarbon levels moving toward the gasoline tank location. Sample SF-34/CL-7 exhibited the highest benzene, total BTEX, GRPH, and DRPH concentrations at 9.7 mg/kg, 1,148 mg/kg, 4,600 mg/kg, and 860 mg/kg, respectively. Sample SF-34/CL-3 also reported a gasoline range value of 4,600 mg/kg with lower levels of benzene, total BTEX, and DRPH. GRPH concentrations varied from non-detectable levels in sample SF-34/CL-13 in the southeastern corner of the excavation to 4,600 mg/kg in samples SF-34/CL-3 and SF-34/CL-7 beneath the former gasoline UST.

Soil samples collected from the excavation sidewalls in the area of the former USTs reported dissipating hydrocarbon levels. In total, five samples were obtained from the north, south, and east excavation sidewalls. Diesel range concentrations in these samples were non-detectable, as were the levels of GRPH in all samples except SF-34/CL-15. GRPH was detected at a level of 1.8 mg/kg in this sample. Benzene and total BTEX concentrations were highest in sample SF-34/CL-12 at 0.13 mg/kg and 1.33 mg/kg, respectively. Benzene levels in the other four samples ranged from 0.09 mg/kg to 0.11 mg/kg.

Samples collected in the former septic tank area reported levels below the most stringent ADEC cleanup criteria. Sample SF-34/CL-5 from beneath the tank reported total BTEX, GRPH, and DRPH concentrations of 1.38 mg/kg, 23 mg/kg, and 24 mg/kg. Benzene levels were non-detectable. Sidewall samples collected in this area indicated non-detectable concentrations of GRPH and DRPH. Benzene levels were reported to be 0.09 mg/kg in sample SF-34/CL-4 along the western sidewall and 0.10 mg/kg in sample SF-34/CL-6 at the south sidewall. Total BTEX concentrations ranged from 0.18 mg/kg in sample SF-34/CL-2 to 0.35 mg/kg in sample SF-34/CL-6.



Table 4
Summary of Sample Analytical Data
Gasoline/Diesel Tank Area
 (Results in mg/kg)

Sample ID	Lab ID	Collection Area	OVM Reading	Benzene	Total BTEX	GRPH	DRPH	Total Lead
SF-3/S-1	94091303	Initial Excavation Base Samples	299	0.09	1.17	4.9	ND(4)	NT
SF-3/S-2	94091304		326	0.14	2.07	6.1	ND(4)	NT
SF-4/S-1	94091305		9581	158.78	2093.71	13755	436.3	NT
SF-4/S-2	94091306		392	0.20	2.59	11.2	ND(4)	NT
SF-34/CL-1	94092603	Final Excavation Base and Sidewall Samples	13	0.10	0.57	ND(1.3)	ND(4)	NT
SF-34/CL-2	94092604		1.8	ND(0.05)	0.18	ND(1.3)	ND(4)	NT
SF-34/CL-3	92659-1		5433	9	999	4600	490	NT
SF-34/CL-4	94092605		8.1	0.09	0.34	ND(1.3)	ND(4)	NT
SF-34/CL-5	92659-2		5.2	ND(0.05)	1.38	23	24	NT
SF-34/CL-6	94092606		1.1	0.10	0.35	ND(1.3)	ND(4)	NT
SF-34/CL-7	92659-3		2645	9.7	1147.7	4600	860	NT
SF-34/CL-8	92659-4		1871	ND(6.5)	809	2800	370	NT
SF-34/CL-9	92659-5		170	0.2	15.36	140	16	NT
SF-34/CL-10	94092607		8.1	0.09	0.16	ND(1.3)	ND(4)	NT
SF-34/CL-11	92659-6		4535	ND(0.5)	42.5	420	620	NT
SF-34/CL-12	94092608		183	0.13	1.33	ND(1.3)	ND(4)	NT
SF-34/CL-13	92659-7		128	ND(0.005)	0.144	ND(1)	ND(4)	NT
SF-34/CL-14	94092609		103	0.11	1.08	ND(1.3)	ND(4)	NT
SF-34/CL-15	94092610		4.5	0.11	0.59	1.8	ND(4)	NT
SF-34/SS-1	92573-1	Temporary Soil Stockpile	9165	18	1996	4400	430	12
SF-34/SS-2	92573-2		7652	7.7	870.7	2000	130	5
SF-34/SS-3	92573-3		3061	ND(2.5)	241	600	200	6

ND - indicates the analyte was not detected above the method detection limit; the detection limit is shown in parentheses.
 NT - indicates that the sample was not tested for the given parameter.



The analytical results obtained for samples from the temporary soil stockpile indicated benzene concentrations that ranged from non-detectable in SF-34/SS-3 to 18 mg/kg in sample SF-34/SS-1. The highest total BTEX, GRPH, and DRPH levels were detected in Sample SF-34/SS-1 at concentrations of 1,996 mg/kg, 4,400 mg/kg, and 430 mg/kg, respectively. In addition, the results of testing for total lead in the stockpile soils reported levels ranging from 5 mg/kg to 12 mg/kg. Total lead was not analyzed in the excavation closure samples based on the relatively low levels found in the sampled stockpile which exhibited high hydrocarbon concentrations. Although there are no cleanup criteria for total lead in soil, the ADEC has used levels as high as 1,000 mg/kg lead at other sites. On this basis, lead is not expected to be a contaminant of concern at this site.

5.0 SOIL CLEANUP LEVELS

The ADEC UST regulations provide cleanup levels for petroleum-impacted soils. The cleanup levels are based on site-specific criteria. However, based on the observations and analytical results obtained from soil samples collected at the soil/groundwater interface in the locations of the former USTs, it is noted that hydrocarbon impacts to the groundwater beneath the property may have occurred. As a result, the ordinary site matrix evaluation is foregone, and the ADEC Level A cleanup criteria must be adopted for the site. The following table indicates Level A standards.

**Table 5
 ADEC Level A Cleanup Criteria**

CONTAMINANT	CLEANUP LEVEL (mg/kg)	OBSERVED HIGHEST CONCENTRATION (mg/kg)	
DRPH	100	860	SF-34/CL-7
GRPH	50	4,600	SF-34/CL-3 SF-34/CL-7
Total BTEX	10	1,147.7	SF-34/CL-7
Benzene	0.1	9.7	SF-34/CL-7

The observed highest readings recorded in Table 5 consider only the submitted closure samples. These samples were collected from the base of the excavations in both the used oil tank area and the gasoline/diesel tank area upon completing the removal of impacted soils from both locations. The preliminary soil samples collected for initial characterization of the areas, and samples obtained from the temporary soil stockpiles were not included in this analysis.



Maximum contaminant levels (MCLs) for the HVO compounds can be found in the federal RCRA regulations. Although the stated MCLs refer to the land disposal of waste, it is assumed that the same concentrations can be applied as cleanup criteria. Only two HVO compounds were detected in the soil samples collected from the base of the used oil tank excavation. The MCLs for these compounds are listed in Table 6. Only one sample from the excavation base (SF-2/S-1) exceeded these limits, and only for tetrachloroethene.

Table 6
Maximum Contaminant Levels for HVO Compounds

CONTAMINANT	MAXIMUM CONTAMINANT LEVEL (mg/kg)	OBSERVED HIGHEST CONCENTRATION (mg/kg)
1,1,1-Trichloroethane	5.6	0.46 SF-2/S-1
Tetrachloroethene (0.7 ppm) TCLUP)	6.0	11 SF-2/S-1

6.0 CONCLUSIONS

M&M personnel completed the excavation and removal of four USTs in two separate locations on the Seekins Ford property in Fairbanks. AGRA performed removal monitoring and completed a UST Closure Site Assessment for the four tanks. ADEC closure documentation is included in Appendix E. Because hydrocarbon impacts to the groundwater were determined to be likely, the most stringent ADEC soil cleanup criteria were used to document clean limits of the excavations. AGRA collected representative soil samples from the excavation base in each pit location for laboratory analyses in accordance with ADEC UST regulations. The analytical results indicated hydrocarbon levels in the soils remaining in place that exceed Level A cleanup standards.

Based on the results of analytical testing and observations made during the site assessment activities, AGRA concludes that the subsurface soils in the vicinity of both the used oil tank area and the gasoline/diesel tank area have been impacted by petroleum hydrocarbons as a result of past utilization and probable over spills. Soils were excavated from the former tank locations in an attempt to determine the lateral extent of the hydrocarbon impacts. It was determined that the lateral extent of hydrocarbon impacts was reached in the used oil excavation area, and that only the soils directly below the former tanks maintain elevated levels of petroleum hydrocarbons. In addition, the lateral extent of impacts was reached in the gasoline/diesel area as evidenced by the results of laboratory testing of the samples collected from the excavation sidewalls. However, residual impacts remain at the soil/groundwater interface.



The soils were excavated to within 6 inches of the apparent groundwater table in both UST areas. Approximately 115 yd³ of impacted soil from the used oil tank area and 1,000 yd³ of soil from the gasoline/diesel tank area were transported to OIT for thermal treatment.

The soils at the groundwater interface in the used oil tank area reported a high diesel range concentration of 290 mg/kg. Impacts to the excavated soils, as measured in the temporary soil stockpile samples, indicated that no benzene was present and that the predominant contaminants were heavy hydrocarbons. The detection of HVO compounds in the excavation bottom samples indicates the need to assess the groundwater quality in this tank area with respect to the detected compounds.

Hydrocarbon impacts in the gasoline/diesel tank area suggest that the primary contaminant is gasoline range compounds. This is supported by the presence of elevated benzene and total BTEX concentrations near the apparent soil/groundwater interface. A petroleum-type sheen was noted on the groundwater encountered at the pit base. The greatest impacts were noted at the northeastern corner of the tank area. Inspection of the analytical data showed dissipating levels at the southeastern corner and non-detectable levels in the adjoining former septic tank area.

7.0 RECOMMENDATIONS

Laboratory analysis of soil samples collected from the base of the two excavations indicates that soil impacted by petroleum hydrocarbons may be in contact with groundwater. On this basis, and in order to comply with the requirements of the UST regulations, AGRA recommends that a limited release investigation be conducted in both of the former UST source areas. The purpose of the investigation should be to assess to what extent, if any, groundwater has been affected.

In order to accomplish this objective, AGRA recommends that two groundwater monitoring wells be installed on the Seekins property. Monitoring well installation can confirm the presence or absence of hydrocarbon impacts in the groundwater, and will enable continuous groundwater quality evaluation at the site. Location of on-site monitoring wells should be designed to measure impacts adjacent to the former tank areas only. AGRA suggests that one monitoring well be installed downgradient of each former UST area. These wells can be standard 2-inch PVC observation wells. In addition, a 3/4-inch casing can be advanced in an upgradient location to aid in determining the site-specific groundwater flow direction. The data collected from the three wells should be coupled with information identifying potential receptors in the site vicinity. To complete this objective, AGRA recommends that a limited water-well search be conducted to identify potential public receptors within a 1-mile radius of the Seekins property.



Based on the data obtained from sampling the installed monitoring wells and the information compiled during the well search, a determination can be made as to whether additional investigation is necessary in the interest of identifying potential public receptors.

8.0 LIMITATIONS

The observations and findings presented in this report are professional opinions based on the information gained from limited observations and analytical results from a limited number of soil samples. Laboratory analyses were performed for specific parameters indicated by known past uses of the tanks. Additional constituents, not tested for as part of this project, may be present. The measured concentrations of contaminants may not be representative of conditions at other locations on the subject site. No warranty or guarantee is expressed or implied.





APPENDIX A
PHOTO-DOCUMENTARY LOG
Used Oil Tank Area





Photo 1: View of the two 500-gallon used oil tanks in place. Piping has been removed.



Photo 2: View of sub-floor drain piping exiting the garage building at the excavation edge.



Photo 3: UST No. 1 during removal.



Photo 4: General condition of UST No. 1.



Photo 5: Several places were dented on UST No. 1 with no apparent punctures.



Photo 6: View of UST No. 2 during removal. Note concave shape of tank end.



Photo 7: General condition of UST No. 2.



Photo 8: View showing general soil types encountered during excavation activities in used oil tank area.



Photo 9: View of excavation base during the removal of impacted soils.



Photo 10: Impacted soils were stored on 10-mil reinforced polyethylene liner pending sample laboratory analysis. Note the recently installed aboveground storage tank system in background.

