

ROCKWELL ENVIRONMENTAL SERVICES

1825 WOODBINE ROAD
FAIRBANKS, ALASKA 99709
PHONE/FAX: (907) 455-6030

PROPERTY SITE ASSESSMENT

3615 BRADDOCK STREET
FAIRBANKS, ALASKA

Submitted To:

Chick Wallace
Coldwell Banker Great Land Realty
105 Adak Avenue
Fairbanks, AK 99701

Prepared By:



Susan L. Frick
Environmental Investigator

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Mark L. Rockwell, PE
Principal Investigator

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1.0 INTRODUCTION

This report presents the site assessment activities and the findings obtained by Rockwell Environmental Services at 3615 Braddock Street in Fairbanks, Alaska. The property contains the former General Parts and Service (GPS) warehouse building and is currently available for sale. The site assessment was authorized by Mr. Chick Wallace of Coldwell Banker Great Land Realty of Fairbanks on behalf of the owner.

The property is owned by Mr. Dan Martindale, President of GPS located at 2200 Spar Avenue, Anchorage, Alaska 99501. Osborne Construction Company of Fairbanks conducted the excavation and backfill. The soil and stockpile samples were analyzed by CT&E Environmental Services Inc. (CT&E) located at 3180 Peger Road, Fairbanks, Alaska.

Rockwell Environmental personnel performed soil screening, observed the excavation of petroleum contaminated soils, performed soil sampling, and collected a sample of drinking water from the warehouse during the actions listed below:

- ◆ permanent closure of one 500 gallon waste oil underground storage tank (UST);
- ◆ permanent closure of one 3,000 gallon buried heating oil tank (non-UST);
- ◆ excavation of stained soils beneath one 500 gallon heating oil aboveground storage tank (AST), temporarily moved;
- ◆ digging two trenches along the south side of the property's building; and,
- ◆ sampling of the property's drinking water well (at the faucet) located on the north side of the building.

Field work occurred on August 8th, 12th, 15th, 16th, and 22nd, during 1997. The waste oil UST excavation was backfilled with clean gravel from Fairbanks Sand & Gravel on August 14 and August 15, 1997. The buried heating oil tank excavation was backfilled with the soil removed from the same excavation after headspace screening and collecting laboratory samples, which revealed that soils met target soil cleanup levels. The backfilling was necessary to prevent potential damage to the building foundation. Soil from the south side trench sampling was placed back into the same trench after sampling was completed. Contaminated soil from the heating oil AST area was stockpiled onsite on double-sheeted 6-mil visqueen and covered with a double polyethylene

liner. Osborne Construction has assumed responsibility for purging, cleaning and disposing of the waste oil and the heating oil tanks.

1.1 Purpose

The purpose of this site assessment is to document field observations at the time of excavation activities and report analytical results for soil samples. Groundwater monitoring was not completed as part of this investigation.

The waste oil UST closure is regulated under the Alaska Department of Environmental Conservation (ADEC) 18 AAC 78 Underground Storage Tanks as amended through November 3, 1995. This site assessment documents the permanent closure of the waste oil tank under ADEC UST Procedures Manual dated September 22, 1997. The UST closure was supervised by Mark Rockwell (UST Closure Certification #253), Principal Investigator of Rockwell Environmental Services.

The buried heating oil tank is not registered or regulated under ADEC 18 AAC 78. Alaska UST Statutes 46.03.450 (12)(B). These statutes state that an underground storage tank term does not include a "tank used for storing heating oil for consumptive use on premises where stored". A spill or release of heating oil is regulated under 46.03.740 Oil Pollution.

The 500-gallon heating oil AST is not regulated under ADEC UST regulations. Heavy staining was found on the ground surface below the fill lines coming from the tank. Loose fittings appear to be responsible for the stains. The stained area was excavated and sampled to determine its extent.

Two trenches were dug behind the south side of the building in response to a Shannon & Wilson, Inc. March 1992 Site Plan showing a buried heating oil tank and proposed oil/water separator along the south side of the warehouse building. The site plan also showed the location of a wastewater drain field immediately south of the proposed oil/water separator.

The drinking water well is located on the north side of the building. This well is reportedly 60 feet deep. Rockwell Environmental Services collected water samples from the only known faucet in

the warehouse, located in the restroom. The well sample does not indicate any sign of contamination from fecal coliform or waste oil parameters. A discussion of the sampling and results of the water well is provided in Appendix C.

1.2 Scope of Work

Our scope of work consisted of the following activities:

Observe excavation work for any signs of a release.

Inspection of tank and piping condition, where applicable.

Conduct headspace screening using a Photoionization Detector (PID).

Offer guidance to remove contaminated soil based on the PID results.

Collect and deliver post excavation samples to an environmental laboratory for analysis.

Collect stockpiled soil samples with the highest PID readings for laboratory analysis.

Collect water samples from a faucet closest to the drinking water well for laboratory analysis.

Prepare this post excavation report including color photographs, mapping and laboratory analyses.

2.0 SITE DESCRIPTION

2.1 Location

The legal description of the property is Lot 4 Block 1, Wise Industrial Park Second Addition. It consists of a vacant 59,895 square foot warehouse with offices and storage on 1.375 acres. The entire lot is cleared. An overall site plan is presented in APPENDIX A: SITE MAPPING. A March 17, 1992 Shannon & Wilson, Inc. proposal letter noted that GPS conducted maintenance and repairs on semi-trucks year round. GPS reportedly left the site in April 1997. Parts and equipment remaining from GPS operations have recently been removed.

Mr. Dana Hodgson a field engineer with Osborne Construction Company indicated the drinking water well on the property was shared with the neighboring property to the north located at 303 Van Horn Road. Mr. Cullen Wallace of Coldwell Banker indicated the drinking well has not been used in several years. GPS apparently installed a drinking water holding tank on the south side of the building. The holding tank fill pipe has a sticker from Metro Water stating to call the water

company when the tank is empty. Metro Water is located in Fairbanks and can be reached at (907) 456-4747.

Rockwell Environmental Services contacted Metro Water on August 22, 1997. The dispatcher stated the water tank is rented by Metro Water and should be aboveground. Their records indicate Metro Water last filled the holding tank more than two years ago. The dispatcher noted that they have attempted to contact GPS at the Anchorage office in order to arrange retrieving the holding tank and have yet to receive a response.

The 500-gallon waste oil UST was located adjacent to the east side of the building toward the northeast corner of the building. The buried 3,000-gallon heating oil tank was located adjacent to the east side of the warehouse, directly south of the waste oil UST. Both tanks were aligned east to west. No historical information was available on either the waste oil UST or the buried heating oil tank. A prior owner of the warehouse told Rockwell Environmental the waste oil tank was not there when he sold the building in 1986 or 1987. The waste oil UST is then assumed to have been installed around 1988. The buried heating oil tank is assumed to have been installed when the building was constructed in 1982.

As part of this investigation, two trenches were dug behind the south side of the building on in response to a Shannon & Wilson, Inc. March 1992 Site Plan. The site plan showed a buried heating oil tank approximately 25 feet from the southeast corner of the building; and a proposed oil/water separator approximately 46 feet from the southeast corner of the building. The site plan also showed the location of a underground wastewater drain field immediately south of the proposed oil/water separator. One trench was dug in the heating oil tank location; and one trench was dug in the oil/water separator and drain field location. No evidence of tanks or drain field pipes was found during digging.

During this site assessment, Osborne Construction had spoken with a former employee of GPS. This employee remembered a Contractor named Well removing a waste oil UST in a concrete vault from behind the south side of the building approximately five years ago. The employee was unaware of any buried heating oil tank located on the south side of the building.

A 500-gallon heating oil AST was located outside, adjacent to the office portion of warehouse at the southwest end of the building. The heating oil AST was used to heat the front office nearest the AST. The date of installation is unknown. Heavy staining was found on the ground surface below the fill lines coming from the tank. Loose fittings appear to be responsible for the stains. The stained area was excavated and investigated to determine its extent.

2.2 Previous Investigations

The United States Environmental Protection Agency (USEPA) as represented by Engineering Enterprises, Inc. inspected the General Parts and Service warehouse at 3615 Braddock Street on September 27 and 28, 1989. The inspection determined the floor drains emptied into the underground drain field located south of the warehouse. The floor drains were used to divert melt water from trucks inside the warehouse service bays to the drain field. The EPA determined the drain field to be a Class V Injection Well and had to be permitted or permanently closed. GPS hired Shannon & Wilson, Inc. to close the system.

The following is from a Shannon & Wilson, Inc. letter report dated February 10, 1994:

"the floor drains were reportedly connected to a system consisting of two 1,000 gallon tanks, one of which was perforated, via a pipe below the building's concrete slab. According to the EPA, this configuration constitutes a Class V injection well and requires closure for the systems or permit for continued use. During the summer of 1993, General Parts and Service closed the system in general accordance with Shannon & Wilson's Injection Well Closure Work Plan, dated March 31, 1993."

Shannon & Wilson installed a 1,000-gallon aboveground holding tank inside the warehouse along the south wall. The 1994 Shannon & Wilson letter reported noted the tank has baffles in the center to separate out solid material. Some of the water was transferred out an outlet pipe to a steam cleaner for reuse. A vent went from the tank to the building outside.

2.3 Topography, Geology and Hydrogeology

The topography in the vicinity consists of nearly level ground. The site is approximately 443 feet in elevation. There are several gravel pits within a one mile radius. The nearest major surface water

body is the Tanana River approximately 6,800 feet south. The levee protecting the area north of the Tanana River is approximately 4,300 feet south. The Chena River is approximately 8,400 feet north. The USGS quadrangle does not show any minor streams within 1,000 feet of the site.

The subsurface conditions are generally believed to consist of typical Tanana River floodplain materials composed of inter-bedded silt, sand and gravel layers. Permafrost is considered to be discontinuous in the floodplain area. No permafrost was encountered during work at this site.

Unconfined groundwater is present approximately 10 to 11 feet below surface elevations. The general direction of groundwater flow is estimated to be north-northwest. Low gradient conditions typical of the floodplain infer that groundwater velocities are low. The seasonal fluctuation of groundwater table elevations is approximately 2 feet. Recharge is primarily due to infiltration of the Tanana River. Groundwater was observed in three of four excavation locations at 3615 Braddock Street at 10 and 11 feet below ground surface.

3.0 WASTE OIL UNDERGROUND STORAGE TANK

3.1 Field Activities

A site location map showing the waste oil UST excavation, temporary stockpiles and sampling locations is presented in APPENDIX A.

3.1.1 Tank Excavation

Osborne Construction pumped remaining waste oil from the tank into drums on August 12. The drummed waste oil will be used in Osborne's shop for heat energy recovery. The 500-gallon waste oil UST and associated piping were also excavated on August 12, 1997. Weather conditions were sunny, no wind with a temperature around 68°F. The site assessment was completed on August 14, 1997. Weather conditions were cloudy, intermittent drizzle with a temperature around 56°F. Stained soil and a petroleum odor were obvious from soils surrounding the fill area. Excavated soil was placed into a "clean" stockpile and a contaminated stockpile. A double thickness liner was placed underneath the contaminated stockpile; the same type liner was used to cover the stockpile. The "clean" stockpile was estimated at 20 cubic yards (cy). The

contaminated stockpile was estimated at 30 cy. The current site owner will be responsible to arrange for off-site remediation. OIT, Inc. of Moose Creek, Alaska is approved by ADEC to treat petroleum contaminated soil and waste oil contaminated soil, if the soil is RCRA-exempt. Rockwell Environmental believes the soil from the waste oil excavation meets the criteria for RCRA-exempt materials because no PCB's were identified, heavy metal contamination was not identified, and solvent-type contamination was low.

The 500-gallon waste oil tank was removed via chains hooked to the tank and excavator. Once the tank was removed it was placed on the south side of the warehouse. The tank appeared to be in fair condition with minor rust, scaling and indentations. The tank sustained an approximately 5 inch long gash in the top at the south end during initial excavation activities. No waste oil was observed to have leaked or spilled from this gash during excavation activities. According to Osborne Construction, the tank and piping were purged, cleaned and removed by Diamond Door, a contractor in Fairbanks. Appendix E presents the ADEC NOTICE OF CLOSURE FORM.

The soil profile observed from the south and east end of the excavation consisted of:

- from 0 to 2 feet below ground surface (bgs) - sand and gravel fill;
- from 2 to 5 feet 8 inches bgs - coarse rust, brown-orange sand and hard-packed gray silt intermingled with decaying organic material; and
- from 5 feet 8 inches to 10 feet bgs - coarse orange-brown sand.

The soil profile observed from the north and west end of the excavation consisted of:

- from 0 to 4 feet 6 inches bgs - sand and gravel fill; and
- from 4 feet 6 inches to 10 feet bgs - coarse orange-brown sand.

Groundwater was encountered at the west end at 10 feet bgs.

Final excavation limits were 16 feet long (east to west) by approximately 14 feet wide (north to south) at its widest point, by 10 feet deep at its deepest. Final excavation limits are shown in the site plans found in APPENDIX A. The excavation was backfilled using clean sand and gravel from Fairbanks Sand & Gravel. Photographs of field activities are presented in APPENDIX B: SITE PHOTOGRAPHS.

3.1.2 Headspace Sampling

A minimum of one representative headspace sample was collected for at least every 100 square feet of excavation. Rockwell Environmental used a 1996 PE PhotoVac Model No. 2020 (Serial No. ED F G 240), which is intrinsically safe. The PID was calibrated in O parts per million (ppm) free air and 97 ppm isobutylene, using a response factor of 1.0. The headspace procedure consisted of partially filling a clean plastic zip-lock bag with the sample to be screened. Headspace vapors were allowed to develop in the bag for at least 10 minutes but no longer than one hour. Samples were warmed to above 60 degrees Fahrenheit, agitated to assist volatilization, then measured using the PID. The highest reading over a 15 second interval was recorded in ppm. Soil temperature was also recorded.

A total of 25 headspace samples were collected and measured from the excavation sidewalls and bottom. Six of the 25 headspace samples were collected from around the excavated hole to identify laboratory sample locations. These results are listed in Table 3.1 below. The table lists the corresponding ID for samples selected for lab analysis.

Table 3.1 Waste Oil UST Field Screening Results

Headspace Sample ID	Depth BGS (ft)	PID Reading (ppm)	Temperature °C	Laboratory ID
HS-9(bot SW)	9'1"	767	24	WO-03
HS-10 (bot ctr)	9	43.2	24	WO-05
HS-12 (E)	9-9½	1.0	24	WO-04
HS-11 (S)	4'6"	0	32	WO-01 WO-02(dup)
HS-13 (S)	8'9"	0	32	--
HS-16 (N)	8	0	32	--

bgs = below ground surface

bot = bottom; ctr = center

dup = blind duplicate sample

N = north side, S = south side, E = east side, W = west side,

3.1.3 Post Excavation and Stockpile Sampling

The excavation area was approximately 224 square feet (sf). Rockwell Environmental Services collected a total of four primary samples (#s WO-01, WO-03, WO-04 and WO-05) were collected and analyzed for the methods listed in Table 3.2. One blind duplicate sample (WO-02) was collected from the same sample location as WO-01 and analyzed using the same methods. A methanol trip blank (CT&E Reference #974216008) was provided with the sample cooler from CT&E. The trip blank accompanied the cooler to the field and was kept chilled with the soil samples until returned to the lab. The trip blank was analyzed gasoline range (GRO) and benzene toluene, ethylbenzene and xylenes (BTEX).

The number of primary soil samples and sampling locations were directed by the minimum requirements of 18 AAC 78.090 Paragraph (d)(2)(B), which requires at least two samples from the first 250 sf of pit area, plus one additional sample for each 250 sf thereafter. The UST Procedures Manual also requires 10% Field Duplicates (one per set of 10 samples) for each analytical method and 5% trip blanks (one per set of 20 volatile samples).

If groundwater is encountered while conducting a site assessment, then soil samples must be collected within the first six inches of the vadose zone, immediately above the zone of seasonal water table fluctuations. Groundwater was observed at approximately 10 feet below ground surface. Sample #WO-05 was collected within six inches above 10 feet.

Rockwell Environmental collected soil samples for lab testing using the procedures outlined in the UST procedures manual. All samples were grab samples. Soil samples were obtained from freshly uncovered soil. A minimum of six inches of soil was removed immediately before collection. When the excavation was open for more than one hour, 18 inches of soil was removed immediately before collection.

Soil samples were firmly compacted into certified clean glass jars provided CT&E. To minimize volatilization, the lab jars were filled in order of decreasing analytical volatility. Soil samples were handled using disposable gloves. All jars were filled quickly and completely to eliminate excess headspace within the jar.

Sample jars were properly labeled and placed into a pre-chilled cooler. The chilled temperature within the cooler was maintained at approximately 4°C using frozen gel packages during transportation to the CT&E laboratory. A signed Chain-of-Custody (COC) form accompanied the samples to CT&E. The COC is attached to CT&E's Lab Report. See Appendix C.

Required analytical methods for waste oil tanks are given in the UST Procedures Manual, Chapter 2, Table 2. Rockwell Environmental requested these required methods on the COC form upon delivery to the test lab. The specific lab methods used by CT&E are listed in Appendix C, page 2 of the lab results.

Rockwell Environmental collected two stockpile samples from the "clean" stockpile that was segregated as having potentially low level contamination based PID field screening and two samples from the contaminated waste oil stockpile. Prior to sampling the "cleaner" stockpile (#WO-SP-01 and WO-SP-02), eight headspace samples were collected from various locations around the approximately 20 cubic yards of soil. Headspace readings ranged from 3.4 ppm to 33.8 ppm. Prior to sampling the contaminated stockpile (#WO-SP-03 and WO-SP-04), six headspace samples were collected from various locations around the approximately 30 cy of soil. Headspace readings ranged from 6.3 ppm to greater than 1100 ppm. The number of soil samples and sampling locations were directed by the requirements of 18 AAC 78.320. The samples were collected, handled and analyzed in the same manner as discussed in the paragraphs above.

3.2 Analytical Results

The results of the soil sample analyses from the waste oil tank excavation are summarized in Table 3.2 below. CT&E's lab results are included within Appendix C. The results are reported in milligrams per dry kilogram (mg/kg).

Table 3.2 Waste Oil UST Excavation Analytical Results mg/kg (ppm)

WO-01	WO-02	WO-03	WO-04	WO-05	Trip Blank	Analysis Method	Description
nd	nd	477	1.94	91.1	1.98	AK101/ GRO	Gasoline Range Organics
8.71	16.2	19900	nd	109	na	AK102/ DRO	Diesel Range Organics
nd	nd	23600	nd	193	na	AK103/ RRO	Residual Range Organics
nd	nd	36.27 (2)	nd	.7802 (3)	nd	8020/ BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
.0505J (1)	nd	.524J (1)	nd	nd	nd	8010A/ HVO	Halogenated Volatile Organics
.221	.173	.121	.0965	.0865	na	7131/Cd	Cadmium
21.3	25.4	11.5	10.3	10.0	na	7191/Cr	Chromium
8.61	10.3	3.66	4.24	3.66	na	7421/Pb	Lead
nd	.135	nd	nd	nd	na	7471/Hg	Mercury by cold vapor
nd	.0666	nd	nd	nd	na	7761/Ag	Silver
101	126	62.3	53.1	50.8	na	6010/Ba	Barium
5.71	14.2	3.15	3.04	2.77	na	7060/As	Arsenic
nd	nd	nd	nd	nd	na	7740/Se	Selenium
nd	nd	nd	nd	nd	na	8080/ PCBs	Polychlorinated Biphenyls

nd = not detected at or above the method detection limits (MDL);

J = below the practical quantitative limit (PQL) but greater than the MDL;

(1) = Tetrachloroethene (TCE)

(2) = 1.53 mg/kg ethylbenzene, 9.64 mg/kg P & M-xylene and 25.1 mg/kg O-xylene

(3) = .0902 mg/kg ethylbenzene and .0690 mg/kg P & M-xylene

na = not analyzed.

The results of the soil stockpile sample analyses from the waste oil tank excavation are summarized in Table 3.3 below. CT&E's lab results are included within Appendix C. The results are reported in milligrams per dry kilogram (mg/kg).

level. The Category B cleanup level for GRO is 100 mg/kg, DRO is 200 mg/kg, RRO is 2000 mg/kg, Benzene is 0.5 mg/kg and total BTEX is 15. Laboratory results do not meet ADEC's Level B target cleanup levels anticipated cleanup levels for the waste oil tank excavation.

4.0 BURIED HEATING OIL TANK

4.1 Field Activities

A site location map showing the buried heating oil tank excavation, temporary stockpile and sampling locations is presented in APPENDIX A.

4.1.1 Tank Excavation

Sourdough Fuel of Fairbanks pumped and salvaged remaining heating oil from the tank on August 12. The 3,000-gallon buried heating oil tank and associated piping were excavated on August 15, 1997. Weather conditions were overcast, slight wind with a temperature around 60°F. The site assessment was completed on August 14 and August 15, 1997. Weather conditions on August 14 were cloudy, intermittent drizzle with a temperature around 56°F. Approximately one-half inch thick blown-on hard cell foam surrounded the tank. The foam insulation was broken up during removal. No stained soil or odors were noted from the removed soil or excavation area. Excavated soil was placed into one stockpile as no obvious signs of contamination (including PID readings) were found. The stockpile was estimated at 50 cy.

The 3,000-gallon heating tank was removed via chains hooked to the tank and excavator. Once the tank was removed it was placed on the south side of the warehouse. The tank appeared to be in fair to poor condition with minor rust, scaling and indentations. The tank sustained an approximately 10 inch long gash in the top at the south end during initial excavation activities. No heating oil was observed to have leaked or spilled from this gash during excavation activities. According to Osborne Construction, the tank and piping was purged, cleaned and removed by Diamond Door, a contractor in Fairbanks.

The soil profile observed from the south and east end of the excavation consisted of:

- from 0 to 3 feet bgs – coarse sand and gravel fill;

Benzene was not detected in any of the excavation or stockpile samples. The trip blank detected 1.98 mg/kg GRO. The trip blank was not opened at any time after receiving it from the lab.

PCE

*0.03
0.02 mg/kg*

✓
*See data
table indicates
Total BETX*

TCE was detected in WO-03 at 0.524 mg/kg. There are no ADEC cleanup levels for TCE in soil.

The State of Alaska maximum contaminant level (MCL) for TCE in drinking water is 5 ppb. TCE is known as a dense, non-aqueous phase liquid (DNAPL) which sinks in water because it has a specific gravity greater than 1.0 or water.

Several of the Resource Conservation and Recovery Act (RCRA) metals were detected in all samples collected. There are no established ADEC cleanup levels for metals in soil. Mr. Ron Short of ADEC Northern Region was contacted regarding levels of metals in local soils. Mr. Short referred to a 1993 Army Corps of Engineers (ACOE) study "Background Data Analysis for Arsenic, Barium, Cadmium, Chromium, and Lead for Fort Wainwright". According to Mr. Short the following are background levels found by the ACOE at Fort Wainwright, Alaska:

As = 11.4 ppm
Ba = 154 ppm
Cd = 0.7 ppm
Cr = 27 - 28 ppm
Pb = 14.6 ppm

With the exception of the arsenic level in sample #WO-02 at 14.2 mg/kg (ppm), all sample locations are below the background levels found at Fort Wainwright.

Based on soil sample WO-05, collected at approximately 9 ½ feet bgs, some contamination (less than ADEC Category B cleanup levels) remains near the bottom of excavation. Groundwater was observed in the tank excavation during the site assessment. The potential for groundwater to be impacted is moderate. This moderate potential can be attributed to the observation of contaminated soil in the bottom of the excavation, estimated to be within one foot of groundwater.