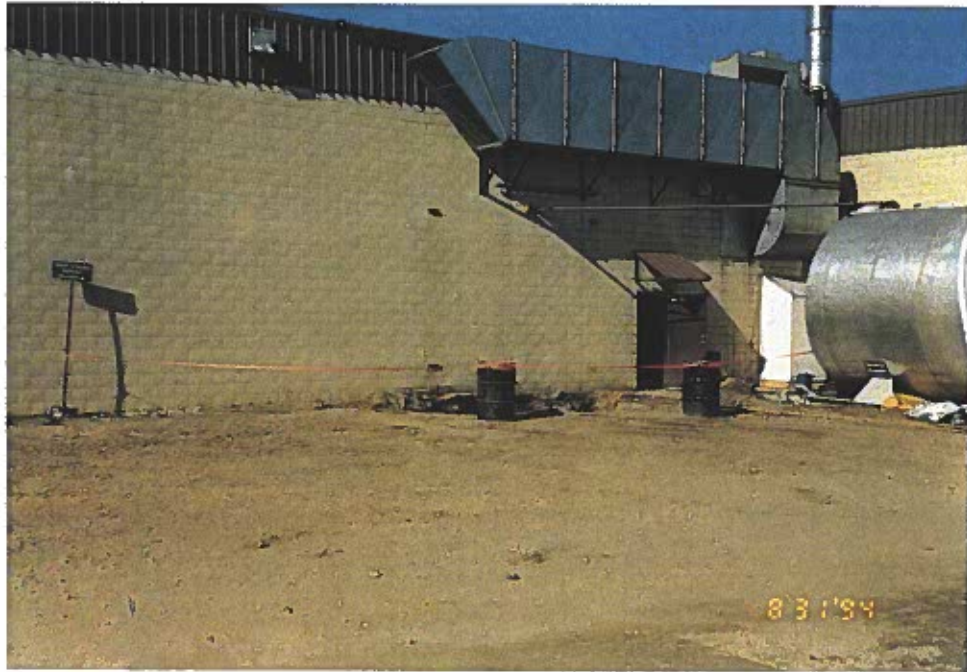


Photo 11: The excavation area was marked with orange flagging at the close of tank removal operations.



APPENDIX B

LABORATORY DATA

Used Oil Tank Area





Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 15-September-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
by EPA SW-846 Methods 5030/8015M/8020.

Chronology

Laboratory Number 92493

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-1/S-1	08/31/94	09/02/94	09/12/94	09/12/94		1
SF-1/S-2	08/31/94	09/02/94	09/12/94	09/12/94		2
SF-2/S-1	08/31/94	09/02/94	09/13/94	09/13/94		3
SF-2/S-2	08/31/94	09/02/94	09/12/94	09/12/94		4
SF-T12/SS-1	08/31/94	09/02/94	09/13/94	09/13/94		5
SF-T12/SS-2	08/31/94	09/02/94	09/13/94	09/13/94		6
SF-T12/SS-3	08/31/94	09/02/94	09/14/94	09/14/94		7

OCT 7 1994



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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 15-September-1994

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Laboratory Number	Sample Identification	Matrix
92493- 1	SF-1/S-1	Soil
92493- 2	SF-1/S-2	Soil
92493- 3	SF-2/S-1	Soil
92493- 4	SF-2/S-2	Soil
92493- 5	SF-T12/SS-1	Soil
92493- 6	SF-T12/SS-2	Soil
92493- 7	SF-T12/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92493- 1 92493- 2 92493- 3 92493- 4 92493- 5

Gasoline_Range:	ND<1	ND<1	250	ND<1	110
Benzene:	ND<.005	ND<.005	ND<0.05	ND<.005	ND<0.25
Toluene:	ND<.005	ND<.005	0.41	ND<.005	ND<0.25
Ethyl Benzene:	ND<.005	ND<.005	0.87	ND<.005	ND<0.25
Total Xylenes:	ND<.005	ND<.005	14	ND<.005	6.4
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

-- Surrogate & Recoveries --

Trifluorotoluene (SS): 94 96 81 89 93

Laboratory Number: 92493- 6 92493- 7

Gasoline_Range:	10	7
Benzene:	ND<0.05	ND<.005
Toluene:	ND<0.05	ND<.005
Ethyl Benzene:	ND<0.05	ND<.005
Total Xylenes:	0.18	0.043
Concentration:	mg/kg	mg/kg

-- Surrogate & Recoveries --

Trifluorotoluene (SS): 92 56



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

ANALYSIS FOR GASOLINE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES Quality Assurance and Control Data - Soil

Laboratory Number 92493

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Gasoline_Range:	ND<1	1	108/108	50-123	0%
Benzene:	ND<.005	.005	110/115	59-153	4%
Toluene:	ND<.005	.005	103/110	59-153	7%
Ethyl Benzene:	ND<.005	.005	100/105	59-153	5%
Total Xylenes:	ND<.005	.005	103/110	59-153	7%

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/kg = Parts per million (ppm)

QC File No. 92493

Cecilia G. Joaquin 9/16/94
Senior Chemist
Account Manager



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RZA AGRA ALASKA, INC.
Attn: JIM SPONTAK

Project 32-01136
Reported 12-September-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Diesel range quantified as all compounds from C10 to C28.

Chronology

Laboratory Number 92493

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-1/S-1	08/31/94	09/02/94	09/07/94	09/09/94		1
SF-1/S-2	08/31/94	09/02/94	09/07/94	09/09/94		2
SF-1/S-2	08/31/94	09/02/94	09/07/94	09/09/94		3
SF-2/S-2	08/31/94	09/02/94	09/07/94	09/09/94		4
SF-T12/SS-1	08/31/94	09/02/94	09/07/94	09/09/94		5
SF-T12/SS-2	08/31/94	09/02/94	09/07/94	09/09/94		6
SF-T12/SS-3	08/31/94	09/02/94	09/07/94	09/09/94		7



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RZA AGRA ALASKA, INC.
Attn: JIM SPONTAK

Project 32-01136
Reported 12-September-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.

Laboratory Number	Sample Identification	Matrix
92493- 1	SF-1/S-1	Soil
92493- 2	SF-1/S-2	Soil
92493- 3	SF-1/S-2	Soil
92493- 4	SF-2/S-2	Soil
92493- 5	SF-T12/SS-1	Soil
92493- 6	SF-T12/SS-2	Soil
92493- 7	SF-T12/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number:	92493- 1	92493- 2	92493- 3	92493- 4	92493- 5
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Diesel Range:	ND<4	ND<4	*860	ND<4	*5100
Concentration:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
-- Surrogate % Recoveries --					
Tetracosane Recovery:	98	105	MI	95	DO

Laboratory Number:	92493- 6	92493- 7
--------------------	----------	----------

Diesel Range:	*1500	*1200
Concentration:	mg/Kg	mg/Kg
-- Surrogate % Recoveries --		
Tetracosane Recovery:	DO	DO

MI - Matrix Interference

DO - Diluted Out

* - The pattern of chromatogram shows a mixture of lighter and heavy hydrocarbons . Majority of peaks are in the heavy hydrocarbons range.



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DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Quality Assurance and Control Data - Soil

Laboratory Number 92493

Compound	Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Diesel Range:	ND<4	4	107/104	50-149	3%

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/Kg = Parts per million (ppm)

QC File No. 92493

Senior Chemist
Account Manager



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Project 32-01136
Reported 12-September-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Chronology

Laboratory Number 92493

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-1/S-1	08/31/94	09/02/94	09/06/94	09/06/94		1
SF-1/S-2	08/31/94	09/02/94	09/06/94	09/06/94		2
SF-1/S-2	08/31/94	09/02/94	09/06/94	09/06/94		3
SF-2/S-2	08/31/94	09/02/94	09/06/94	09/06/94		4
SF-T12/SS-1	08/31/94	09/02/94	09/06/94	09/06/94		5
SF-T12/SS-2	08/31/94	09/02/94	09/06/94	09/06/94		6
SF-T12/SS-3	08/31/94	09/02/94	09/06/94	09/06/94		7



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RZA AGRA ALASKA, INC.
Attn: JIM SPONTAK

Project 32-01136
Reported 12-September-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Laboratory Number	Sample Identification	Matrix
92493- 1	SF-1/S-1	Soil
92493- 2	SF-1/S-2	Soil
92493- 3	SF-1/S-2	Soil
92493- 4	SF-2/S-2	Soil
92493- 5	SF-T12/SS-1	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92493- 1 92493- 2 92493- 3 92493- 4 92493- 5

Chloromethane:	ND<5	ND<5	ND<25	ND<5	ND<5
Vinyl Chloride:	ND<5	ND<5	ND<25	ND<5	ND<5
Bromomethane:	ND<5	ND<5	ND<25	ND<5	ND<5
Chloroethane:	ND<5	ND<5	ND<25	ND<5	ND<5
Trichlorofluoromethane:	ND<10	ND<10	ND<25	ND<10	ND<10
1,1-Dichloroethene:	ND<5	ND<5	ND<25	ND<5	ND<5
Dichloromethane:	ND<10	ND<10	ND<25	ND<10	ND<10
t-1,2-Dichloroethene:	ND<5	ND<5	ND<25	ND<5	ND<5
1,1-Dichloroethane:	ND<5	ND<5	ND<25	ND<5	ND<5
c-1,2-Dichloroethene:	ND<5	ND<5	ND<25	ND<5	ND<5
Chloroform:	ND<5	ND<5	ND<25	ND<5	ND<5
1,1,1-Trichloroethane:	ND<5	ND<5	460	ND<5	460
Carbon tetrachloride:	ND<5	ND<5	ND<25	ND<5	ND<5
1,2-Dichloroethane:	ND<5	ND<5	ND<25	ND<5	ND<5
Trichloroethene:	ND<5	ND<5	ND<25	ND<5	ND<5
c-1,3-Dichloropropene:	ND<5	ND<5	ND<25	ND<5	ND<5
1,2-Dichloropropane:	ND<5	ND<5	ND<25	ND<5	ND<5
t-1,3-Dichloropropene:	ND<5	ND<5	ND<25	ND<5	ND<5
Bromodichloromethane:	ND<5	ND<5	ND<25	ND<5	ND<5
1,1,2-Trichloroethane:	ND<5	ND<5	ND<25	ND<5	ND<5
Tetrachloroethene:	ND<5	ND<5	11000	ND<5	4300
Dibromochloromethane:	ND<5	ND<5	ND<5	ND<5	ND<5
Chlorobenzene:	ND<5	ND<5	ND<25	ND<5	ND<5
Bromoform:	ND<5	ND<5	ND<25	ND<5	ND<5
1,1,2,2-Tetrachloroeth:	ND<5	ND<5	ND<25	ND<5	ND<5
1,3-Dichlorobenzene:	ND<5	ND<5	ND<25	ND<5	ND<5
1,2-Dichlorobenzene:	ND<5	ND<5	ND<25	ND<5	ND<5
1,4-Dichlorobenzene:	ND<5	ND<5	ND<25	ND<5	ND<5
Concentration:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA, INC.
Attn: JIM SPONTAK

Project 32-01136
Reported 12-September-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Laboratory Number	Sample Identification	Matrix
92493- 6	SF-T12/SS-2	Soil
92493- 7	SF-T12/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92493- 6 92493- 7

Chloromethane:	ND<5	ND<5
Vinyl Chloride:	ND<5	ND<5
Bromomethane:	ND<5	ND<5
Chloroethane:	ND<5	ND<5
Trichlorofluoromethane:	ND<10	ND<10
1,1-Dichloroethene:	ND<5	ND<5
Dichloromethane:	ND<10	ND<10
t-1,2-Dichloroethene:	ND<5	ND<5
1,1-Dichloroethane:	ND<5	ND<5
c-1,2-Dichloroethene:	ND<5	ND<5
Chloroform:	ND<5	ND<5
1,1,1-Trichloroethane:	ND<5	ND<5
Carbon tetrachloride:	ND<5	ND<5
1,2-Dichloroethane:	ND<5	ND<5
Trichloroethene:	ND<5	ND<5
c-1,3-Dichloropropene:	ND<5	ND<5
1,2-Dichloropropane:	ND<5	ND<5
t-1,3-Dichloropropene:	ND<5	ND<5
Bromodichloromethane:	ND<5	ND<5
1,1,2-Trichloroethane:	ND<5	ND<5
Tetrachloroethene:	300	150
Dibromochloromethane:	ND<5	ND<5
Chlorobenzene:	ND<5	ND<5
Bromoform:	ND<5	ND<5
1,1,2,2-Tetrachloroeth:	ND<5	ND<5
1,3-Dichlorobenzene:	ND<5	ND<5
1,2-Dichlorobenzene:	ND<5	ND<5
1,4-Dichlorobenzene:	ND<5	ND<5

Concentration: ug/Kg ug/Kg



Superior Precision Analytical, Inc.