The APPENDIX D: ADEC MATRIX SCORE SHEET is a scoring method developed by ADEC to determine the level of cleanup to be completed at an UST site. The final cleanup level must be approved by ADEC. As shown in APPENDIX D, the matrix score reached by Rockwell Environmental for this site is 37 points. This is considered a Category B (27-40 points) cleanup

Table 3.3 Waste Oil UST Stockpile Analytical Results mg/kg (ppm)

CLEAN STOCKPILE		CONTAMT'D STOCKPILE		GENERAL INFORMATION	
WO-SP-01	WO-SP-02	WO-SP-03	WO-SP-04	Analysis Method	Description
2.62	2.81	1150	nd	AK101/GRO	Gasoline Range Organics
239	174	5830	16.3	AK102/DRO	Diesel Range Organics
452(J)	301	8150	nd	AK103/RRO	Residual Range Organics
nd	nd	32.86 ⁽²⁾	nd	8020/BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
nd	nd	.221 ⁽¹⁾ <i>0.03 mg/kg</i>	nd	8010A/HVO	Halogenated Volatile Organics
.171	.184	.150	.0882	7131/Cd	Cadmium
14.7	16.2	12.1	8.82	7191/Cr	Chromium
7.38	6.83	5.31	3.00	7421/Pb	Lead
nd	nd	nd	nd	7471/Hg	Mercury by cold vapor
nd	.0518	nd	nd	7761/Ag	Silver
89.9	74.4	53.9	46.1	6010/Ba	Barium
5.02	5.83	3.95	2.58	7060/As	Arsenic
nd	nd	nd	nd	7740/Se	Selenium
nd	nd	nd	nd	8080/PCBs	Polychlorinated Biphenyls

nd = not detected at or above the method detection limits.

⁽¹⁾ = Tetrachloroethene (TCE) *PCE*

⁽²⁾ = .854 mg/kg ethylbenzene, 7.71 mg/kg P & M-xylene and 24.3 mg/kg, O-xylene

na = not analyzed.

3.3 Discussion

PID readings indicated and laboratory results confirmed that soil contamination remains beneath the warehouse building footing (Soil sample WO-03 at 9 feet bgs) adjacent to where the waste oil tank was buried. Rockwell Environmental estimates the amount of contaminated soil remaining under the west end of the excavation wall to be less than 50 cy. This estimation is based on the assumption the plume beneath the building is similar to the contamination plume encountered outside the building.

- from 3 to 7 feet 4 inches bgs – very fine orange-brown sandy hard-packed silt; and
- from 7 feet 4 inches to 11 feet bgs - course gray-tan sand.

The soil profile observed from the north and west end of the excavation consisted of:

- from 0 to 4 feet 6 inches bgs – sand and gravel fill; and
- from 4 feet 6 inches to 11 feet bgs - course gray-tan sand.

Groundwater was encountered at the west end at 11 feet bgs.

Final excavation limits were 25 feet long (east to west) by approximately 20 feet wide (north to south) at its widest point, by 11 feet deep at its deepest. Final excavation limits are shown in the site plans found in APPENDIX A. The excavation was backfilled using the soil excavated from the same location. The excavation was backfilled immediately to prevent damage to the building foundation. Laboratory samples were collected from the stockpile prior to backfilling. Photographs of field activities are presented in APPENDIX B: SITE PHOTOGRAPHS.

4.1.2 Post Excavation and Stockpile Sampling

Headspace samples were collected using the same PID and in the same manner as described in Section 3.1.2 of this report. A total of 25 headspace samples were collected and measured from the excavation sidewalls and bottom. Out of the first 18 headspace readings, only one measured above 0 ppm, at 0.7 ppm. The final seven headspace samples were collected from around the excavated hole to identify laboratory sample locations. These readings ranged from 0 ppm to 0.5 ppm.

The excavation area was approximately 500 sf. Rockwell Environmental Services collected a total of three primary samples (#s HO-01, HO-03 and HO-04) were collected and analyzed for the methods listed in Table 4.2. One blind duplicate sample (HO-02) was collected from the same sample location as HO-01 and analyzed using the same methods. A methanol trip blank (CT&E Reference #974222007) was provided with the sample cooler from CT&E. The trip blank accompanied the cooler to the field and was kept chilled with the soil samples until returned to the lab. The trip blank was analyzed for gasoline range (GRO) and benzene toluene, ethylbenzene and xylenes (BTEX).

The number of primary soil samples and sampling locations were directed by the requirements as described in Section 3.1.3 above. Groundwater was not observed in the tank impression at this site. Groundwater was observed at approximately 11 feet below ground surface. Sample #HO-01 and duplicate HO-02 were collected within three inches above 11 feet.

Rockwell Environmental collected two stockpile samples from the buried heating oil stockpile. Prior to sampling the stockpile eight headspace samples were collected from various locations around the approximately 50 cy of soil. Headspace readings ranged from 0 ppm to 0.2 ppm. The samples were collected, handled and analyzed in the same manner as discussed in Section 3.1.3 of this report.

4.2 Analytical Results

The results of the excavation and stockpile samples analyses from the heating oil tank excavation are summarized in Table 4.2 below. CT&E's lab results are included within Appendix C. The results are reported in milligrams per dry kilogram (mg/kg).

Table 4.1 Heating Oil Tank Excavation and Stockpile Analytical Results mg/kg (ppm)

HO-01	HO-02	HO-03	HO-04	HO-SP-01	HO-SP-02	Trip Blank	Analysis Method	Description
nd	1.43	nd	1.82	nd	nd	nd	AK101/GRO	Gasoline Range Organics
8.10	9.73	nd	nd	10.8	56.7	na	AK102/DRO	Diesel Range Organics
.0339 ⁽¹⁾	.5492 ⁽²⁾	nd	nd	nd	nd	nd	8020/BTEX	Benzene, Toluene, Ethylbenzene, Xylenes

nd = not detected at or above the method detection limits (MDL);

⁽¹⁾ = .0339mg/kg P & M-xylene;

⁽²⁾ = .0840 mg/kg ethylbenzene, .407mg/kg P & M-xylene and .0582 mg/kg P & M-xylene

na = not analyzed.

4.3 Discussion

PID readings indicated and laboratory results confirmed that very low levels of soil contamination were identified from the heating oil tank excavation. Benzene was not detected in any of the post excavation or stockpile samples.

The ADEC matrix score for this site is 37 points. This is considered a Category B (27-40 points) cleanup level. The Category B cleanup level for GRO is 100 mg/kg, DRO is 200 mg/kg, RRO is 2000 mg/kg, Benzene is 0.5 mg/kg and total BTEX is 15. Laboratory results meet ADEC's Level B target cleanup levels anticipated cleanup levels for the heating oil tank excavation.

5.0 SOUTH SIDE TRENCH SAMPLING

5.1 Field Activities

A site location map showing the south side excavation, temporary stockpile and sampling locations is presented in APPENDIX A.

5.1.1 Trench Excavation

The site assessment was completed on August 8, 1997. Weather conditions on August 8 were cloudy, intermittent drizzle with a temperature around 60°F. Two trenches were dug behind the south side of the building on in response to a Shannon & Wilson, Inc. March 1992 Site Plan. The site plan showed a buried heating oil tank approximately 25 feet from the southeast corner of the building; and a proposed oil/water separator approximately 46 feet from the southeast corner of the building.

One trench was dug in the heating oil tank location; and one trench was dug in the oil/water separator and drain field location. The north edge of the heating oil tank trench touched the south edge of the proposed oil/water separator location trench. No evidence of drain field pipes or tanks were observed. No stained soil or odors were noted from the removed soil or excavation area. Excavated soil was placed into one stockpile as no obvious signs of contamination (including PID readings) were found. At the end of sampling, the stockpiled soil was backfilled.

The soil profile observed from both trenches consisted of dark brown coarse sand and gravel fill from 0 to 5 feet 4 inches bgs, the depth of the deeper trench. Groundwater was not encountered in either trench.

Final excavation limits for the trenches combined were approximately 29 feet long (east to west) by 6 feet wide (north to south) at its widest point, by 5 feet 4 inches deep at its deepest. Final trench limits are shown in the site plans found in APPENDIX A. The excavation was backfilled with the soil excavated from the trenches. Photographs of field activities are presented in APPENDIX B: SITE PHOTOGRAPHS.

5.1.2 Trench Sampling

The trenches were dug for exploratory reasons only. Because no evidence of a buried heating oil tank or oil/water separator were found, Osborne requested that only one sample per trench be collected to identify if any contamination was in that area. Two headspace samples were collected and measured from each trench. Two of the four headspace samples were collected from the laboratory sample locations. All four headspace PID measurements read 0 ppm.

The excavation area of both trenches was approximately 174 sf. Rockwell Environmental Services collected one sample (#TP-01) from the oil/water separator trench bottom/north sidewall interface and one sample (#TP-02) at the heating oil tank trench bottom/north sidewall interface. The two samples were collected and analyzed for the methods listed in Table 5.2. No duplicate sample was collected. A methanol trip blank (CT&E Reference #974197003) was provided with the sample cooler from CT&E. The trip blank accompanied the cooler to the field and was kept chilled with the soil samples until returned to the lab. The trip blank was analyzed for gasoline range (GRO) and benzene toluene, ethylbenzene and xylenes (BTEX).

5.2 Analytical Results

The results of the soil sample analyses from the south side trench sampling are summarized in Table 5.2 below. CT&E's lab results are included within Appendix C. The results are reported in milligrams per dry kilogram (mg/kg).

Table 5.1 South Side Trench Sampling Analytical Results mg/kg (ppm)

TP-01	TP-02	Trip Blank	Analysis Method	Description
3.15	1.66	2.44	AK101/GRO	Gasoline Range Organics
nd	nd	na	AK102/DRO	Diesel Range Organics
nd	na	na	AK103/RRO	Residual Range Organics
.2929 ⁽¹⁾	nd	nd	8020/BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
nd	na	na	8010A/HVO	Halogenated Volatile Organics
.0654	na	na	7131/Cd	Cadmium
9.42	na	na	7191/Cr	Chromium
4.27	na	na	7421/Pb	Lead
nd	na	na	7471/Hg	Mercury by cold vapor
nd	na	na	7761/Ag	Silver
57.4	na	na	6010/Ba	Barium
3.66	na	na	7060/As	Arsenic
nd	na	na	7740/Se	Selenium
nd	na	na	8080/PCBs	Polychlorinated Biphenyls

nd = not detected at or above the method detection limits (MDL);

⁽¹⁾ = .0532 mg/kg toluene, .0532 mg/kg ethylbenzene, .146 mg/kg P & M-xylene and .0567 mg/kg O-xylene

na = not analyzed.

5.3 Discussion

PID readings indicated and laboratory results confirmed that very low levels of soil contamination were identified from the excavation. Benzene was not detected in either of the trench samples. The metal samples collected from the oil/water separator location (#TP-01) were almost half of the background levels at Fort Wainwright. The trip blank detected 2.44 mg/kg GRO. The trip blank was not opened at any time after receiving it from the lab.

The ADEC matrix score for this site is 37 points. This is considered a Category B (27-40 points) cleanup level. The Category B cleanup level for GRO is 100 mg/kg, DRO is 200 mg/kg, RRO is 2000 mg/kg, Benzene is 0.5 mg/kg and total BTEX is 15. Laboratory results meet ADEC's Level B target cleanup levels anticipated cleanup levels for the south side trench sampling location.

6.0 HEATING OIL AST EXCAVATION SAMPLING

6.1 Field Activities

A site location map showing the heating oil AST excavation, temporary stockpile and sampling locations is presented in APPENDIX A.

6.1.1 AST Excavation

The 500-gallon heating oil AST and associated piping were disconnected and moved to the rear of the warehouse parking lot prior to conducting the site assessment on August 22, 1997. The site assessor was not present during tank removal. Weather conditions were sunny, calm with a temperature around 65°F. Stained soil and strong odors were noted from the corner of the building where the fuel line ran from the tank to the building. It appeared the fuel oil had been leaking from the fitting connecting the tank to the fill line. Excavated soil was placed into one contaminated stockpile lined and covered with double thickness visqueen. The stockpile is estimated at 30 cy.

The 500-gallon heating AST was heavily stained at this fitting area. The tank appeared to be in good condition with no rust, scaling or indentations. According to Osborne Construction, the tank will probably be used again after replacing the fittings and fuel lines.

The soil profile observed from the east end of the excavation consisted of:

- from 0 to 8 ½ bgs – course sand and gravel fill; and
- from 8 ½ feet to 10 feet bgs – course orange sand.

The soil profile observed from the west end of the excavation consisted of:

- from 0 to 3 feet bgs – sand and gravel fill;
- from 3 feet to 4 feet 7 inches bgs - very fine orange, tan and brown silt with intermittent organic material; and
- from 4 feet 7 inches bgs to 5 feet 7 inches bgs – course orange sand

Groundwater was encountered at the east end at 10 feet bgs.

Final excavation limits were approximately 15 feet long (north to south) by 13 feet wide (east to west) at its widest point, by 10 feet deep at its deepest. Final excavation limits are shown in the site plans found in APPENDIX A. The excavation was backfilled using clean sand and gravel from Fairbanks Sand & Gravel. The excavation hole was backfilled immediately to prevent damage to the building foundation. Photographs of field activities are presented in APPENDIX B: SITE PHOTOGRAPHS.

6.1.2 Post Excavation and Stockpile Sampling

Headspace samples were collected using the same PID and in the same manner as described in Section 3.1.2 of this report. A total of 10 headspace samples were collected and measured from the excavation sidewalls and bottom. Five of the 10 headspace samples were collected from around the excavated hole to identify laboratory sample locations. These readings ranged from 0 ppm to greater than 600 ppm.

The excavation area was approximately 195 sf. Rockwell Environmental Services collected a total of four primary samples (#s ASTTP-01, ASTTP-02, ASTTP-03 and ASTTP-04) were collected and analyzed for the methods listed in Table 4.2. At the request of Osborne to reduce costs, ASTTP-01 was not analyzed. Also no blind duplicate sample was collected. A methanol trip blank (CT&E Reference #974669004) was provided with the sample cooler from CT&E. The trip blank accompanied the cooler to the field and was kept chilled with the soil samples until returned to the lab. The trip blank was analyzed for only benzene toluene, ethylbenzene and xylenes (BTEX).

The number of primary soil samples and sampling locations were directed by the requirements as described in Section 3.1.3 above. Groundwater was not observed in the tank impression at this site. Groundwater was observed at approximately 10 feet below ground surface. Sample #ASTTP-03 was collected within three inches above 10 feet.

Rockwell Environmental collected two stockpile samples (AST-SP-01, AST-SP-02) from the heating oil AST stockpile. Prior to sampling the stockpile six headspace samples were collected from various locations around the approximately 30 cy of soil. Headspace readings ranged from 8

ppm to 165 ppm. The samples were collected, handled and analyzed in the same manner as discussed in Section 3.1.3 of this report.

6.2 Analytical Results

The results of the soil and stockpile sample analyses from the heating oil AST excavation are summarized in Table 3.2 below. CT&E's lab results are included within Appendix C. The results are reported in milligrams per dry kilogram (mg/kg).

Table 6.1 Heating Oil AST Soil and Stockpile Analytical Results mg/kg (ppm)

ASTT P-02	AST TP-03	ASTT P-04	AST- SP- 01	AST- SP- 02	Trip Blank	Analysis Method	Description
nd	423	593	10.2	1.65	na	AK101/ GRO	Gasoline Range Organics
nd	8410	11400	818	335	na	AK102/ DRO	Diesel Range Organics
nd	35.363 (1)	40.98 (2)	.1597 (3)	nd	nd	8020/ BTEX	Benzene, Toluene, Ethylbenzene, Xylenes

nd = not detected at or above the method detection limits (MDL);

(1) = .983 mg/kg toluene, 4.28 mg/kg ethylbenzene, 19.1 mg/kg P & M-xylene and 11.0 mg/kg O-xylene;

(2) = .980 mg/kg toluene 6.25 mg/kg ethylbenzene, 21.9 mg/kg P & M-xylene and 11.9 mg/kg O-xylene;

(3) = .0876 mg/kg P & M-xylene and .0721 mg/kg O-xylene;

na = not analyzed.

6.3 Discussion

PID readings indicated and laboratory results confirmed that soil contamination remains beneath the warehouse building footing (Soil samples ASTTP-03 at 9 feet 9 inches bgs and ASTTP-04 at 6 feet bgs) adjacent to where the heating oil AST was located. Rockwell Environmental estimates the amount of contaminated soil remaining under the northeast corner of the excavation wall to be less than 20 cy. This estimation is based on the assumption the plume beneath the building is similar to the contamination plume encountered outside the building. Benzene was not detected in any of the sample or stockpile locations.

The matrix score for this site is 37 points. This is considered a Category B (27-40 points) cleanup level. The Category B cleanup level for GRO is 100 mg/kg, DRO is 200 mg/kg, RRO is 2000 mg/kg, Benzene is 0.5 mg/kg and total BTEX is 15. Laboratory results do not meet ADEC's Level B target cleanup levels anticipated cleanup levels for the heating oil AST excavation location.

7.0 DRINKING WATER WELL SAMPLING RESULTS

Due to the potential of petroleum and waste oil contaminants to enter the drinking water well, Rockwell Environmental suggested that a sample be obtained and tested for total and fecal coliform bacteria, metals, and solvent products. On August 22, 1997 Rockwell Environmental collected one sample from the nearest accessible point to the well. After a 15 minute flushing, one sample was collected into various bottles and jars provided by Northern Testing Laboratories, Inc. of Fairbanks. The results are posted in Appendix C of this report. Based on these results, Rockwell Environmental concludes that petroleum and/or waste oil contamination has not entered the drinking water well. It is important to realize that the well should be tested annually for the next several years to confirm these results. We understand that the well typically provided overall poor water quality which would not normally be used for drinking purposes.

8.0 RECOMMENDATIONS

Rockwell Environmental recommends the owner submit this site assessment report to ADEC and obtain their review comments. Incorporate ADEC's comments into future site activities. The following recommendations relate to the four separate locations – waste oil UST, buried heating oil tank, south side trench sampling and former AST containing heating oil - at 3615 Braddock Street:

Waste Oil UST Excavation

Rockwell Environmental concludes that a high potential for a release from waste oil exists at the waste oil UST location removed on August 14, 1997. The limits of excavation do not meet ADEC's Level B, target soil levels anticipated for this site. There has been significant field evidence and lab data that indicates a release has occurred, and the information contained in this report confirms this.

The former tank and associated piping has been removed; and, according to Osborne Construction Company, disposed of properly. The estimated 30 cy of contaminated soils is presently temporarily stockpiled onsite underlined and covered with double thickness visqueen plastic liner. Mr. Hodgson of Osborne told Rockwell Environmental that the site owner is in contract negotiations with OIT, Inc to incinerate the soil at their Moose Creek, AK plant within the next several weeks.

Rockwell Environmental recommends the contamination remaining underneath the building be managed in place to avoid damaging the building foundation. Rockwell Environmental recommends ADEC accept this site assessment report as evidence of permanent tank closure at this site. Because solvent compounds (TCE) were noted in the laboratory reports, we are recommending a release investigation as per 18 AAC 78.235 be performed. The release investigation should consist of one monitoring well located at the former tank location to provide groundwater quality data to determine if waste oil contamination has adversely impacted the groundwater and used thereafter to provide an annual assessment of natural attenuation processes. Solvent compounds have cleanup levels typically around 5.0 ppb in drinking water. The unconfined aquifer in the Fairbanks area is a drinking water aquifer. There is some potential for solvent compounds released into the groundwater from the waste oil tank location to migrate towards the drinking water well. Therefore the water well was sampled and fortunately found to be free of contamination at this time.

Heating Oil Tank Excavation

The limits of excavation meet ADEC's Level B, target soil levels anticipated for this site. There has been no significant field evidence or lab data that indicates a release has occurred, and the information contained in this report confirms this. Benzene was not found above the laboratory method reporting limits in any of the six analytical samples collected. Therefore Rockwell Environmental believes no further action is necessary at this location.

The former tank and associated piping has been removed; and, according to Osborne Construction Company, will be disposed of properly. The estimated 50 cy of non-contaminated soils has been backfilled into the heating oil tank excavation.

Rockwell Environmental recommends ADEC accept this site assessment report as evidence of permanent tank closure at this site. It is also recommended a no further action be required by ADEC at the former buried 3,000 gallon heating oil tank location.

South Side Trench Sampling

The limits of excavation meet ADEC's Level B, target soil levels anticipated for this site. There has been no significant field evidence or lab data that indicates a release has occurred, and the information contained in this report confirms this. No evidence of tanks or pipes were observed.

Conversations with the former owner and employee of GPS indicate that a buried heating oil tank was never at this location. There is also no evidence the oil/water separator was installed as proposed. An oil/water separator exists inside the building along the south wall. The former owner indicated this location was selected over the outside location in order to use the separator year-round.

Benzene was not found above the laboratory method reporting limits in any of the six analytical samples collected. Therefore Rockwell Environmental believes groundwater monitoring is not warranted at this location.

Rockwell Environmental recommends a no further action be required by ADEC at the south side trench sampling location.

Heating Oil AST Excavation Sampling

Rockwell Environmental concludes that a high potential for a release from the heating oil AST fuel line fittings exists at this location. The AST was temporarily moved on August 22, 1997. The limits of excavation do not meet ADEC's Level B, target soil levels anticipated for this site. There has been significant field evidence and lab data that indicates a release has occurred, and the information contained in this report confirms this.

The estimated 30 cy of contaminated soils is being temporarily stockpiled onsite underlined and covered with double thickness visqueen plastic liner. Mr. Hodgson of Osborne told Rockwell Environmental that the site owner is in contract negotiations with OIT, Inc to incinerate the soil at their Moose Creek, AK plant within the next two weeks.

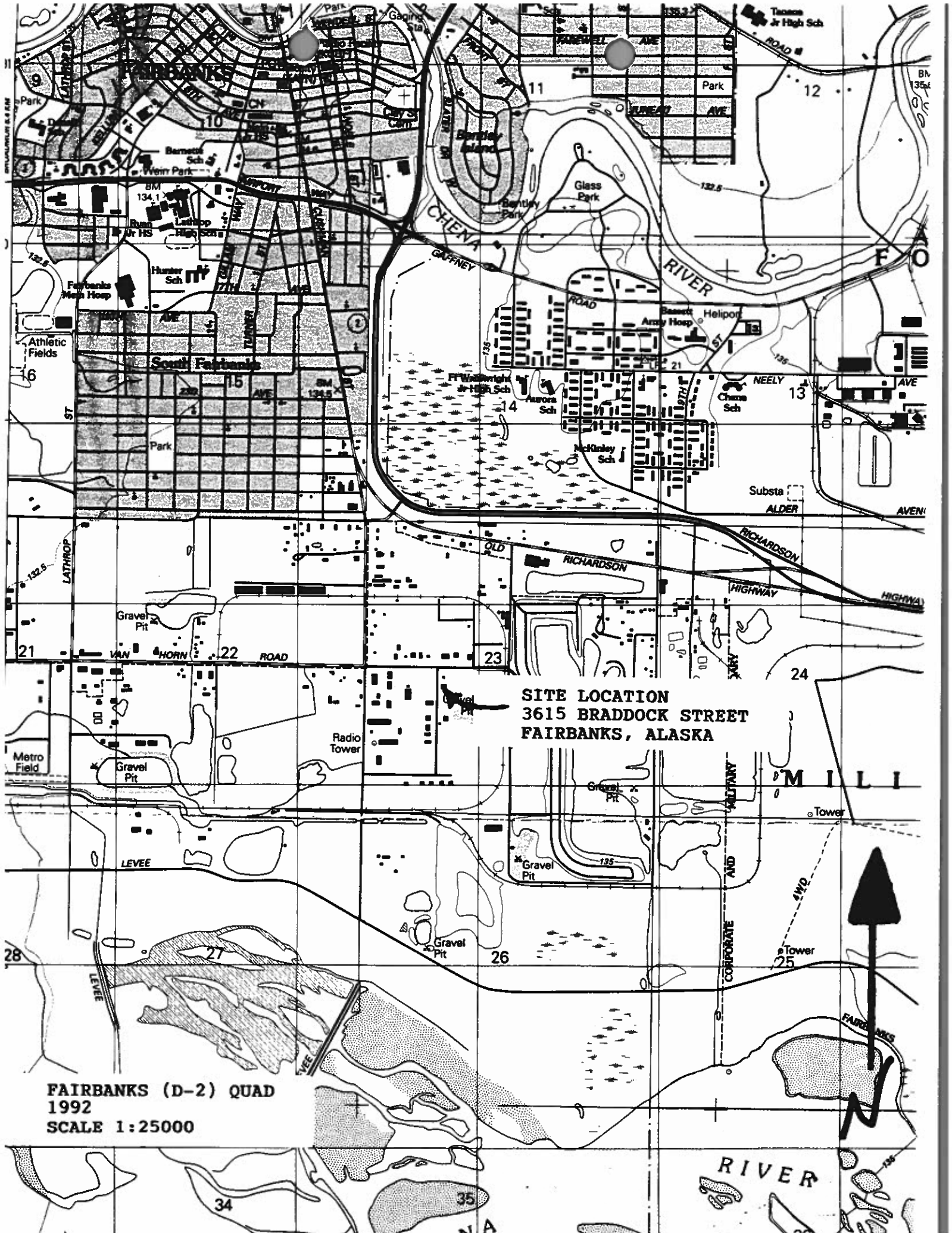
It is recommended the contamination remaining underneath the building be managed in place to avoid damaging the building foundation. Rockwell Environmental recommends ADEC accept this site assessment report as evidence of partial soil contamination removal only at this location. Rockwell Environmental recommends a no further action be required by ADEC at the heating oil AST location until the building is demolished.