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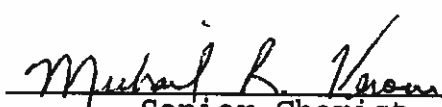
HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010. Quality Assurance and Control Data - Soil

Laboratory Number 92493

Compound	Method Blank (ug/Kg)	RL (ug/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Chloromethane:	ND<5	5			
Vinyl Chloride:	ND<5	5			
Bromomethane:	ND<5	5			
Chloroethane:	ND<5	5			
Trichlorofluoromethane:	ND<10	10			
1,1-Dichloroethene:	ND<5	5	115/91	44-184	23%
Dichloromethane:	ND<10	10			
t-1,2-Dichloroethene:	ND<5	5			
1,1-Dichloroethane:	ND<5	5			
c-1,2-Dichloroethene:	ND<5	5			
Chloroform:	ND<5	5			
1,1,1-Trichloroethane:	ND<5	5			
Carbon tetrachloride:	ND<5	5			
1,2-Dichloroethane:	ND<5	5			
Trichloroethene:	ND<5	5	101/81	55-141	22%
c-1,3-Dichloropropene:	ND<5	5			
1,2-Dichloropropane:	ND<5	5			
t-1,3-Dichloropropene:	ND<5	5			
Bromodichloromethane:	ND<5	5			
1,1,2-Trichloroethane:	ND<5	5			
Tetrachloroethene:	ND<5	5			
Dibromochloromethane:	ND<5	5			
Chlorobenzene:	ND<5	5	110/88	63-158	22%
Bromoform:	ND<5	5			
1,1,2,2-Tetrachloroeth:	ND<5	5			
1,3-Dichlorobenzene:	ND<5	5			
1,2-Dichlorobenzene:	ND<5	5			
1,4-Dichlorobenzene:	ND<5	5			

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 ug/Kg = Parts per billion (ppb)
 QC File No. 92493


 Senior Chemist
 Account Manager



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA, INC.
Attn: JIM SPONTAK

Project 32-01136
Reported 09-September-1994

ANALYSIS FOR ARSENIC, CADMIUM, CHROMIUM, & LEAD
by EPA Method SW-846 6010 & 7000 Series

Chronology

Laboratory Number 92493

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-1/S-1	08/31/94	09/02/94	09/07/94	09/08/94		1
SF-1/S-2	08/31/94	09/02/94	09/07/94	09/08/94		2
SF-2/S-1	08/31/94	09/02/94	09/07/94	09/08/94		3
SF-2/S-2	08/31/94	09/02/94	09/07/94	09/08/94		4
SF-T12/SS-1	08/31/94	09/02/94	09/07/94	09/08/94		5
SF-T12/SS-2	08/31/94	09/02/94	09/07/94	09/08/94		6
SF-T12/SS-3	08/31/94	09/02/94	09/07/94	09/08/94		7



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA, INC.
Attn: JIM SPONTAK

Project 32-01136
Reported 09-September-1994

ANALYSIS FOR ARSENIC, CADMIUM, CHROMIUM, & LEAD

Laboratory Number	Sample Identification	Matrix
92493- 1	SF-1/S-1	Soil
92493- 2	SF-1/S-2	Soil
92493- 3	SF-2/S-1	Soil
92493- 4	SF-2/S-2	Soil
92493- 5	SF-T12/SS-1	Soil
92493- 6	SF-T12/SS-2	Soil
92493- 7	SF-T12/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92493- 1 92493- 2 92493- 3 92493- 4 92493- 5

Arsenic	(As):	2	2	2	2	3
Cadmium	(Cd):	0.2	0.4	0.2	0.2	0.4
Chromium	(Cr):	9.1	11	9.1	5.7	8.7
Lead	(Pb):	3	3	4	3	12
Concentration:		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Laboratory Number: 92493- 6 92493- 7

Arsenic	(As):	3	3
Cadmium	(Cd):	0.4	0.4
Chromium	(Cr):	12	12
Lead	(Pb):	11	16
Concentration:		mg/kg	mg/kg



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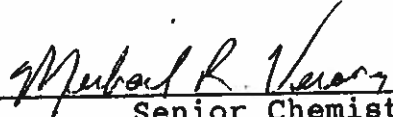
ANALYSIS FOR ARSENIC, CADMIUM, CHROMIUM, & LEAD Quality Assurance and Control Data - Soil

Laboratory Number 92493

Compound		Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Arsenic	(As):	ND<1	1	97/106	75-125	9%
Cadmium	(Cd):	ND<0.1	0.1	100/104	75-125	4%
Chromium	(Cr):	ND<0.2	0.2	82/92	75-125	11%
Lead	(Pb):	ND<2	2	88/91	75-125	3%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 mg/kg = Parts per million (ppm)
 QC File No. 92493


 Senior Chemist
 Account Manager

Certified Laboratories
 Page 3 of 3

825 Arnold Dr., Suite 114
 Martinez, California 94553

1555 Burke St., Unit I
 San Francisco, California 94124

309 S. Cloverdale St., Suite B-24
 Seattle, Washington 98108
 (206) 763-2992 / fax (206) 763-8429



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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 21-September-1994

VOLATILE PETROLEUM HYDROCARBONS

Sample preparation by Purge and Trap (EPA SW-846 method 5030). Gasoline analysis by SW-846 method 8015 modified. Gasoline range quantified as all compounds between C6 and C10. Benzene, Toluene, Ethyl Benzene and Xylenes analyses by EPA SW-846 method 8020.

Chronology

Laboratory Number 92563

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-2/S-3	09/12/94	09/14/94	09/21/94	09/21/94		1
SF-12/SS-4	09/12/94	09/14/94	09/21/94	09/21/94		2





Superior Precision Analytical, Inc.

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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 21-September-1994

VOLATILE PETROLEUM HYDROCARBONS

Laboratory Number	Sample Identification	Matrix
92563- 1	SF-2/S-3	Soil
92563- 2	SF-12/SS-4	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92563- 1 92563- 2

Gasoline:	ND<1	300
Benzene:	ND<.005	ND<0.5
Toluene:	ND<.005	12
Ethyl Benzene:	ND<.005	3.8
Total Xylenes:	ND<.005	73

Concentration: mg/kg mg/kg

-- Surrogate & Recoveries --
Trifluorotoluene (SS): 116 103

Registered Laboratories

825 Arnold Dr., Suite 114
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1555 Burke St., Unit I
San Francisco, California 94124

309 S. Cloverdale St., Suite B-24
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(510) 330-1512 / fax (510) 330-1574

(415) 447-7091 / fax (415) 871-7172

(206) 742-7092 / fax (206) 742-9120



Superior Precision Analytical, Inc.

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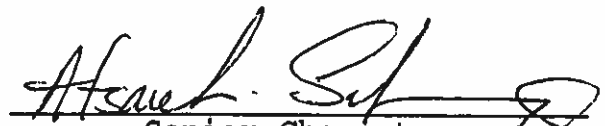
VOLATILE PETROLEUM HYDROCARBONS Quality Assurance and Control Data - Soil

Laboratory Number 92563

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Gasoline:	ND<1	1	93/97	50-123	4%
Benzene:	ND<.005	.005	79/77	59-153	3%
Toluene:	ND<.005	.005	91/91	59-153	0%
Ethyl Benzene:	ND<.005	.005	82/83	59-153	1%
Total Xylenes:	ND<.005	.005	93/92	59-153	1%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 mg/kg = Parts per million (ppm)
 QC File No. 92563


 Senior Chemist
 Account Manager



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

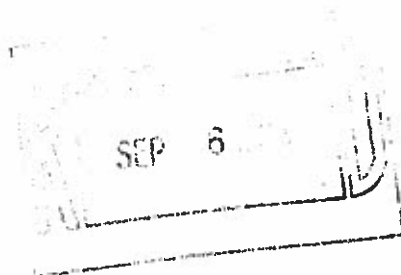
Project 32-01136-01
Reported 21-September-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Diesel range quantified as all compounds from C10 to C28.

Chronology

Laboratory Number 92563

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-2/S-3	09/12/94	09/14/94	09/15/94	09/17/94		1
SF-12/SS-4	09/12/94	09/14/94	09/15/94	09/19/94		2



Registered Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8470



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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 21-September-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.

Laboratory Number	Sample Identification	Matrix
92563- 1	SF-2/S-3	Soil
92563- 2	SF-12/SS-4	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92563- 1 92563- 2

Diesel Range: *290 **13000

Concentration: mg/Kg mg/Kg

-- Surrogate % Recoveries --

Tetracosane Recovery: MI MI

MI - Matrix Interference

* - The pattern of chromatogram shows hydrocarbons heavier than diesel.

** - The pattern of chromatogram shows hydrocarbons lighter and heavier than diesel.

Qualified laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2997 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Quality Assurance and Control Data - Soil

Laboratory Number 92563

Compound	Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Diesel Range:	ND<4	4	104/103	50-150	1%

Definitions:

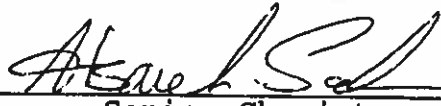
ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

ng/Kg = Parts per million (ppm)

QC File No. 92563


Senior Chemist
Account Manager



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 19-September-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Chronology

Laboratory Number 92563

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-2/S-3	09/12/94	09/14/94	09/16/94	09/16/94		1
SF-12/SS-4	09/12/94	09/14/94	09/16/94	09/16/94		2



Superior Precision Analytical, Inc.

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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 19-September-1994

HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.

Laboratory Number	Sample Identification	Matrix
92563- 1	SF-2/S-3	Soil
92563- 2	SF-12/SS-4	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92563- 1 92563- 2

Chloromethane:	ND<25	ND<50
Vinyl Chloride:	ND<25	ND<50
Bromomethane:	ND<25	ND<50
Chloroethane:	ND<25	ND<50
Trichlorofluoromethane:	ND<50	ND<100
1,1-Dichloroethene:	ND<25	ND<50
Dichloromethane:	ND<50	ND<100
t-1,2-Dichloroethene:	ND<25	ND<50
1,1-Dichloroethane:	ND<25	ND<50
c-1,2-Dichloroethene:	ND<25	ND<50
Chloroform:	ND<25	ND<50
1,1,1-Trichloroethane:	ND<25	14000
Carbon tetrachloride:	ND<25	ND<50
1,2-Dichloroethane:	ND<25	ND<50
Trichloroethene:	ND<25	ND<50
c-1,3-Dichloropropene:	ND<25	ND<50
1,2-Dichloropropane:	ND<25	ND<50
t-1,3-Dichloropropene:	ND<25	ND<50
Bromodichloromethane:	ND<25	ND<50
1,1,2-Trichloroethane:	ND<25	ND<50
Tetrachloroethene:	250	16000
Dibromochloromethane:	ND<25	ND<50
Chlorobenzene:	ND<25	ND<50
Bromoform:	ND<25	ND<50
1,1,2,2-Tetrachloroeth:	ND<25	ND<50
1,3-Dichlorobenzene:	ND<25	ND<50
1,2-Dichlorobenzene:	ND<25	ND<50
1,4-Dichlorobenzene:	ND<25	ND<50
Concentration:	ug/Kg	ug/Kg

Page 2 of 3

Certified Laboratories



Superior Precision Analytical, Inc.

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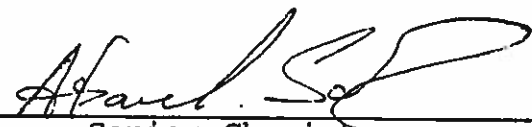
HALOGENATED VOLATILE ORGANICS by EPA SW-846 Methods 5030/8010.
Quality Assurance and Control Data - Soil

Laboratory Number 92563

Compound	Method Blank (ug/Kg)	RL (ug/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Chloromethane:	ND<5	5			
Vinyl Chloride:	ND<5	5			
Bromomethane:	ND<5	5			
Chloroethane:	ND<5	5			
Trichlorofluoromethane:	ND<10	10			
1,1-Dichloroethene:	ND<5	5	111/104	44-184	7%
Dichloromethane:	ND<10	10			
t-1,2-Dichloroethene:	ND<5	5			
1,1-Dichloroethane:	ND<5	5			
c-1,2-Dichloroethene:	ND<5	5			
Chloroform:	ND<5	5			
1,1,1-Trichloroethane:	ND<5	5			
Carbon tetrachloride:	ND<5	5			
1,2-Dichloroethane:	ND<5	5			
Trichloroethene:	ND<5	5	77/74	55-141	4%
c-1,3-Dichloropropene:	ND<5	5			
1,2-Dichloropropane:	ND<5	5			
t-1,3-Dichloropropene:	ND<5	5			
Bromodichloromethane:	ND<5	5			
1,1,2-Trichloroethane:	ND<5	5			
Tetrachloroethene:	ND<5	5			
Dibromochloromethane:	ND<5	5			
Chlorobenzene:	ND<5	5	86/84	63-158	2%
Bromoform:	ND<5	5			
1,1,2,2-Tetrachloroeth:	ND<5	5			
1,3-Dichlorobenzene:	ND<5	5			
1,2-Dichlorobenzene:	ND<5	5			
1,4-Dichlorobenzene:	ND<5	5			

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 ug/Kg = Parts per billion (ppb)
 QC File No. 92563


 Senior Chemist
 Account Manager

RZA AGRA Alaska, Inc.