Need IC

9.0 LIMITATIONS

This report has been prepared for the sole use of Coldwell Banker Great Land Realty and their client. The scope and nature of this investigation did not include full-scale contamination delineation with groundwater monitoring. The observations and findings presented are based on readily observable site conditions existing at the time of the investigation and from the analytical results received from CT&E Environmental Services Inc. Rockwell Environmental Services makes no expressed or implied warranty with this report. Our liability is limited to the work performed. We reserve the right to amend our professional opinions if additional information becomes available

APPENDIX A
SITE MAPPING



SITE LOCATION
3615 BRADDOCK STREET
FAIRBANKS, ALASKA

FAIRBANKS (D-2) QUAD
1992
SCALE 1:25000

Site Assessment Firm:
ROCKWELL ENVIRONMENTAL SERVICES
1825 WOODBINE ROAD
FAIRBANKS, ALASKA 99709

SITE ASSESSOR:
S. FRICK

DESIGN BY:
SF

DRAWN BY:
GA

Scale:
1"=20'-0"

SITE PLAN 361 BRADDOCK STREET
FAIRBANKS, ALASKA

OVERALL

SITE PLAN

Project No.
RES9709

Date:
9/12/97

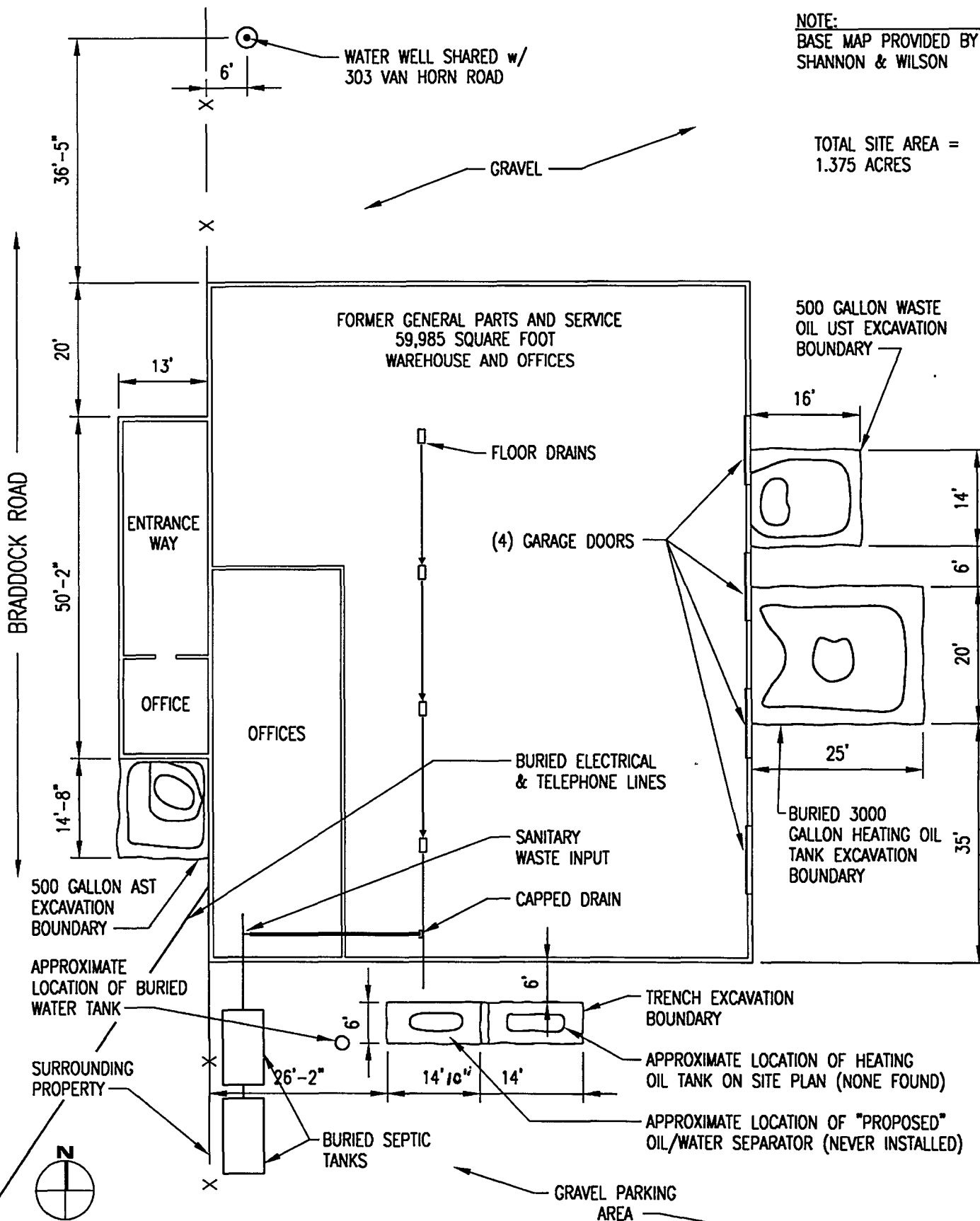
Reference #
None

Sht. 1 of 5

EFN 9709C1

NOTE:
BASE MAP PROVIDED BY
SHANNON & WILSON

TOTAL SITE AREA =
1.375 ACRES



Site Assessment Firm:
ROCKWELL ENVIRONMENTAL SERVICES
 1825 WOODBINE ROAD
 FAIRBANKS, ALASKA 99709

SITE ASSESSOR:
S. FRICK

DESIGN BY:
SF

DRAWN BY:
GA

Scale:
 1" = 10'-0"

SITE PLAN 3615 BRADDOCK STREET
 FAIRBANKS, ALASKA

500 GALLON WASTE OIL UST

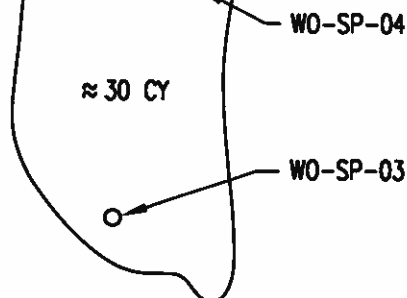
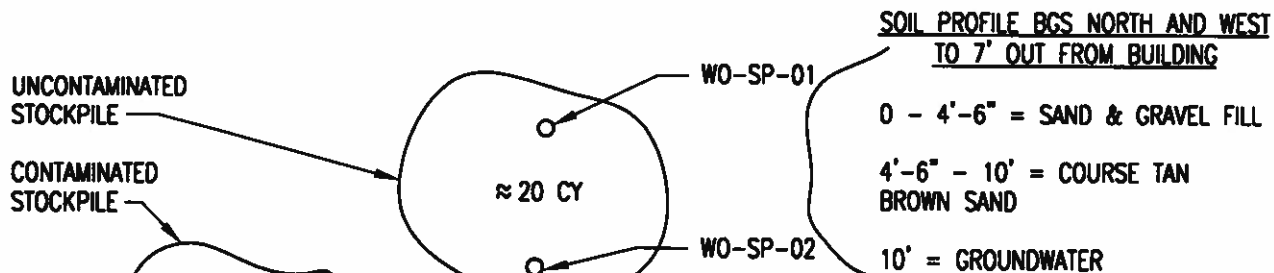
AUGUST, 14 1997 SITE ASSESSMENT

Project No.
RES9709

Date:
9/12/97

Reference #
None

Sht. **3** of **5**

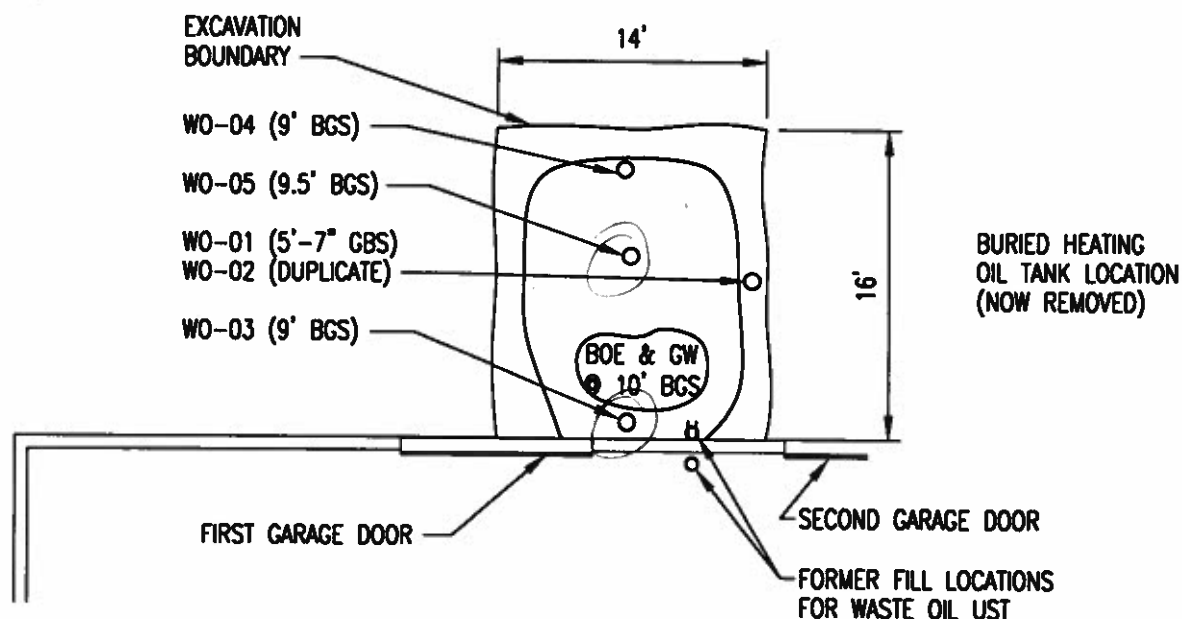


SOUTHEAST END

0 - 2' = COURSE SAND AND GRAVEL FILL

2' - 5'-8" = COURSE TO FINE RUST, BROWN, ORANGE AND GRAY HARD-PACK SILT w/ INTERMITTENT DECAYED ORGANIC MATERIAL

5'-8" - 10' = COURSE BROWN AND TAN SAND



KEY:

BGS = BELOW GROUND SURFACE
 BOE = BOTTOM OF EXCAVATION
 CY = CUBIC YARDS
 GW = GROUND WATER
 O = SAMPLE LOCATION
 WO-01 = SAMPLE NUMBER
 SP = STOCKPILE
 WO = WASTE OIL