Engineering & Environmental Services
600 University Avenue, Suite 5E
Fairbanks, AK 99709-3695
(907) 479-7586 FAX: (907) 479-0193

Nº 1030

Chain of Custody Record / Analysis Request

Analysis Requested: (circle, check box or write preferred method in box)

Project Name: SEEKINS RD Job No.: 32-0136
Project Manager: J. SPONTAK Phone #: (907) 479-7586
Sampler: JAS

RZA AGRA Alaska, Inc. Sample ID	Lab Samp ID	Date Collected	Time Collected	Matrix (S, soil, W=water, A=air)	# Containers/Preservation					
					40 ml VOA /	1 L Glass /	8 oz Glass /	CHILL		
SF-1/S-1		8-21-99	1355	S			1	1	1	XXXX
SF-1/S-2			1400	S			1	1	1	XXXX
SF-2/S-1			1405	S			1	1	1	XXXX
SF-2/S-2			1412	S			1	1	1	XXXX
SF-T12/SS-1			1455	S			1	1	1	XXXX
SF-T12/SS-2			1500	S			1	1	1	XXXX
SF-T12/SS-3			1503	S			1	1	1	XXXX

BTEX by 5030/8020	GRPH by 5030/8015	DRPH by 3550/8100	BTEX/GRPH combo by 5030/8020-8015	TPH by 3550/418.1	Halogenated Volatiles by 5030/8010	Aromatics by 602	Polynuclear Aromatics by EPA 810 OR 8310	Total Halogens (TOX) by EPA 8076	Total Metals by ICP AA	TCLP Metals by EPA 1311	Purgeable Organics GC/MS by EPA 8240 or 824	Base/Natural Organics GC/MS by EPA 825 OR 8270	PCB by EPA 8080	Total Metals (Pb, As, Cd, Cr, by 6000 & 7000	RUSH (see below)	Hold for Further Analysis
														XXXXXX		

RELINQUISHED BY SAMPLER: Signature: <u>James A. Spontak</u> Printed Name: <u>James A. Spontak</u> Firm: <u>AGRA ETE</u> Date/Time: <u>8-1-99/1000</u>	RELINQUISHED BY: Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____
RECEIVED BY: Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	RECEIVED BY: Signature: <u>M. Vazony</u> Printed Name: <u>MICHAEL VEGARA</u> Firm: <u>SUPERIOR LABS</u> Date/Time: <u>8/2/99 11:50 AM</u>

LABORATORY: <u>Superior</u>	Special Handling
Total # Containers: <u>14</u>	Turnaround: <input type="checkbox"/> 8 hour <input type="checkbox"/> 24-hour <input checked="" type="checkbox"/> 5 business day <input type="checkbox"/> 10 business day <input type="checkbox"/> other (if) business day
Condition of Containers? _____	Condition of Seals? _____
PURPOSE OF SAMPLING/COMMENTS: <u>M.V. 4.200</u> Samples Stored: _____ Appropriate containers: <input checked="" type="checkbox"/> Samples preserved: <u>NA</u> VOA's without: <u>NA</u> Comments: <u>OK</u>	



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 21-September-1994

ANALYSIS FOR ARSENIC, CADMIUM, CHROMIUM, & LEAD by EPA Method SW-846 6010 & 7000 Series

Chronology				Laboratory Number 92563			
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #	
SF-2/S-3	09/12/94	09/14/94	09/20/94	09/20/94			1
SF-12/SS-4	09/12/94	09/14/94	09/20/94	09/20/94			2

SEP



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 20-September-1994

ANALYSIS FOR ARSENIC, CADMIUM, CHROMIUM, & LEAD

Laboratory Number	Sample Identification	Matrix
92563 - 1	SF-2/S-3	Soil
92563 - 2	SF-12/SS-4	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92563- 1 92563- 2

Arsenic	(As) :	11	0.7
Cadmium	(Cd) :	0.1	0.2
Chromium	(Cr) :	3.5	2.4
Lead	(Pb) :	2	9

Concentration: mg/kg mg/kg



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

ANALYSIS FOR ARSENIC, CADMIUM, CHROMIUM, & LEAD

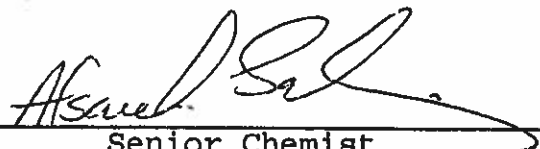
Quality Assurance and Control Data - Soil

Laboratory Number 92563

Compound	Method	Blank	RL	Spike	Limits	RPD
	(mg/kg)	(mg/kg)	(mg/kg)	Recovery (%)	(%)	(%)
Arsenic	(As) :	ND<0.5	0.5	81/81	75-125	0%
Cadmium	(Cd) :	ND<0.1	0.1	101/110	75-125	9%
Chromium	(Cr) :	ND<0.2	0.2	108/118	75-125	9%
Lead	(Pb) :	ND<2	2	118/106	75-125	11%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 mg/kg = Parts per million (ppm)
 QC File No. 92563


 Senior Chemist
 Account Manager

92573

RZA AGRA Alaska, Inc.
 Engineering & Environmental Services
 600 University Avenue, Suite 5E
 Fairbanks, AK 99709-3695
 (907) 479-7586 FAX: (907) 479-0193

Chain of Custody Record / Analysis Request

Nº 1032

Project Name: **SEEKINS KST** Job No.: **32-01136-01**
 Project Manager: **J. SPONTAK** Phone #: **(907) 479-7586**
 Sampler: **JAS**

RZA AGRA Alaska, Inc. Sample ID	Lab Samp ID	Date Collected	Time Collected	Matrix (S-soil, W-water, A-air)	# Containers/Preservation			
					40 mL VOA /	1 L Glass /	8 oz Glass /	CHILL
SF-2/5-3		9-12-99	1425	S			2	X
SF-12/55-4		9-12-99	1440	S			2	X

Analysis Requested: (circle, check box or write preferred method in box)

BTEX by 5030/8020	
GRPH by 5030/8015	
DRPH by 3550/100	
BTEX/GRPH combo by 5030/8020-8015	
TPH by 3550/4181	
Halogenated Volatiles by 5030/8010	
Aromatics by 602	
Polynuclear Aromatics by EPA 610 OR 8310	
Total Halogens (TOX) by EPA 9076	
Total Metals by ICP AA	
TCLP Metals by EPA 1311	
Purgeable Organics GCNS by EPA 8240 or 824	
Base/Nonhalo Organics GCNS by EPA 825 OR 8270	
PCB by EPA 8080	
Total Metals (As, Cd, Cr, Pb, Hg, Ni, Se, V, Zn) by EPA 8210	
RUSH (see below)	
Hold for Further Analysis	

Please Initial: **S**
 Sample Container: **Yes 3/5**
 Appropriate Seal: **Yes**
 Samples preserved: **Yes**
 Chain of Custody: **Yes**

RELINQUISHED BY SAMPLER: Signature: <i>James A Spontak</i> Printed Name: James A Spontak Firm: AGRA E&E Date/Time: 9-13-99 / 1000	RELINQUISHED BY: Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	RELINQUISHED BY: Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	RECEIVED BY: Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____
LABORATORY: Superior Total # Containers: _____ Condition of Containers? _____ Condition of Seals? _____	PURPOSE OF SAMPLING / COMMENTS:		



APPENDIX C

PHOTO-DOCUMENTARY LOG

Gasoline/Diesel Tank Area





Photo 1: A concrete dispenser island, formerly located directly over the end-to-end tanks, was removed during initial site work.



Photo 2: The tanks were purged with air to reduce the level of explosive vapors inside the tanks and then were inerted with dry ice.



Photo 3: UST No. 3 during removal.



Photo 4: General condition of UST No. 3.



Photo 5: UST No. 4 during removal.



Photo 6: View of excavation bottom directly beneath the former location of the gasoline tank.





Photo 7: Septic tank during removal.



Photo 8: Septic tank during removal.



Photo 9: General condition of removed septic tank.



Photo 10: View of northwest corner of the excavation.



Photo 13: View of soil removal from the southeastern corner of the excavation during contaminant tracking.

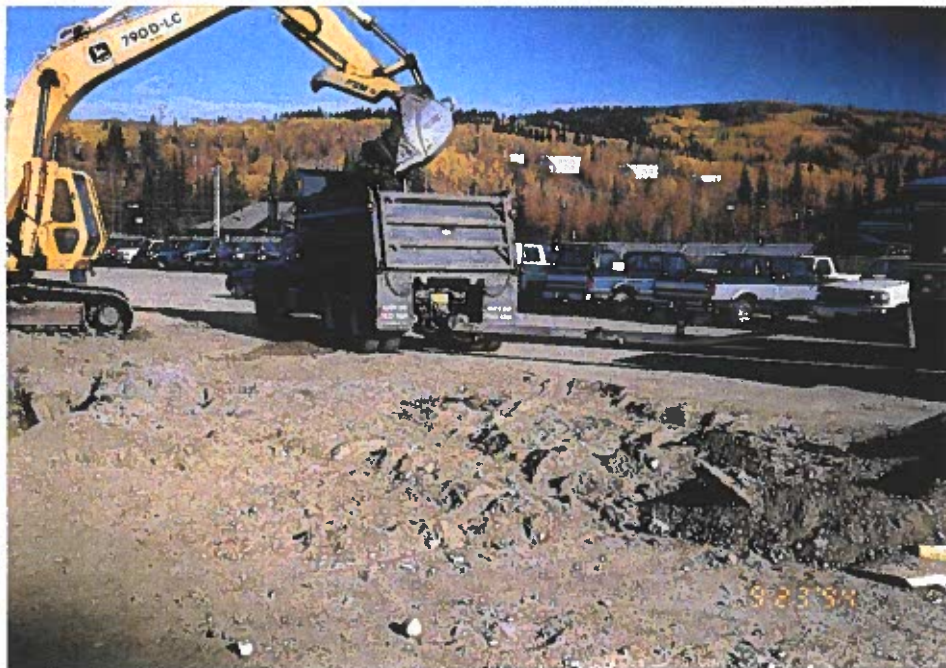


Photo 14: Impacted soils were loaded directly into trucks for disposal hauling.





APPENDIX D

LABORATORY DATA

Gasoline/Diesel Tank Area





BOREOCHEM MOBILE LAB & CONSULTING, Inc.
 3529 College Road, Suite 204
 Fairbanks, Alaska 99709-4017
 phones: (907) 479-5459 , (800) 764-2536 , fax: (907) 479-9544



September 15, 1994

Mr. James Spontak
 Agra E & E
 600 University Avenue Suite 5E
 Fairbanks, Alaska 99709

Results from the analyses for samples from Seekins UST:

SAMPLE IDENTIFICATION

Lab ID #	Field ID #	Client Name	Sampler	Location	Matrix	Sam D.	Sam T	Rec'd	Rec'd D
94091303	SF-3/S-1	Agra E&E	Mr. Jim Spontak	Seekins UST	Soil	9/13/94	1235	1345	9/13/94
94091304	SF-3/S-2	Agra E&E	Mr. Jim Spontak	Seekins UST	Soil	9/13/94	1240	1345	9/13/94
94091305	SF-4/S-1	Agra E&E	Mr. Jim Spontak	Seekins UST	Soil	9/13/94	1325	1345	9/13/94
94091306	SF-4/S-2	Agra E&E	Mr. Jim Spontak	Seekins UST	Soil	9/13/94	1450	1345	9/13/94

RESULTS OF ANALYSES IN PARTS PER MILLION.(mg/dry kilogram):

Lab ID#	Field ID #	%Solids	DRO(ppm)	GRO(ppm)	BTEX(ppm)
94091303	SF-3/S-1	86.4	<4	4.9	1.17
94091304	SF-3/S-2	87.9	<4	6.1	2.07
94091305	SF-4/S-1	90.3	436.3	13755.0	2093.71
94091306	SF-4/S-2	90.8	<4	11.2	2.59
Lab ID#	Field ID #	Benzene(ppm)			
94091303	SF-3/S-1	0.09			
94091304	SF-3/S-2	0.14			
94091305	SF-4/S-1	158.78			
94091306	SF-4/S-2	0.20			
Lab ID#	Field ID #	DRO %SS	GRO %SS	BTEX %SS	
94091303	SF-3/S-1	98.4%	105.4%	87.0%	
94091304	SF-3/S-2	97.5%	109.7%	89.1%	
94091305	SF-4/S-1	122.9%	50.1%	100.4%	
94091306	SF-4/S-2	97.4%	104.4%	78.2%	

DATA REVIEWED BY :

Tim Thomas

Tim Thomas
 Laboratory Manager



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 22-September-1994

VOLATILE PETROLEUM HYDROCARBONS

Sample preparation by Purge and Trap (EPA SW-846 method 5030). Gasoline analysis by SW-846 method 8015 modified. Gasoline range quantified as all compounds between C6 and C10. Benzene, Toluene, Ethyl Benzene and Xylenes analyses by EPA SW-846 method 8020.

Chronology

Laboratory Number 92573

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-34/SS-1	09/13/94	09/15/94	09/21/94	09/21/94		1
SF-34/SS-2	09/13/94	09/15/94	09/21/94	09/21/94		2
SF-34/SS-3	09/13/94	09/15/94	09/21/94	09/21/94		3



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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 22-September-1994

VOLATILE PETROLEUM HYDROCARBONS

Laboratory Number	Sample Identification	Matrix
92573- 1	SF-34/SS-1	Soil
92573- 2	SF-34/SS-2	Soil
92573- 3	SF-34/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number:	92573- 1	92573- 2	92573- 3
--------------------	----------	----------	----------

Gasoline:	4400	2000	600
Benzene:	18	7.7	ND<2.5
Toluene:	390	210	37
Ethyl Benzene:	88	63	14
Total Xylenes:	1500	590	190

Concentration:	mg/kg	mg/kg	mg/kg
----------------	-------	-------	-------

-- Surrogate % Recoveries --

Trifluorotoluene (SS):	122	107	111
------------------------	-----	-----	-----



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

VOLATILE PETROLEUM HYDROCARBONS Quality Assurance and Control Data - Soil

Laboratory Number 92573

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Gasoline:	ND<1	1	93/97	50-123	4%
Benzene:	ND<.005	.005	79/77	59-153	3%
Toluene:	ND<.005	.005	91/91	59-153	0%
Ethyl Benzene:	ND<.005	.005	82/83	59-153	1%
Total Xylenes:	ND<.005	.005	93/92	59-153	1%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 ng/kg = Parts per million (ppm)
 JC File No. 92573

Abeneh. Sal
 Senior Chemist
 Account Manager

Field Laboratories

825 Arnold Dr., Suite 114
 Martinez, California 94553
 (510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
 San Francisco, California 94124
 (415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
 Seattle, Washington 98108
 (206) 763-2992 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 22-September-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Diesel range quantified as all compounds from C10 to C28.

Chronology

Laboratory Number 92573

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-34/SS-1	09/13/94	09/15/94	09/15/94	09/17/94		1
SF-34/SS-2	09/13/94	09/15/94	09/15/94	09/17/94		2
SF-34/SS-3	09/13/94	09/15/94	09/15/94	09/17/94		3

SE+

Page 6 of 6



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RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 22-September-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.

Laboratory Number	Sample Identification	Matrix
92573- 1	SF-34/SS-1	Soil
92573- 2	SF-34/SS-2	Soil
92573- 3	SF-34/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92573- 1 92573- 2 92573- 3

Diesel Range:	*430	*130	*200
Concentration:	mg/Kg	mg/Kg	mg/Kg
-- Surrogate % Recoveries --			
Tetracosane Recovery:	103	70	106

* The chromatogram shows hydrocarbons lighter than diesel.



Superior Precision Analytical, Inc.

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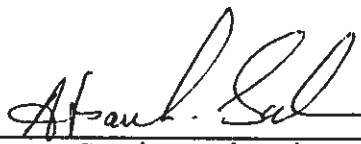
DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Quality Assurance and Control Data - Soil

Laboratory Number 92573

Compound	Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Diesel Range:	ND<4	4	104/103	50-150	1%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 mg/Kg = Parts per million (ppm)
 QC File No. 92573


 Senior Chemist
 Account Manager



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 22-September-1994

ANALYSIS FOR TOTAL LEAD
by EPA Method SW-846 6010

Laboratory Number 92573

Chronology

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-34/SS-1	09/13/94	09/15/94	09/15/94	09/17/94		1
SF-34/SS-2	09/13/94	09/15/94	09/15/94	09/17/94		2
SF-34/SS-3	09/13/94	09/15/94	09/15/94	09/17/94		3



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136
Reported 22-September-1994

ANALYSIS FOR TOTAL LEAD

Laboratory Number	Sample Identification	Matrix
92573- 1	SF-34/SS-1	Soil
92573- 2	SF-34/SS-2	Soil
92573- 3	SF-34/SS-3	Soil

RESULTS OF ANALYSIS

Laboratory Number: 92573- 1 92573- 2 92573- 3

Lead (Pb):	12	5	6
Concentration:	mg/Kg	mg/Kg	mg/Kg



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

ANALYSIS FOR TOTAL LEAD Quality Assurance and Control Data - Soil

Laboratory Number 92573

Compound	Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Lead (Pb):	ND<2	2	118/106	75-125	11%

Definitions:

- ND = Not Detected
- RPD = Relative Percent Difference
- RL = Reporting Limit
- mg/Kg = Parts per million (ppm)
- QC File No. 92573

Ahmed Sal
 Senior Chemist
 Account Manager

KLHRT

2573

RZA AGRA Alaska, Inc.

Engineering & Environmental Services
600 University Avenue, Suite 5E
Fairbanks, AK 99709-3695
(907) 479-7586 FAX: (907) 479-0193

No. 1037

Chain of Custody Record / Analysis Request

Analysis Requested: (circle, check box or write preferred method in box)

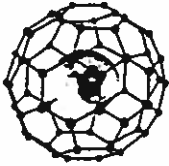
Project Name: SEEKINS 4ST Job No.: 32-01136
Project Manager: J. SPONTAK Phone #: (907) 479-7586
Sampler: JAS

Lab Samp ID	Date Collected	Time Collected	Matrix (S=soil, W=water, A=air)	# Containers/Preservation			
				40 ml VOA /	1 L Glass /	8 oz Glass /	CHILL
SF-34/SS-1	9-13-94	1500	S				XXX
SF-34/SS-2	9-13-94	1505	S				XXX
SF-34/SS-3	9-13-94	1510	S				XXX

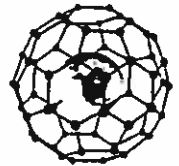
BTEX by 5030/8020	GRPH by 5030/8015	DRPH by 3550/8100	BTEX/GRPH combo by 5030/8020-8015	TPH by 3550/48.1	Halogenated Volatiles by 5030/8010	Aromatics by 602	Polynuclear Aromatics by EPA 610 OR 8310	Total Halogens (TOX) by EPA 9076	Total Metals by ICP AA	TCLP Metals by EPA 1311	Purgeable Organics GCNS by EPA 8240 or 824	Base/Nucl/Org/GCNS by EPA 625 OR 8270	PCB by EPA 8080	Total Metals (PB) by 6010	Hold for Further Analysis	RUSH (see below)
		XXX	XXX											XXX		

Yes 4 LC

RELINQUISHED BY SAMPLER: Signature: <u>James A. Spontak</u> Printed Name: <u>James A. Spontak</u> Firm: <u>AGRA E+E</u> Date/Time: <u>9-13-94 / 1000</u>	RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RECEIVED BY: Signature: Printed Name: Firm: Date/Time:
LABORATORY: <u>Superior</u> Turnaround: <input type="checkbox"/> 8 hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 5 business day <input type="checkbox"/> 10 business day <input type="checkbox"/> other _____ (#) business day	Total # Containers: Condition of Containers? Condition of Seals?	PURPOSE OF SAMPLING / COMMENTS:	



BOREOCHEM MOBILE LAB & CONSULTING, Inc.
3529 College Road, Suite 204
Fairbanks, Alaska 99709-4017
phones: (907) 479-5459 , (800) 764-2536 , fax: (907) 479-9544



September 29, 1994

FINAL REPORT

RESULTS OF DIESEL & GAS-RANGE, & BTEX ANALYSES

SEEKINS UST PROJECT AREA

SAMPLED BY AGRA E&E
600 UNIVERSITY AVENUE SUITE 5E
FAIRBANKS, ALASKA 99709
p: (907) 479-7586 f: (907) 479-0193

REPORT PREPARED BY BOREOCHEM LABORATORY

REPORT REVIEWED AND APPROVED:

Tim Thomas
Laboratory Manager

OCT - 3 1994

SAMPLE INFORMATION

LAB ID	FIELD ID	CLIENT NAME	SAMPLER	SMP LOCATION	MATRIX
94092603	SF-34/CL-1	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092604	SF-34/CL-2	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092605	SF-34/CL-4	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092606	SF-34/CL-6	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092607	SF-34/CL-10	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092608	SF-34/CL-12	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092609	SF-34/CL-14	Agra E&E	Mr. James Spontak	Seekins UST	Soil
94092610	SF-34/CL-15	Agra E&E	Mr. James Spontak	Seekins UST	Soil
LAB ID	FIELD ID	SAMPLE DATE	SAMPLE TIME	RECEPTION TIME	RECEPTION DATE
94092603	SF-34/CL-1	9/22/94	1010	1035	9/26/94
94092604	SF-34/CL-2	9/22/94	1012	1035	9/26/94
94092605	SF-34/CL-4	9/22/94	1345	1035	9/26/94
94092606	SF-34/CL-6	9/23/94	925	1035	9/26/94
94092607	SF-34/CL-10	9/23/94	1610	1035	9/26/94
94092608	SF-34/CL-12	9/24/94	1310	1035	9/26/94
94092609	SF-34/CL-14	9/24/94	1635	1035	9/26/94
94092610	SF-34/CL-15	9/24/94	1643	1035	9/26/94
LAB ID	FIELD ID	LAB RECEIVER	PRESERVATION	COC NUMBER	ANALYSES (1)
94092603	SF-34/CL-1	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092604	SF-34/CL-2	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092605	SF-34/CL-4	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092606	SF-34/CL-6	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092607	SF-34/CL-10	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092608	SF-34/CL-12	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092609	SF-34/CL-14	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
94092610	SF-34/CL-15	T Thomas	Cooled to 4C	1048	AK101,AK102,8020
LAB ID	FIELD ID	DRO Bottles	DRO Extraction	DRO Analysis	H.T./Semivolatiles
94092603	SF-34/CL-1	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
94092604	SF-34/CL-2	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
94092605	SF-34/CL-4	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
94092606	SF-34/CL-6	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
94092607	SF-34/CL-10	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
94092608	SF-34/CL-12	8 oz glass w/teflon	9/26/94	9/27/94	14 d extraction/40 d analysis
94092609	SF-34/CL-14	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
94092610	SF-34/CL-15	8 oz glass w/teflon	9/26/94	9/28/94	14 d extraction/40 d analysis
LAB ID	FIELD ID	Vol Bottles	Vol Extraction	Volatile Analysis	H.T./Volatiles
94092603	SF-34/CL-1	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092604	SF-34/CL-2	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092605	SF-34/CL-4	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092606	SF-34/CL-6	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092607	SF-34/CL-10	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092608	SF-34/CL-12	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092609	SF-34/CL-14	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis
94092610	SF-34/CL-15	2 x 2 oz glass/teflon	9/27/94	9/28/94	14 days to analysis

**RESULTS OF DIESEL-RANGE ORGANICS ANALYSES
IN PARTS PER MILLION
(mg/ dry kilogram)**

LAB ID	FIELD ID	DRO(ppm)	% Solids	DRO % SURR. REC.
94092603	SF-34/CL-1	< 4	94.2	83.4%
94092604	SF-34/CL-2	< 4	92.8	80.1%
94092605	SF-34/CL-4	< 4	88.7	92.3%
94092606	SF-34/CL-6	< 4	90.3	74.6%
94092607	SF-34/CL-10	< 4	96.3	93.9%
94092608	SF-34/CL-12	< 4	97.7	91.7%
94092609	SF-34/CL-14	< 4	96.4	99.9%
94092610	SF-34/CL-15	< 4	96.6	94.3%