Site Assessment Firm:
 ROCKWELL ENVIRONMENTAL SERVICES
 1825 WOODBINE ROAD
 FAIRBANKS, ALASKA 99709

SITE ASSESSOR:
 S. FRICK

DESIGN BY:
 SF

DRAWN BY:
 GA

Scale:
 1" = 10'-0"

SITE PLAN 3615 BRADDOCK STREET
 FAIRBANKS, ALASKA

3,000 GAL. BURIED HEATING OIL TANK

AUGUST, 15 1997 SITE ASSESSMENT

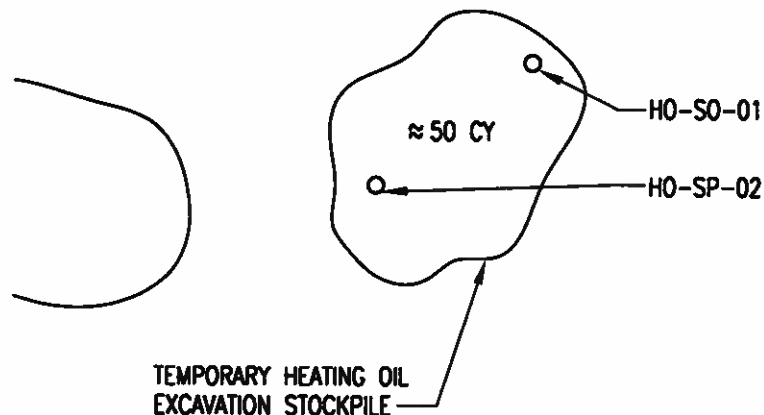
Project No.
 RES9709

Date:
 9/12/97

Reference #
 None

Sht. of
 4 5

EFN 9709C4



SOIL PROFILE BGS

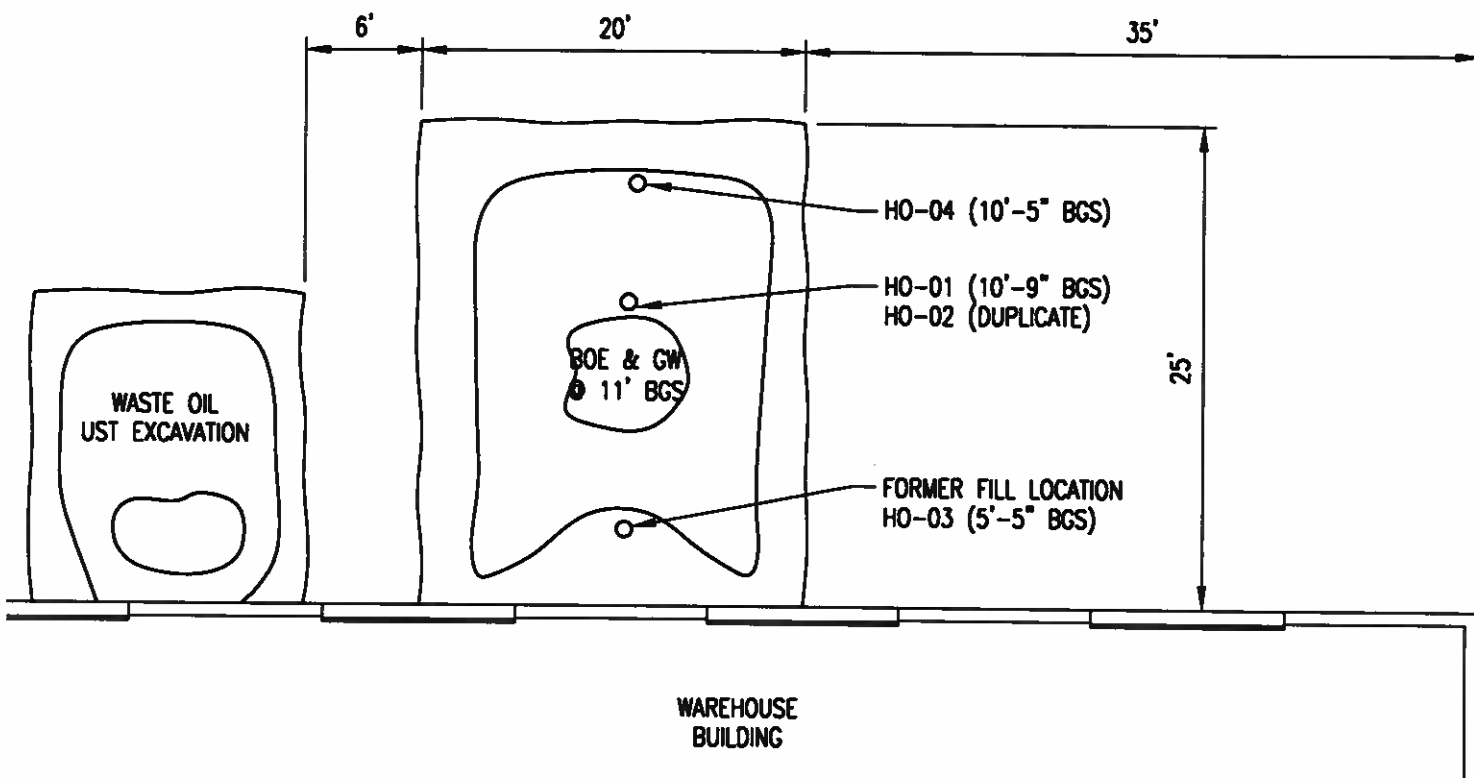
0 - 3' = COURSE SAND AND GRAVEL FILL

3' - 7'-4" = VERY FINE ORANGE-BROWN SANDY, HARD PACKED SILT

7'-4" - 11' = GRAY-TAN COURSE SAND AND GRAVEL

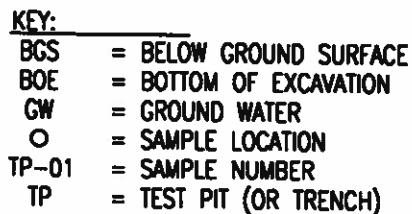
11' = GROUNDWATER

(0 - 4'-6" = 7' FROM BUILDING WALL OUT FILL)



- KEY:
- BGS = BELOW GROUND SURFACE
 - BOE = BOTTOM OF EXCAVATION
 - CY = CUBIC YARDS
 - GW = GROUND WATER
 - HO = HEATING OIL
 - = SAMPLE LOCATION
 - HO-01 = SAMPLE NUMBER
 - SP = STOCKPILE

Sht. 2 of 5



Site Assessment Firm:
 ROCKWELL ENVIRONMENTAL SERVICES
 1825 WOODBINE ROAD
 FAIRBANKS, ALASKA 99709

SITE ASSESSOR:
 S. FRICK

DESIGN BY:
 SF

DRAWN BY:
 GA

Scale:
 1" = 10'-0"

SITE PLAN 3615 BRADDOCK STREET
 FAIRBANKS, ALASKA

HEATING OIL AST TRENCH SAMPLING

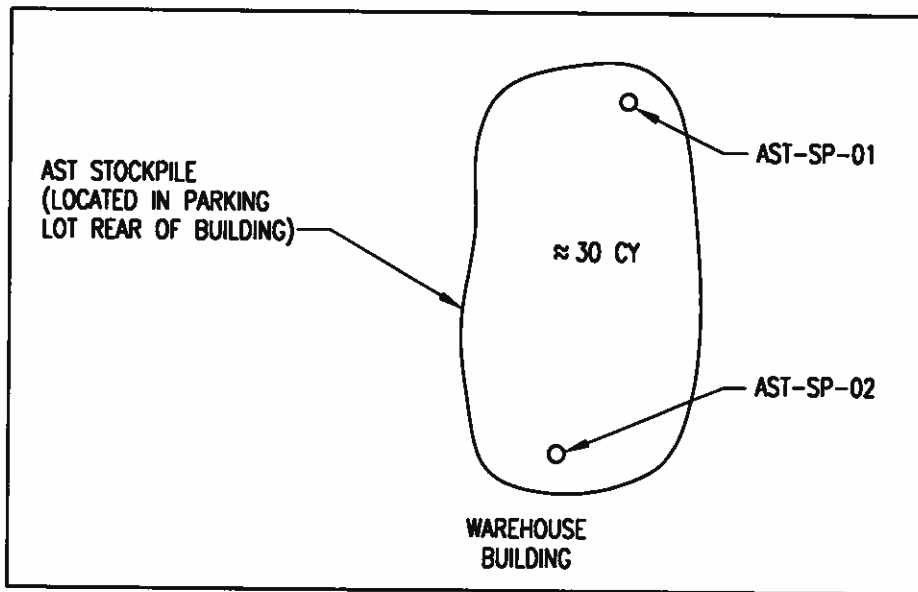
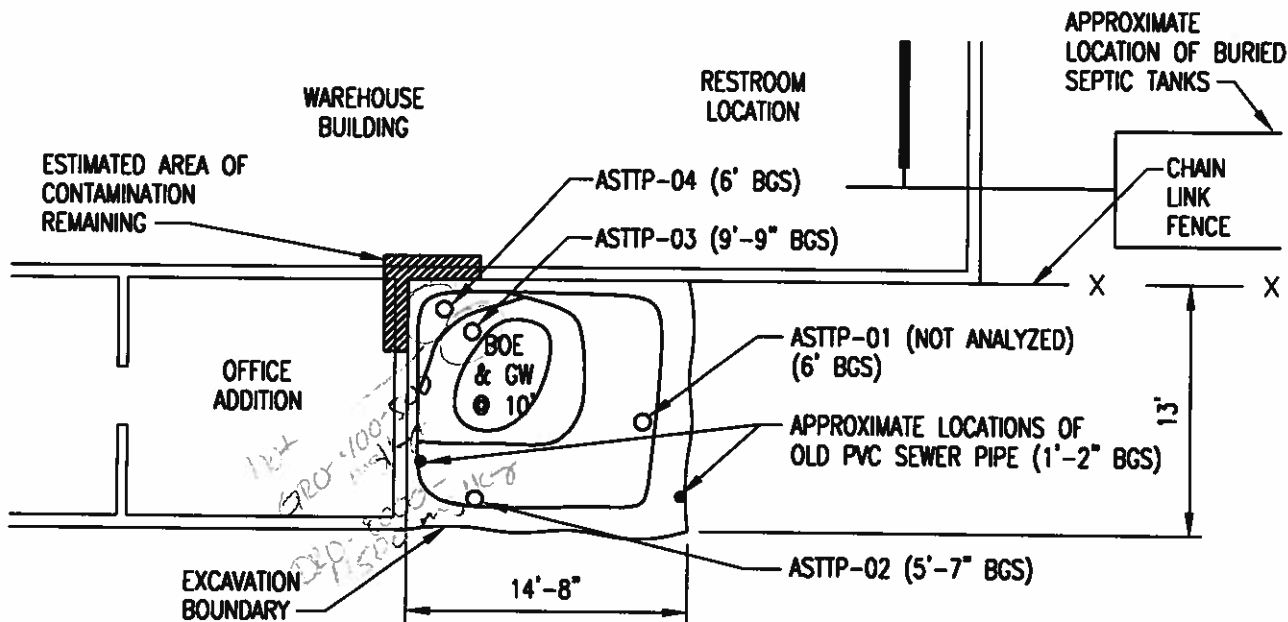
AUGUST, 22 1997 SITE ASSESSMENT

Project No.
 RES9709

Date:
 9/12/97

Reference #
 None

Sht. 5 of 5



SOIL PROFILE BGS
EAST END 1' TO 6' OUT FROM BUILDING

0 - 8'-6" = SAND AND GRAVEL FILL
 8'-6" - 10' = COURSE ORANGE - BROWN SAND
 10' = GROUNDWATER

WEST END

0 - 3' = SAND AND GRAVEL FILL
 3' - 4'-7" = VERY FINE ORANGE, TAN & BROWN SILT WITH INTERMITTENT ORGANIC MATERIAL
 4'-7" - 5'-7" = COURSE SAND

KEY:

ASTTP = ABOVE GROUND STORAGE TANK TEST PIT (OR TRENCH)
 BGS = BELOW GROUND SURFACE
 BOE = BOTTOM OF EXCAVATION
 CY = CUBIC YARDS
 GW = GROUND WATER
 O = SAMPLE LOCATION
 ASTTP-01 = SAMPLE NUMBER
 SP = STOCKPILE



APPENDIX B

SITE PHOTOGRAPHS



Photo 1: Looking northwest at the trench excavated in the "proposed" oil/water separator location on the south side of the building. No tanks or pipes were found and the oil/water separator was apparently never installed at this location.