**RESULTS OF GAS-RANGE ORGANICS ANALYSES
IN PARTS PER MILLION
(mg/ dry kilogram)**

LAB ID	FIELD ID	GRO(ppm)	% Solids	GRO % SURR. REC.
94092603	SF-34/CL-1	< 1.3	94.2	104.9%
94092604	SF-34/CL-2	< 1.3	92.8	102.4%
94092605	SF-34/CL-4	< 1.3	88.7	107.0%
94092606	SF-34/CL-6	< 1.3	90.3	99.3%
94092607	SF-34/CL-10	< 1.3	96.3	99.7%
94092608	SF-34/CL-12	< 1.3	97.7	97.1%
94092609	SF-34/CL-14	< 1.3	96.4	106.0%
94092610	SF-34/CL-15	1.8	96.6	101.4%

**RESULTS OF BTEX ANALYSES
IN PARTS PER MILLION
(mg/ dry kilogram)**

Lab ID#	Field ID #	Benzene	Toluene	Chlorobenzene
94092603	SF-34/CL-1	0.10	0.12	<0.05
94092604	SF-34/CL-2	<0.05	0.06	<0.05
94092605	SF-34/CL-4	0.09	<0.05	<0.05
94092606	SF-34/CL-6	0.10	0.09	<0.05
94092607	SF-34/CL-10	0.09	0.06	<0.05
94092608	SF-34/CL-12	0.13	0.24	<0.05
94092609	SF-34/CL-14	0.11	0.16	<0.05
94092610	SF-34/CL-15	0.11	0.08	<0.05
Lab ID#	Field ID #	Ethylbenzene	m&p xylenes	o-xylene
94092603	SF-34/CL-1	<0.05	0.16	0.19
94092604	SF-34/CL-2	<0.05	0.12	<0.05
94092605	SF-34/CL-4	<0.05	0.10	0.12
94092606	SF-34/CL-6	<0.05	0.05	0.11
94092607	SF-34/CL-10	<0.05	<0.05	<0.05
94092608	SF-34/CL-12	0.13	0.48	0.36
94092609	SF-34/CL-14	0.10	0.39	0.31
94092610	SF-34/CL-15	<0.05	0.20	0.21
Lab ID#	Field ID #	1,3-dichlorobenzene	1,4-dichlorobenzene	1,2-dichlorobenzene
94092603	SF-34/CL-1	<0.05	<0.05	<0.05
94092604	SF-34/CL-2	<0.05	<0.05	<0.05
94092605	SF-34/CL-4	<0.05	<0.05	<0.05
94092606	SF-34/CL-6	<0.05	<0.05	<0.05
94092607	SF-34/CL-10	<0.05	<0.05	<0.05
94092608	SF-34/CL-12	<0.05	<0.05	<0.05
94092609	SF-34/CL-14	<0.05	<0.05	<0.05
94092610	SF-34/CL-15	<0.05	<0.05	<0.05

**TOTAL BTEX CONCENTRATIONS FOR SAMPLES
IN PARTS PER MILLION
(mg/ dry kilogram)**

LAB ID	FIELD ID	Total BTEX (ppm)
94092603	SF-34/CL-1	0.57
94092604	SF-34/CL-2	0.18
94092605	SF-34/CL-4	0.34
94092606	SF-34/CL-6	0.35
94092607	SF-34/CL-10	0.16
94092608	SF-34/CL-12	1.33
94092609	SF-34/CL-14	1.08
94092610	SF-34/CL-15	0.59

QUALITY CONTROL DATA

Diesel-range Organics		
PARAMETER	FOUND VALUE	ACCEPT LIMITS
RPD	5.4%	20%
Matrix spikes	98.0%	60-130 %
Method blank	3.4	< 4 ppm
Method DL	4 ppm	
Gas-range Organics		
PARAMETER	FOUND VALUE	ACCEPT LIMITS
RPD	0.4%	20%
Matrix spikes	87.9%	60-130 %
Method blank	2.5	< 1.3
Method DL	1.3 ppm	
Total BTEX		
PARAMETER	FOUND VALUE	ACCEPT LIMITS
RPD	4.1%	20%
Matrix spikes	98.6%	60-130 %
Method blank	<0.250	< 0.25 ppm

Analyte	DL(ppm)
Benzene	0.05
Toluene	0.05
Chlorobenzene	0.05
Ethylbenzene	0.05
1,3-dichlorobenzene	0.05
1,4-dichlorobenzene	0.05
1,2-dichlorobenzene	0.05
xylene	0.05

SURROGATE RECOVERIES FOR BTEX ANALYSES

LAB ID	FIELD ID	BTEX % SURR. REC.
94092603	SF-34/CL-1	105.0%
94092604	SF-34/CL-2	106.6%
94092605	SF-34/CL-4	113.7%
94092606	SF-34/CL-6	104.9%
94092607	SF-34/CL-10	110.0%
94092608	SF-34/CL-12	100.1%
94092609	SF-34/CL-14	105.3%
94092610	SF-34/CL-15	105.3%

METHODS

DRO: 8100m:AK 102: Method for the Determination of Diesel Range Organics, Revision 2, February 5, 1993. Alaska Department of Environmental Conservation.

GRO: 8015m:AK 101: Method for the Determination of Gasoline Range Organics: Revision 4, January 14, 1993. Alaska Department of Environmental Conservation.

BTEX:SW-846 8020: Aromatic Volatile Organics, Revision 0, September 1986. Environmental Protection Agency.

RZA AGRA Alaska, Inc.

Engineering & Environmental Services
 600 University Avenue, Suite 5E
 Fairbanks, AK 99709-3695
 (907) 479-7586 FAX: (907) 479-0193

No: 1048

Chain of Custody Record / Analysis Request

Analysis Requested: (circle, check box or write preferred method in box)

Project Name: SEEKINS USTs Job No.: 32-01136-01
 Project Manager: J. SPONTAK Phone #: (907) 479-7586
 Sampler: JAS

Lab Samp ID	Date Collected	Time Collected	Matrix (S-soil, W-water, A-air)	40 ml VOA /	1 L Glass /	8 oz Glass /	# Containers/Preservation	CHILL
SF-34/CL-1	9-22-94	1010	S				2	X
SF-34/CL-2	↓	1012	S				2	X
SF-34/CL-4	↓	1345	S				2	X
SF-34/CL-6	9-23-94	0925	S				2	X
SF-34/CL-10	↓	1610	S				2	X
SF-34/CL-12	9-24-94	1310	S				2	X
SF-34/CL-14	↓	1635	S				2	X
SF-34/CL-15	↓	1643	S				2	X

BTEX by 5030/8020	GRPH by 5030/8015	DRPH by 3550/8100	BTEX/GRPH combo by 5030/8020-8015	TPH by 3550/418.1	Halogenated Volatiles by 5030/8010	Aromatics by 802	Polynuclear Aromatics by EPA 810 OR 8310	Total Halogens (TOX) by EPA 9078	Total Metals by ICP AA	TCLP Metals by EPA 1311	Purgeable Organics GC/MS by EPA 8240 or 824	Base/Nucl/Organics GC/MS by EPA 825 OR 8270	PCB by EPA 8080	Hold for Further Analysis	RUSH (see below)
			X												

RELINQUISHED BY SAMPLER: Signature: <u>James A. Spontak</u> Printed Name: <u>James A. Spontak</u> Firm: <u>AGRA E+E</u> Date/Time: <u>9-26-94/1035</u>	RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RECEIVED BY: Signature: <u>Tim Thomas</u> Printed Name: <u>Tim Thomas</u> Firm: Date/Time: <u>9/26/94 1035 am</u>	RECEIVED BY: Signature: Printed Name: Firm: Date/Time:
LABORATORY: <u>Boreochem</u>		PURPOSE OF SAMPLING / COMMENTS: <u>RUSH ANALYSIS.</u> <u>6°C 450turn @ 9/28 am</u>	
Total # Containers: <u>76</u>		Special Handling: Turnaround: <input type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> 5 business day <input type="checkbox"/> 10 business day <input type="checkbox"/> other <u> </u> (#) business day	
Condition of Containers? <u>Wet</u>		Condition of Seals? <u>SEALED</u>	



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 04-October-1994

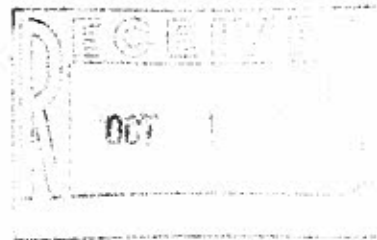
VOLATILE PETROLEUM HYDROCARBONS

Sample preparation by Purge and Trap (EPA SW-846 method 5030). Gasoline analysis by SW-846 method 8015 modified. Gasoline range quantified as all compounds between C6 and C10. Benzene, Toluene, Ethyl Benzene and Xylenes analyses by EPA SW-846 method 8020.

Chronology

Laboratory Number 92659

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-341CL-3	09/22/94	09/27/94	09/30/94	09/30/94		1
SF-341CL-5	09/22/94	09/27/94	09/30/94	10/03/94		2
SF-341CL-7	09/23/94	09/27/94	09/30/94	09/30/94		3
SF-341CL-8	09/23/94	09/27/94	09/30/94	09/30/94		4
SF-341CL-9	09/23/94	09/27/94	09/30/94	10/03/94		5
SF-341CL-11	09/24/94	09/27/94	09/30/94	09/30/94		6
SF-341CL-13	09/24/94	09/27/94	09/30/94	09/30/94		7





Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 04-October-1994

VOLATILE PETROLEUM HYDROCARBONS

Laboratory Number	Sample Identification	Matrix
92659- 1	SF-341CL-3	Soil
92659- 2	SF-341CL-5	Soil
92659- 3	SF-341CL-7	Soil
92659- 4	SF-341CL-8	Soil
92659- 5	SF-341CL-9	Soil
92659- 6	SF-341CL-11	Soil
92659- 7	SF-341CL-13	Soil

RESULTS OF ANALYSIS

Laboratory Number:	92659- 1	92659- 2	92659- 3	92659- 4	92659- 5
--------------------	----------	----------	----------	----------	----------

Gasoline:	4600	23	4600	2800	140
Benzene:	9	ND<0.05	9.7	ND<6.5	0.2
Toluene:	260	0.18	310	170	1.4
Ethyl Benzene:	90	ND<0.05	98	59	0.76
Total Xylenes:	640	1.2	730	580	13
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

-- Surrogate % Recoveries --

Trifluorotoluene (SS):	94	82	92	92	105
------------------------	----	----	----	----	-----

Laboratory Number:	92659- 6	92659- 7
--------------------	----------	----------

Gasoline:	420	ND<1
Benzene:	ND<0.5	ND<.005
Toluene:	4.9	0.053
Ethyl Benzene:	3.6	ND<.005
Total Xylenes:	34	0.091
Concentration:	mg/kg	mg/kg

-- Surrogate % Recoveries --

Trifluorotoluene (SS):	90	84
------------------------	----	----

Pacific Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7173

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2997 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

VOLATILE PETROLEUM HYDROCARBONS Quality Assurance and Control Data - Soil

Laboratory Number 92659

Compound	Method Blank (mg/kg)	RL (mg/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Gasoline:	ND<1	1	79/81	50-123	3%
Benzene:	ND<.005	.005	73/72	59-153	1%
Toluene:	ND<.005	.005	81/80	59-153	1%
Ethyl Benzene:	ND<.005	.005	87/83	59-153	5%
Total Xylenes:	ND<.005	.005	93/88	59-153	6%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 mg/kg = Parts per million (ppm)
 QC File No. 92659

Abaneh Salimpoor 10/4/94

Senior Chemist
 Account Manager

Regional Laboratories

825 Arnold Dr., Suite 114
 Martinez, California 94553
 (510) 229-1512 / fax (510) 229-1526

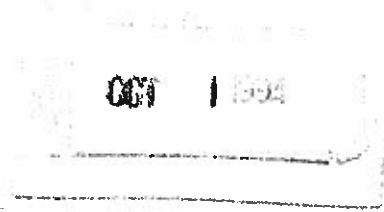
1555 Burke St., Unit I
 San Francisco, California 94124
 (415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
 Seattle, Washington 98108
 (206) 763-2992 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium



RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 04-October-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Diesel range quantified as all compounds from C10 to C28.

Chronology				Laboratory Number 92659		
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
SF-341CL-3	09/22/94	09/27/94	09/28/94	09/29/94		1
SF-341CL-5	09/22/94	09/27/94	09/28/94	09/29/94		2
SF-341CL-7	09/23/94	09/27/94	09/28/94	09/29/94		3
SF-341CL-8	09/23/94	09/27/94	09/28/94	09/29/94		4
SF-341CL-9	09/23/94	09/27/94	09/28/94	09/29/94		5
SF-341CL-11	09/24/94	09/27/94	09/28/94	09/29/94		6
SF-341CL-13	09/24/94	09/27/94	09/28/94	09/29/94		7

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1512 / fax (510) 229-1526

Page 1 of 3
1555 Burke St., Unit 1
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RZA AGRA ALASKA
Attn: JAMES SPONTAK

Project 32-01136-01
Reported 04-October-1994

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.

Laboratory Number	Sample Identification	Matrix
92659- 1	SF-341CL-3	Soil
92659- 2	SF-341CL-5	Soil
92659- 3	SF-341CL-7	Soil
92659- 4	SF-341CL-8	Soil
92659- 5	SF-341CL-9	Soil
92659- 6	SF-341CL-11	Soil
92659- 7	SF-341CL-13	Soil

RESULTS OF ANALYSIS

Laboratory Number:	92659- 1	92659- 2	92659- 3	92659- 4	92659- 5
--------------------	----------	----------	----------	----------	----------

Diesel Range:	*490	*24	*860	*370	*16
---------------	------	-----	------	------	-----

Concentration:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
----------------	-------	-------	-------	-------	-------

-- Surrogate % Recoveries --

Tetracosane Recovery:	MI	90	MI	MI	87
-----------------------	----	----	----	----	----

Laboratory Number:	92659- 6	92659- 7
--------------------	----------	----------

Diesel Range:	**620	ND<4
---------------	-------	------

Concentration:	mg/Kg	mg/Kg
----------------	-------	-------

-- Surrogate % Recoveries --

Tetracosane Recovery:	MI	85
-----------------------	----	----

MI - MATRIX INTERFERENCE

* The chromatogram is typical of gasoline pattern.

** The chromatogram is a mixture of gasoline and heavy hydrocarbons.



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

DIESEL RANGE ORGANICS by EPA Method 8100 Modified.
Quality Assurance and Control Data - Soil

Laboratory Number 92659

Compound	Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Diesel Range:	ND<4	4	98/103	50-150	5%

Definitions:

ND = Not Detected
 RPD = Relative Percent Difference
 RL = Reporting Limit
 mg/Kg = Parts per million (ppm)
 QC File No. 92659

Abigail Sal... 10/4/04
 Senior Chemist
 Account Manager

RZA AGRA Alaska, Inc.

Engineering & Environmental Services
 600 University Avenue, Suite 5E
 Fairbanks, AK 99709-3695
 (907) 479-7586 FAX: (907) 479-0193

No: 1046

Chain of Custody Record / Analysis Request

Analysis Requested: (circle, check box or write preferred method in box)

Project Name: **SEEKINS UST** Job No.: **32-01136-01**
 Project Manager: **J. SPONTAK** Phone #: **(907) 479-7586**
 Sampler: **JAS**

RZA AGRA Alaska, Inc. Sample ID	Lab Samp ID	Date Collected	Time Collected	Matrix (S-soll, W-water, A-air)	# Containers/Preservation				CHILL
					40 ml VOA /	1 L Glass /	8 oz Glass /	4oz Glass /	
SF-34/CL-3		9-22-91	1247	S					X
SF-34/CL-5		9-23-91	1250	S					X
SF-34/CL-7		9-23-91	1255	S					X
SF-34/CL-8		9-24-91	1300	S					X
SF-34/CL-9		9-24-91	1305	S					X
SF-34/CL-11		9-24-91	1300	S					X
SF-34/CL-13		9-24-91	1640	S					X

BTEX by 5030/8020	GRPH by 5030/8015	DRPH by 3550/8100	BTEX/GRPH combo by 5030/8020-8015	TPH by 3550/418.1	Halogenated Volatiles by 5030/8010	Aromatics by 802	Polynuclear Aromatics by EPA 610 OR 8310	Total Halogens (TOX) by EPA 9076	Total Metals by ICP AA	TCLP Metals by EPA 1311	Purgeable Organics GCNS by EPA 8240 or 824	Base/Neutr/Organics GCNS by EPA 825 OR 8270	PCB by EPA 8080	Hold for Further Analysis	RUSH (see below)

RELINQUISHED BY SAMPLER: Signature: <i>James A. Spontak</i> Printed Name: James A. Spontak Firm: AGRA E+E Date/Time: 9-26-91 / 1000	RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RECEIVED BY: Signature: Printed Name: Firm: Date/Time:
RELINQUISHED BY SAMPLER: Signature: Printed Name: Firm: Date/Time:	RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RECEIVED BY: Signature: Printed Name: Firm: Date/Time:

LABORATORY: **Superior**

Total # Containers: _____
 Condition of Containers? _____
 Condition of Seals? _____

PURPOSE OF SAMPLING / COMMENTS:
Val James
 Date/Time: **9/27/91 9:30am**



APPENDIX E
ADEC CLOSURE DOCUMENTATION





CLOSURE NOTICE FOR ALASKA UNDERGROUND STORAGE TANKS

Notice of Closure is required for any tank removed or closed in-ground.



Facility - Location

(Do not use P.O. Box)

Tank Owner

Name Seekins Ford-Lincoln-Mercury
Address 1625 Old Steese Highway
Fairbanks, Alaska

Name Seekins Ford-Lincoln-Mercury, Inc
Address 1625 Old Steese Highway
Fairbanks, Alaska 99712

Phone (907) 452-1991

Phone (907) 452-1991

Facility ID Number (If Known) -----

Scheduled Date for Closure

August 31 - October 15, 1994

This form **MUST** be completed and sent at least 15 and no more than 60 days prior to closure.

Alaska Statute 46.03.375 requires those who supervise an UST closure be certified after March 25, 1992.

A Site Assessment in accordance with 18 AAC 78.090 must be performed at time of closure by an impartial third party with an approved quality assurance program plan (QAPP).

Contractor to Perform Closure M&M Constructors UST Worker License # AA 119

Firm to Perform Site Assessment AGRA Earth and Environmental QAPP on File? Yes

Method of Closure: Removal In-ground If In-ground, Type of Fill Material _____

Is there a leak/spill at this site? Yes (if so, please notify the closest DEC office)
Have you contacted the local fire department of your intent to close the tank(s)? Yes

Where are the tank, piping, equipment, and sludge to be disposed? Fairbanks North
Star Borough Landfill

Tanks to be Closed

Tank Number	Tank Age	Tank Size	Last Product Stored	Date Last Used
<u>---</u>	<u>12 y</u>	<u>500-gal</u>	<u>Used Oil</u>	<u>1992</u>
<u>---</u>	<u>12 y</u>	<u>500-gal</u>	<u>Used Oil</u>	<u>1992</u>
<u>---</u>	<u>12 y</u>	<u>5000-gal</u>	<u>Gasoline</u>	<u>1994</u>
<u>---</u>	<u>12 y</u>	<u>2000-gal</u>	<u>Diesel</u>	<u>1994</u>

Closure Notice Submitted By:

James A. Spontak Staff Geologist September 14, 1994
(Signature) (Title) (Date)

James A. Spontak (907) 479-7586
(Please print name) (Phone)

Return Completed Form to: Alaska Department of Environmental Conservation
3601 C Street, Suite 398
Anchorage, AK 99503
FAX # (907) 272 4200



POST-CLOSURE INFORMATION FOR ALASKA UNDERGROUND STORAGE TANKS

Post Closure information and Site Assessment report is required 30 days after UST closure.



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

Tank Owner

Name Seekins Ford-Lincoln-Mercury
 Address 1625 Old Steese Highway
Fairbanks, Alaska 99712
 Phone (907) 452-1991

Name Seekins Ford-Lincoln-Mercury
 Address 1625 Old Steese Highway
Fairbanks, Alaska 99712
 Phone (907) 452-1991

Facility ID # 002459 Date Closed _____

SITE ASSESSMENT MUST BE COMPLETED FOR ANY UST CLOSURE

Site Assessment Performed By: AGRA Earth & Environmental, Inc.

Closure Performed By: M & M Constructors UST License # AA119

Date Tanks Closed: August 31-October 15, 1994

Date Site Assessment Performed: August 31-October 15, 1994

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

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

Tanks Removed Or Closed In-ground

Tank Number	Tank Size	Removed or Closed In-ground	Last Product Stored	Release/Contamination Found?
_____	<u>500 gal</u>	<u>Removed</u>	<u>Used Oil</u>	<u>Yes</u>
_____	<u>500 gal</u>	<u>Removed</u>	<u>Used Oil</u>	<u>Yes</u>
_____	<u>5,000 gal</u>	<u>Removed</u>	<u>Gasoline</u>	<u>Yes</u>
_____	<u>2,000 gal</u>	<u>Removed</u>	<u>Diesel</u>	<u>Yes</u>

All releases/contamination 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: James A. Spontak (Name) (907) 479-7586 (Phone)
AGRA Earth & Environmental, Inc. (Firm)

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

AGRA
Earth & Environmental

AGRA Earth &
Environmental, Inc.
600 University Avenue
Suite 5E
Fairbanks, Alaska
U.S.A. 99709-3695
Tel (907) 479-7586
Fax (907) 479-0193

February 8, 1995
32-01136-00

2 Sources
1 Site

Alaska Department of Environmental Conservation
Northern Regional Office
610 University Avenue
Fairbanks, Alaska 99709

Attention: Benjamin P. Thomas
Environmental Specialist

RE: SEEKINS FORD-LINCOLN-MERCURY
1625 OLD STEESE HIGHWAY
FAIRBANKS, ALASKA

RECEIVED
FEB 8 1995
DEPT. OF ENVIRONMENTAL
CONSERVATION
NRO

Dear Ben:

Please find the enclosed UST Closure Site Assessment report for your review. The report details the tank removal work performed at the Seekins property. As part of the work completed this season, Seekins removed a former Class V injection well and associated piping from the southern portion of the Seekins property. We forwarded a copy of the report *Results of Injection Well Closure Sampling* to Steve Bainbridge of the ADEC for his review.

Thank you for your cooperation with this project. If you have any questions or comments regarding this report, or if we can be of further assistance, please call me at 479-7586.

Sincerely,

AGRA Earth & Environmental, Inc.



James A. Spontak
Staff Geologist

Compare Floor
Drain Site (x)
UST Site

SA Not Letter
LEAU





AGRA Earth &
Environmental, Inc.
600 University Avenue
Suite 5E
Fairbanks, Alaska
U.S.A. 99709-3695
Tel (907) 479-7586
Fax (907) 479-0193

June 23, 1995
32-01173-00

RECEIVED

JUN 23 1995

Alaska Department of Environmental Conservation
Northern Regional Office
610 University Avenue
Fairbanks, Alaska 99709

**DEPT. OF ENVIRONMENTAL
CONSERVATION
NRO**

**Attention: Mehrdad Nadem
Environmental Specialist**

**RE: WORK PLAN FOR LIMITED RELEASE INVESTIGATION, SEEKINS PROPERTY,
1625 OLD STEESE HIGHWAY, FAIRBANKS, ALASKA, NRO File No. 100.26.131**

Dear Mehrdad:

AGRA Earth & Environmental, Inc. (AEE) is pleased to submit the following work plan for your review. This plan was written on behalf of Seekins Ford-Lincoln-Mercury to address ADEC concerns as stated in your letter to Seekins dated May 26, 1995. Our understanding is that the purpose of this additional assessment is to further identify and delineate potential hydrocarbon impacts to the soil and groundwater beneath the project site. These impacts may have resulted from the former UST and injection well source areas. Therefore, our major focus will be to evaluate the potential impacts in the two former tank areas, as well as the former injection well location.

The referenced ADEC letter identified four tasks to be completed during this project. We address each of the tasks separately in the following sections.

PROPOSED SCOPE OF WORK

In order to satisfy the ADEC requirements for this site, AEE identifies the following needs for additional assessment at the Seekins property.



Task I Confirmation of Soil Disposal

AEE will obtain copies of the contaminated material acceptance receipts on file with OIT. The receipts were issued to M&M Constructors personnel when they transferred the excavated, impacted soils to OIT for thermal treatment and subsequent disposal. In total, approximately 1,150 cubic yards of soil were excavated during the UST removal operations conducted in two distinct locations on the Seekins property. The receipts will be addressed in our assessment summary to the ADEC and will be included in an appendix of the report.

Task II Groundwater Quality Evaluation

AEE proposes to evaluate the extent of contaminated soils and groundwater associated with the former tanks and the removed injection well using the following investigative program:

- 1) Three 2-inch ID 0.020-inch slotted PVC monitoring wells will be placed to straddle the apparent groundwater table in three distinct locations on the Seekins property. Additionally, three temporary 2-inch ID stainless steel slotted groundwater well-points will be installed on the northern portion of the Seekins lot. The monitoring wells and the temporary well-points will be placed as indicated in Figure 1 and will be vertically surveyed into a temporary benchmark designated on site. After allowing the groundwater to stabilize in each well, AEE will measure the depth to water at each location to provide an estimate of the groundwater flow direction beneath the site. The temporary well-points will be removed from the ground upon completion of the field program.
- 2) The soils in each well boring will be sampled at a maximum of 5-foot intervals depending on observations noted at the time of drilling. A representative soil sample will be collected at each sampled interval using a 3-inch OD split-spoon sampler. A portion of each sample will be containerized for potential laboratory analysis. A second portion will be used for qualitative field screening with an Organic Vapor Meter (OVM).
- 3) At a minimum, one soil sample from each boring will be submitted for laboratory testing. This sample will be obtained from a depth near the apparent groundwater interface. At our discretion, AEE personnel will also submit additional samples from select borings based on the relative measurements noted during OVM field screening. One water sample will be collected from each of the installed wells and the well point locations. The soil and water samples collected during this field program will be tested for the parameters outlined below in Table 1.

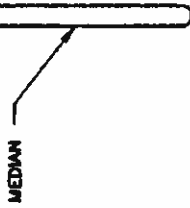
OLD STEESE HIGHWAY

JOHANSEN EXPRESSWAY

STEES EXPRESSWAY

PARKING AREA

SITE ENTRANCE



GWP-2

GARAGE AREA

SEEKINS FORD LINCOLN-MERCURY

GWP-1

GWP-3

GARAGE AREA

ADMINISTRATIVE OFFICES/SHOWROOM

GARAGE ENTRANCE

FORMER GASOLINE/DIESEL TANK AREA



MW-1

FORMER USED OIL TANK AREA



MW-2

INJECTION WELL AREA



MW-3

DIKED ABOVE-GROUND STORAGE TANK

PARKING AREA

LEGEND

- TEMPORARY WELL POINT
- PROPOSED MONITORING WELL

ADDITIONAL ASSESSMENT

AGRA EARTH & ENVIRONMENTAL, INC.
 600 University Avenue
 Suite 5E
 Fairbanks, Alaska 99709

PROJ #	32-01173-00
DESIGN	JAS
DRAWN	EBP/E1173SIT
DATE	06/23/95
SCALE	NOT TO SCALE
REVISED	

SITE PLAN

SEEKINS FORD UST
 1626 OLD STEESE HWY
 FAIRBANKS, AK

FIGURE 1

**Table 1
 Analytical Test Methods**

Well ID	Location	Method
MW-1	Former Gasoline/Diesel UST Area	BTEX by EPA Method 8020 GRPH by EPA Method 8015 modified DRPH by EPA Method 8100 modified
MW-2	Former Used Oil Tank Area	BTEX by EPA Method 8020 GRPH by EPA Method 8015 modified DRPH by EPA Method 8100 modified TPH by Alaska Test Method AK 103 HVOs by EPA Method 8010 Total As, Cd, Cr, Pb by EPA Series 6000/ 7000 TCLP Tetrachloroethylene (Soil sample only)
MW-3	Former Injection Well Area	TCLP Benzene by EPA Method 1311/8020 GRPH by EPA Method 8015 modified DRPH by EPA Method 8100 modified TPH by Alaska Test Method AK 103 HVOs by EPA Method 8010 TCLP As, Cd, Cr, Pb by EPA Series 6000/ 7000
GWP-1	North Side of Administrative Building	BTEX by EPA Method 8020 GRPH by EPA Method 8015 modified DRPH by EPA Method 8100 modified
GWP-2		
GWP-3	North Side of Garage Building	TCLP Benzene by EPA Method 1311/8020 GRPH by EPA Method 8015 modified DRPH by EPA Method 8100 modified TPH by Alaska Test Method AK 103 HVOs by EPA Method 8010 TCLP As, Cd, Cr, Pb by EPA Series 6000/ 7000

- 4) AEE will complete a report documenting our findings, conclusions, and recommendations regarding the potential hydrocarbon impacts to the soil and groundwater underlying the Seekins property in the former UST and injection well source areas. The report will include observations, field screening results, laboratory analytical data, soil boring logs, and figures depicting the location of soil borings and other pertinent site features. AEE will also confer with the United States Geological Survey (USGS) to discuss the general groundwater flow in the vicinity of the Seekins property. This information will be incorporated into the final assessment report.



Task III One-Quarter Mile Well Search

In their letter to Seekins, the ADEC requested that a well search be completed for the vicinity of the Seekins property. The purpose of the well search is to identify potential receptors downgradient of the former UST source areas. The results of the search can be used by the ADEC to obtain a qualitative understanding of the level of any risk to the identified potential receptors.

It is our opinion that, by conducting a one-quarter-mile radius well search of the Seekins property, the ADEC requirement will be satisfied. The well search report will formalize the results using the following methods:

- 1) AEE will contact the USGS, Water Resources Division, to obtain information regarding existing wells in the USGS database;
- 2) FNSB property records will be obtained for those properties in the well search area that require further assessment of well status;
- 3) AEE will complete a drive-by survey of the properties within the search area to document present lot utilization. If additional information regarding particular properties is needed to complete the search, AEE personnel will conduct a door-to-door survey of the suspect locations; and
- 4) AEE will complete a summary report of the well search proceedings. This report will include our recommendations regarding the potential risk levels of any wells identified during this task.

Task IV Corrective Action Plan

Based on the results of our field program outlined above, it may be necessary to prepare a corrective action plan (CAP) for the property. The CAP will offer a cleanup strategy to remediate and monitor impacted soils and/or groundwater at the site location. It should be noted that such a plan involves more site-specific data than is currently available for the Seekins property. We have focused our Task II study to provide preliminary data needed to establish an informed understanding of the potential impacts at the site. However, based on our evaluation of site conditions and the results of laboratory testing, AEE may deem it necessary to pursue additional investigation to devise an efficient and cost-effective remedial program.



The CAP will include the following information:

- 1) A summary of the investigative work performed at the site to date;
- 2) A discussion of the applicable constraints imposed by the site conditions as divulged during the prior studies and a statement of any additional assumptions utilized by AEE during the formulation of the site-specific CAP; and
- 3) An analysis comparing the most applicable methods of remediation for both potential soil and/or groundwater contamination in relation to the site conditions. This comparison will be strongly guided by the experience of AEE in designing and remediating similar sites under subarctic conditions.

METHODS

We have outlined above the methods to be used during the field program on this project. A more complete description of our investigative and sampling protocols is included in our ADEC-approved Quality Assurance Program Plan (QAPP). This document was prepared in accordance with the ADEC UST regulations and is on file with the ADEC Northern Regional Office. If AEE personnel deviate in any manner from the written QAPP because of site conditions, AEE will summarize the deviation from the proposed plan and provide site-specific reasons for the alteration.

SUMMARY

AEE is preparing to complete Tasks I and II upon ADEC approval of this work plan. Because we are uncertain of the extent of potential hydrocarbon impacts to the site, AEE cannot fully recommend completing the well search report and the development of a CAP at this time. We feel that Tasks III and IV should be postponed until we have reviewed the results of the field assessment work conducted during Task II. Moreover, AEE recognizes that the initiation of Tasks III and IV should necessarily be contingent upon the outcome of the proposed groundwater quality evaluation. If the results of the assessment indicate significant impacts to the subsurface environment in the former UST areas, Tasks III and IV will be performed in accordance with ADEC requirements. However, if only minimal impacts are noted during the site work, AEE believes that these additional tasks may be unnecessary.

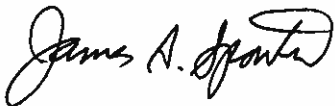


Seekins Ford-Lincoln-Mercury
Work Plan for Limited Release Investigation
32-01173-00
June 23, 1995
Page (7)

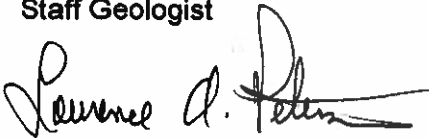
Thank you for your assistance and cooperation with this project. AEE is prepared to begin the field investigation upon receiving your approval of this work plan. If you require additional information regarding this document, please call our office at 479-7586.

Sincerely,

AGRA Earth & Environmental, Inc.



James A. Spontak
Staff Geologist



Laurence A. Peterson
Fairbanks Office Manager

CC: Al Haynes, Seekins Ford-Lincoln-Mercury



100.26.131

Ben Thomas

From: Jackie Dupee
To: Ben Thomas
Subject: Seekins Site
Date: Thursday, September 29, 1994 11:57AM

Ben, Doug Buteyn from AGRA called regarding this site. He stated:

They have trucked out over 1100 cubic yards of contaminated soil. They took seven samples from the walls of the excavation site, 2 from each side and 1 from one side. The samples were analyzed for BTEX. Benzene levels came back borderline or slightly above Level A. Results for the three highest were .10, .11 and .13. He said normally they would keep excavating until the levels were below Level A, but that the amount of soil already trucked and the fact that the groundwater is contaminated and it's a given the site requires remediation. He wanted to know if they could backfill. I said YES, based on the above information and the fact that remediation was planned for the site.

100.26.131

Ben Thomas

From: Ben Thomas
To: Linda Nuechterlein
Cc: Ben Thomas
Subject: Seekins
Date: Wednesday, September 14, 1994 3:29PM

AGRA E&E just submitted to me a tardy tank closure form for Seekins Ford Lincoln Mercury, Fac ID # unknown. I saw the # in the database once. I know it exists.

Anyways, through contractor foul up, the notice was delivered during operations. I felt that waiving the 15 day with a verbal slap on the hand was in order. AGRA typically does first class work, and I warned them not to do it again. AGRA will file a closure notice today with you. Consider this email a waiver for closure notice.

The site is highly contaminated, and will be put into the System for processing.



CLOSURE NOTICE FOR ALASKA UNDERGROUND STORAGE TANKS

Notice of Closure is required for any tank removed or closed in-ground.



RECEIVED

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

Name Seekins Ford-Lincoln-Mercury
Address 1625 Old Steese Highway
Fairbanks, Alaska
Phone (907) 452-1991

Tank Owner

SEP 14 1994

DEPT. OF ENVIRONMENTAL
CONSERVATION
NPS

Name Seekins Ford-Lincoln-Mercury, I
Address 1625 Old Steese Highway
Fairbanks, Alaska 99712
Phone (907) 452-1991

Facility ID Number (If Known) _____

Scheduled Date for Closure _____

August 31 - October 15, 1994

This form MUST be completed and sent at least 15 and no more than 60 days prior to closure.

Alaska Statute 46.03.375 requires those who supervise an UST closure be certified after March 25, 1992.

A Site Assessment in accordance with 18 AAC 78.090 must be performed at time of closure by an impartial third party with an approved quality assurance program plan (QAPP).

Contractor to Perform Closure M&M Constructors **UST Worker License #** AA 119

Firm to Perform Site Assessment AGRA Earth and Environmental **QAPP on File?** Yes

Method of Closure: Removal **In-ground** **If In-ground, Type of Fill Material** _____

Is there a leak/spill at this site? Yes (if so, please notify the closest DEC office)

Have you contacted the local fire department of your intent to close the tank(s)? Yes

Where are the tank, piping, equipment, and sludge to be disposed? Fairbanks North Star Borough Landfill

Tanks to be Closed

Tank Number	Tank Age	Tank Size	Last Product Stored	Date Last Used
---	12 y	500-gal	Used Oil	1992
---	12 y	500-gal	Used Oil	1992
---	12 y	5000-gal	Gasoline	1994
---	12 y	2000-gal	Diesel	1994

Closure Notice Submitted By:

James A. Spontak
(Signature)

Staff Geologist
(Title)

September 14, 1994
(Date)

James A. Spontak
(Please print name)

(907) 479-7586
(Phone)

Return Completed Form to:

Alaska Department of Environmental Conservation
3601 C Street, Suite 398
Anchorage, AK 99503
FAX # (907) 273-4280

Microsoft Mail v3.0 IPM.Microsoft Mail.Note

From: Ben Thomas

To: Carmen McCumby

Subject: File Request for

Date: 1994-09-14 15:31

Priority:

Message ID: 3A5CF97A

Conversation ID: 3A5CF97A

SEEKINS FORD-LINCOLN-MERCURY
1625 OLD STEESE HIGHWAY

102.26.THE NEXT ONE

FILE TO ME, MAKE IT A BIG ONE.

THANKS
=====