Photo 2: Looking northwest at the 500-gallon waste oil UST excavated on August 12, 1997. The gash located on the opposite side of the fill area was from the backhoe. The UST was pumped of waste oil prior to excavation and no waste oil leaked from the gash during removal.



Photo 3: Looking northeast at the 500-gallon waste oil UST removed from behind the 3615 Braddock Street warehouse.



Photo 4: Looking northwest into the waste oil UST excavation. Groundwater was encountered at 10 feet below ground surface. Stained soils noticed at the sidewall (at the building foundation) are from fill pipe spillage down the outside of the tank.



Photo 5: Looking east at the exposed 3,000-gallon heating oil tank. The final north side excavation wall was approximately six feet from the waste oil tank excavation.



Photo 6: Looking northwest at the bottom impression of the 3,000-gallon heating oil tank removed. Final excavation limits are 25 feet long by 20 feet wide.



Photo 7: Looking northeast at the heating oil aboveground storage tank that was located in front of the warehouse on the south side of the warehouse addition. The stained area at the tank's bottom is thought to be where all the heating oil leaked. The 3,000-gallon heating oil tank is in the background.



Photo 8: Looking west at the overall site view at 3615 Braddock Street. The covered contaminated stockpile from the waste oil UST is shown to the north.



Photo 9: Looking at the northeast corner of the heating oil AST excavation. The corner is stained from dripping heating oil at fuel line fittings. Final excavation area was approximately 15 feet long by 13 feet wide, by 10 feet deep at its deepest. Groundwater was encountered at 10 feet below ground surface.

APPENDIX C

**CT&E LABORATORY DATA
WATER WELL SAMPLING DATA**



CT&E Environmental Services Inc.

Laboratory Division

WASTE OIL

Laboratory Analysis Report

September 02, 1997

Susan Frick
Rockwell Environmental Service
1825 Woodbine
Fairbanks, AK 99709

Client Name	Rockwell Environmental Services
Project ID	N/A [974216]
Printed	September 02, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- (J) - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range

*Practical
ground limit
normal detect
limit*

*Estimated value only
Instrument unable to detect
unable to quantify
accurately because
its so low
method -*

200 W. Potter Drive, Anchorage, AK 99518-1605 — Tel: (907) 562-2343 Fax: (907) 561-5301
3180 Peger Road, Fairbanks, AK 99709-5471 — Tel: (907) 474-8656 Fax: (907) 474-9685

ENVIRONMENTAL FACILITIES IN ALASKA, CALIFORNIA, FLORIDA, ILLINOIS, MARYLAND, MICHIGAN, MISSOURI, NEW JERSEY, OHIO, WEST VIRGINIA



CT&E Ref.# 974216001
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-SP-01
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:00
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Released By

Stephen C Ede

Sample Remarks:

DRO-Heavier hydrocarbons contributing to diesel range quantitation.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.171	0.0264	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	14.7	2.64	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	7.38	2.64	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.105 U	0.105	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0527 U	0.0527	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
^								
Total Solids	89.2		%	SM18 2540G			08/18/97	EWS
Barium	89.9	5.25	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	5.02	0.264	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	5.27 U	5.27	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	2.62	1.98	mg/Kg	AK101/8020		08/14/97	08/17/97	MTT
Benzene	0.0494 U	0.0494	mg/Kg	AK101/8020		08/14/97	08/17/97	MTT
Toluene	0.0494 U	0.0494	mg/Kg	AK101/8020		08/14/97	08/17/97	MTT
Ethylbenzene	0.0494 U	0.0494	mg/Kg	AK101/8020		08/14/97	08/17/97	MTT
P & M -Xylene	0.0494 U	0.0494	mg/Kg	AK101/8020		08/14/97	08/17/97	MTT
o-Xylene	0.0494 U	0.0494	mg/Kg	AK101/8020		08/14/97	08/17/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	62.1		%	AK101/8020	(50-150)	08/14/97	08/17/97	
1,4-Difluorobenzene <Surr>	105		%	AK101/8020	(50-150)	08/14/97	08/17/97	



CT&E Ref.# 974216001
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-SP-01
Matrix Soil
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Collected Date/Time 08/14/97 10:00
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Methylene chloride	0.550 U	0.550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,2-Dichloroethene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1-Dichloroethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroform	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,1-Trichloroethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Carbon tetrachloride	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloroethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichloroethene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloropropane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromodichloromethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Tetrachloroethene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Dibromochloromethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chlorobenzene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromoform	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2,2-Tetrachloroethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,3-Dichlorobenzene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,4-Dichlorobenzene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichlorobenzene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromomethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
2-chloroethylvinyl ether	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloromethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
cis-1,3-Dichloropropene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,3-Dichloropropene	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2-Trichloroethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichlorofluoromethane	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Vinyl chloride	0.0550 U	0.0550	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS



CT&E Ref.# 974216001
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-SP-01
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:00
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	85.1		%	SW846-8010A	(80-120)	08/20/97	08/21/97	
DRO/RRD Combination								
Diesel Range Organics	239	39.6	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Residual Range Organics GC	452 J	495	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	101		%	AK102/103	(50-150)	08/15/97	08/19/97	
d-Triacontane <Surr>	121		%	AK102/103	(50-150)	08/15/97	08/19/97	
PCB's by GC ECD								
Aroclor-1016	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Aroclor-1221	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Aroclor-1232	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Aroclor-1242	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Aroclor-1248	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Aroclor-1254	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Aroclor-1260	0.0372 U	0.0372	mg/Kg	SW846-8080		08/18/97	08/18/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	92		%	SW846-8080	(15-125)	08/18/97	08/18/97	
Tetrachloro-m-xylene <Surr>	88.9		%	SW846-8080	(10-91)	08/18/97	08/18/97	



CT&E Ref.# 974216002
 Client Name Rockwell Environmental Services
 Project Name/# N/A
 Client Sample ID WO-SP-02
 Matrix Soil
 Ordered By
 PWSID

Client PO# 9709
 Printed Date/Time 09/02/97 11:03
 Collected Date/Time 08/14/97 10:15
 Received Date/Time 08/14/97 12:20
 Technical Director: Stephen C. Ede

Released By *Stephen C Ede*

Sample Remarks:

DRO-Heavier hydrocarbons contributing to diesel range quantitation.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.184	0.0242	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	16.2	2.42	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	6.83	2.42	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.103 U	0.103	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0518	0.0484	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
^								
Total Solids	90.0		%	SM18 2540G			08/18/97	EWS
Barium	74.4	4.67	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	5.83	2.42	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	4.84 U	4.84	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	2.81	1.81	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Benzene	0.0451 U	0.0451	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Toluene	0.0451 U	0.0451	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Ethylbenzene	0.0451 U	0.0451	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
P & M -Xylene	0.0451 U	0.0451	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
o-Xylene	0.0451 U	0.0451	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	75.8		%	AK101/8020	(50-150)	08/14/97	08/18/97	
1,4-Difluorobenzene <Surr>	110		%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Ref.# 974216002
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-SP-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:15
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Methylene chloride	0.548 U	0.548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,2-Dichloroethene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1-Dichloroethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroform	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,1-Trichloroethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Carbon tetrachloride	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloroethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichloroethene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloropropane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromodichloromethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Tetrachloroethene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Dibromochloromethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chlorobenzene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromoform	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2,2-Tetrachloroethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,3-Dichlorobenzene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,4-Dichlorobenzene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichlorobenzene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromomethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
2-chloroethylvinyl ether	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloromethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
cis-1,3-Dichloropropene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,3-Dichloropropene	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2-Trichloroethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichlorofluoromethane	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Vinyl chloride	0.0548 U	0.0548	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS



CT&E Ref.# 974216002
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-SP-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:15
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	87.4		%	SW846-8010A	(80-120)	08/20/97	08/21/97	
DRO/RRO Combination								
Diesel Range Organics	174	4.37	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Residual Range Organics GC	301	54.6	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	98.8		%	AK102/103	(50-150)	08/15/97	08/28/97	
d-Triacontane <Surr>	138		%	AK102/103	(50-150)	08/15/97	08/28/97	
PCB's by GC ECD								
Aroclor-1016	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0364 U	0.0364	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	92		%	SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	87.5		%	SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Ref.# 974216003
 Client Name Rockwell Environmental Services
 Project Name/# N/A
 Client Sample ID WO-01
 Matrix Soil
 Ordered By
 PWSID

Client PO# 9709
 Printed Date/Time 09/02/97 11:03
 Collected Date/Time 08/14/97 10:30
 Received Date/Time 08/14/97 12:20
 Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.221 <i>5</i>	0.0291	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	21.3 <i>26</i>	2.91	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	8.61 <i>400</i>	2.91	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.0952 U <i>1.4'</i>	0.0952	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0582 U <i>21</i>	0.0582	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
^								
Total Solids	79.9		%	SM18 2540G			08/18/97	EWS
Barium	101 <i>1,100 NTG</i>	5.82	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	5.71 <i>2</i>	0.291	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	5.82 U <i>3.5</i>	5.82	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	2.07 U	2.07	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Benzene	0.0516 U	0.0516	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Toluene	0.0516 U	0.0516	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Ethylbenzene	0.0516 U	0.0516	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
P & M -Xylene	0.0516 U	0.0516	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
o-Xylene	0.0516 U	0.0516	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	56		%	AK101/8020	(50-150)	08/14/97	08/18/97	
1,4-Difluorobenzene <Surr>	108		%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Ref.# 974216003
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-01
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:30
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Methylene chloride	0.609 U	0.609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,2-Dichloroethene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1-Dichloroethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroform	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,1-Trichloroethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Carbon tetrachloride	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloroethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichloroethene	0.0609 U	0.02 MTH	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloropropane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromodichloromethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Tetrachloroethene	0.0505 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Dibromochloromethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chlorobenzene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromoform	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2,2-Tetrachloroethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,3-Dichlorobenzene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,4-Dichlorobenzene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichlorobenzene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromomethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
2-chloroethylvinyl ether	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloromethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
cis-1,3-Dichloropropene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,3-Dichloropropene	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2-Trichloroethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichlorofluoromethane	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Vinyl chloride	0.0609 U	0.0609	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS

50995



CT&E Ref.# 974216003
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-01
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:30
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	82.9		%	SW846-8010A	(80-120)	08/20/97	08/22/97	
DRO/RRO Combination								
Diesel Range Organics	8.71	4.36	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Residual Range Organics GC	54.5 U	54.5	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	80.2		%	AK102/103	(50-150)	08/15/97	08/19/97	
d-Triacontane <Surr>	128		%	AK102/103	(50-150)	08/15/97	08/19/97	
PCB's by GC ECD								
Aroclor-1016	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0407 U	0.0407	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	88.9		%	SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	90.5		%	SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Ref.# 974216004
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:40
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Released By *Stephen C Ede*

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.173	0.0311	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	25.4	3.11	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	10.3	3.11	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.135	0.121	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0666	0.0623	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
^								
Total Solids	74.6		%	SM18 2540G			08/18/97	EWS
Barium	126	5.56	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	14.2	3.11	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	6.23 U	6.23	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	2.15 U	2.15	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Benzene	0.0536 U	0.0536	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Toluene	0.0536 U	0.0536	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Ethylbenzene	0.0536 U	0.0536	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
P & M -Xylene	0.0536 U	0.0536	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
o-Xylene	0.0536 U	0.0536	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	55.2		%	AK101/8020	(50-150)	08/14/97	08/18/97	
1,4-Difluorobenzene <Surr>	112		%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Ref.# 974216004
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:40
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Methylene chloride	0.652 U	0.652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,2-Dichloroethene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1-Dichloroethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroform	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,1-Trichloroethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Carbon tetrachloride	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloroethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichloroethene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloropropane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromodichloromethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Tetrachloroethene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Dibromochloromethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chlorobenzene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromoform	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2,2-Tetrachloroethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,3-Dichlorobenzene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,4-Dichlorobenzene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichlorobenzene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromomethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
2-chloroethylvinyl ether	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloromethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
cis-1,3-Dichloropropene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,3-Dichloropropene	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2-Trichloroethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichlorofluoromethane	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Vinyl chloride	0.0652 U	0.0652	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS



CT&E Ref.# 974216004
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:03
Collected Date/Time 08/14/97 10:40
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	80.5		%	SW846-8010A	(80-120)	08/20/97	08/22/97	
DRO/RRO Combination								
Diesel Range Organics	16.2	4.99	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Residual Range Organics GC	62.4 U	62.4	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	91.6		%	AK102/103	(50-150)	08/15/97	08/19/97	
d-Triacontane <Surr>	142		%	AK102/103	(50-150)	08/15/97	08/19/97	
PCB's by GC ECD								
Aroclor-1016	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0446 U	0.0446	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	93.4		%	SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	94.1		%	SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Ref.# 974216005
 Client Name Rockwell Environmental Services
 Project Name/# N/A
 Client Sample ID WO-03
 Matrix Soil
 Ordered By
 PWSID

Client PO# 9709
 Printed Date/Time 09/02/97 11:03
 Collected Date/Time 08/14/97 11:20
 Received Date/Time 08/14/97 12:20
 Technical Director: Stephen C. Ede

Released By

Sample Remarks:

8010 - Surrogate recovery outside controls due to dilution.
 BTEX-Result may be biased high due to co-elution with nontarget hydrocarbon.
 GRO/BTEX-Surrogate recovery outside acceptable range due to matrix interference.
 DRO-Heavier hydrocarbons contributing to diesel range quantitation.
 DRO-Sample too dilute to quantify surrogate.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.121	0.0232	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	11.5	2.32	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	3.66	2.32	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.0963 U	0.0963	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0464 U	0.0464	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
A								
Total Solids	90.3		%	SM18 2540G			08/18/97	EWS
Barium	62.3	4.96	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	3.15	0.232	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	4.64 U	4.64	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	477	15.6	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Benzene	0.390 U	0.390	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Toluene	0.390 U	0.390	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Ethylbenzene	1.53	0.390	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
P & M -Xylene	9.64	0.390	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
o-Xylene	25.1	0.390	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	! 3430		%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Ref.# 974216005
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-03
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 11:20
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
1,4-Difluorobenzene <Surr>	30		%	AK101/8020	(50-150)	08/14/97	08/18/97	
Halogenated Volatile Organics								
1,1-Dichloroethene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Methylene chloride	5.44 U	5.44	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,2-Dichloroethene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1-Dichloroethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroform	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,1-Trichloroethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Carbon tetrachloride	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloroethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichloroethene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloropropane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromodichloromethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Tetrachloroethene	0.524 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Dibromochloromethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chlorobenzene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromoform	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2,2-Tetrachloroethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,3-Dichlorobenzene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,4-Dichlorobenzene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichlorobenzene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromomethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
2-chloroethylvinyl ether	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloromethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
cis-1,3-Dichloropropene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,3-Dichloropropene	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2-Trichloroethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichlorofluoromethane	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS



CT&E Environmental Services Inc.

CT&E Ref.# 974216005
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-03
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 11:20
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Vinyl chloride	0.544 U	0.544	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Surrogates								
4-Bromofluorobenzene <Surr>	39			SW846-8010A	(80-120)	08/20/97	08/21/97	
DRO/RRO Combination								
Diesel Range Organics	19900	1300	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Residual Range Organics GC	23600	16200	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	533	%		AK102/103	(50-150)	08/15/97	08/28/97	
d-Triacontane <Surr>	162	%		AK102/103	(50-150)	08/15/97	08/28/97	
PCB's by GC ECD								
Aroclor-1016	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0366 U	0.0366	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	70.1	%		SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	64.7	%		SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Ref.# 974216006
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-04
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 12:00
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.0965	0.0265	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	10.3	2.65	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	4.24	2.65	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.0855 U	0.0855	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0530 U	0.0530	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
Total Solids	88.1		%	SM18 2540G			08/18/97	EWS
Barium	53.1	5.21	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	3.04	0.265	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	5.30 U	5.30	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	1.94	1.82	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Benzene	0.0456 U	0.0456	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Toluene	0.0456 U	0.0456	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Ethylbenzene	0.0456 U	0.0456	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
P & M -Xylene	0.0456 U	0.0456	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
o-Xylene	0.0456 U	0.0456	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	62		%	AK101/8020	(50-150)	08/14/97	08/18/97	
1,4-Difluorobenzene <Surr>	111		%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Ref.# 974216006
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-04
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 12:00
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Methylene chloride	0.564 U	0.564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,2-Dichloroethene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1-Dichloroethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroform	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,1-Trichloroethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Carbon tetrachloride	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloroethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichloroethene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloropropane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromodichloromethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Tetrachloroethene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Dibromochloromethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chlorobenzene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromoform	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2,2-Tetrachloroethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,3-Dichlorobenzene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,4-Dichlorobenzene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichlorobenzene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromomethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
2-chloroethylvinyl ether	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloromethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
cis-1,3-Dichloropropene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,3-Dichloropropene	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2-Trichloroethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichlorofluoromethane	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Vinyl chloride	0.0564 U	0.0564	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS



CT&E Ref.# 974216006
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-04
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 12:00
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	95.9		%	SW846-8010A	(80-120)	08/20/97	08/22/97	
DRO/RRO Combination								
Diesel Range Organics	4.36 U	4.36	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Residual Range Organics GC	54.5 U	54.5	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	79.6		%	AK102/103	(50-150)	08/15/97	08/19/97	
d-Triacontane <Surr>	113		%	AK102/103	(50-150)	08/15/97	08/19/97	
PCB's by GC ECD								
Aroclor-1016	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0374 U	0.0374	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	73.1		%	SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	81.7		%	SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Ref.# 974216007
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-05
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 12:15
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

BTEX-Result may be biased high due to co-elution with nontarget hydrocarbons.

GRO/BTEX-Surrogate recovery outside acceptable range due to matrix interference.

8010 - Surrogate recovery outside controls due to matrix interference (confirmed upon analysis of re-extraction).

DRO-Pattern is consistent with middle distillate fuel.

DRO-Heavier hydrocarbons contributing to diesel range quantitation.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.0865	0.0229	mg/Kg	SW846-7131		08/18/97	08/19/97	KGF
Chromium	10.0	2.29	mg/Kg	SW846-7191		08/18/97	08/19/97	KGF
Lead	3.66	2.29	mg/Kg	SW846-7421		08/18/97	08/19/97	KGF
Mercury by Cold Vapor	0.0817 U	0.0817	mg/Kg	SW846-7471		08/18/97	08/18/97	AMF
Silver	0.0458 U	0.0458	mg/Kg	SW846-7761		08/18/97	08/19/97	KGF
^								
Total Solids	80.1		%	SM18 2540G			08/18/97	EWS
Barium	50.8	5.59	mg/Kg	SW846 6010		08/18/97	08/18/97	EMM
Arsenic	2.77	0.229	mg/Kg	SW846-7060		08/18/97	08/18/97	WTA
Selenium	4.58 U	4.58	mg/Kg	SW846-7740		08/18/97	08/18/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	91.1	1.03	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Benzene	0.0257 U	0.0257	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Toluene	0.0257 U	0.0257	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Ethylbenzene	0.0902	0.0257	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
P & M -Xylene	0.690	0.0257	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
o-Xylene	0.0257 U	0.0257	mg/Kg	AK101/8020		08/14/97	08/18/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	!	573	%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Ref.# 974216007
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-05
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 12:15
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
1,4-Difluorobenzene <Surr>	117		%	AK101/8020	(50-150)	08/14/97	08/18/97	
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Methylene chloride	0.581 U	0.581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,2-Dichloroethene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1-Dichloroethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroform	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,1-Trichloroethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Carbon tetrachloride	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloroethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichloroethene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloropropane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromodichloromethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Tetrachloroethene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Dibromochloromethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chlorobenzene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromoform	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2,2-Tetrachloroethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,3-Dichlorobenzene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,4-Dichlorobenzene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichlorobenzene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromomethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
2-chloroethylvinyl ether	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloromethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
cis-1,3-Dichloropropene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,3-Dichloropropene	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2-Trichloroethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichlorofluoromethane	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS



CT&E Ref.# 974216007
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID WO-05
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time 08/14/97 12:15
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Vinyl chloride	0.0581 U	0.0581	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Surrogates								
4-Bromofluorobenzene <Surr>	67.6		%	SW846-8010A	(80-120)	08/20/97	08/22/97	
DRO/RRO Combination								
Diesel Range Organics	109	6.95	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Residual Range Organics GC	193	86.8	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	94.7		%	AK102/103	(50-150)	08/15/97	08/28/97	
d-Triacontane <Surr>	128		%	AK102/103	(50-150)	08/15/97	08/28/97	
PCB's by GC ECD								
Aroclor-1016	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0789 U	0.0789	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	75.3		%	SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	82.6		%	SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974216008
Client Name Rockwell Environmental Services
Project Name/# N/A
Client Sample ID Trip Blank
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 11:04
Collected Date/Time
Received Date/Time 08/14/97 12:20
Technical Director: Stephen C. Ede

Released By

Stephen C Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	100		%	SM18 2540G			08/15/97 MTT	
GRO/8020 Combo								
Gasoline Range Organics	1.98	1.96	mg/Kg	AK101/8020		08/14/97	08/18/97 MTT	
Benzene	0.0490 U	0.0490	mg/Kg	AK101/8020		08/14/97	08/18/97 MTT	
Toluene	0.0490 U	0.0490	mg/Kg	AK101/8020		08/14/97	08/18/97 MTT	
Ethylbenzene	0.0490 U	0.0490	mg/Kg	AK101/8020		08/14/97	08/18/97 MTT	
P & M -Xylene	0.0490 U	0.0490	mg/Kg	AK101/8020		08/14/97	08/18/97 MTT	
o-Xylene	0.0490 U	0.0490	mg/Kg	AK101/8020		08/14/97	08/18/97 MTT	
Surrogates								
4-Bromofluorobenzene <Surr>	69.2		%	AK101/8020	(50-150)	08/14/97	08/18/97	
1,4-Difluorobenzene <Surr>	111		%	AK101/8020	(50-150)	08/14/97	08/18/97	



CT&E Environmental Services Inc.

Laboratory Division

PO#:

9709

CHAIN OF CUSTODY

CT

97.4216

Reports to:

Rockwell Environmental Services
1825 Woodbine Road
Ft. Smith, AR 72344 97709

Invoice to:

Same

Laboratory:

CT&E Environmental Services Inc.
200 W Potter Dr.
Anchorage, AK 99518-1605
Phone (907) 562-2343 Fax: (907) 561-5301

Page 1 of 1

Phone: 455-6030 Fax: 455-6030

Contact person for questions concerning these samples:

Susan Fick

Phone: 455-6030

Fax: 455-6030

Special Instructions:

LEVEL I DATA DELIVERABLES
RUSH 1 NEED VISUAL RESULTS BY MONDAY AFTERNOON 4:30-4:30 PM

Project Name/Number

Sampled By:

Lab #	Sample #	Date/Time Sampled	# of Containers	Sample Matrix	AK 101 Lead/BTEX	DR 01/PCO	HAZARDOUS VOLATILE ORGANICS	PCB	PCP/PAHs	Comments
1	SP-01	8/19/97 8:00 AM	4	Soil	X	X	X	X	X	
2	SP-02	8/19/97 10:15 AM	4	Soil	X	X	X	X	X	
3	01	8/19/97 10:30 AM	4	Soil	X	X	X	X	X	
4	02	8/19/97 10:40 AM	4	Soil	X	X	X	X	X	
5	03	8/19/97 11:30 AM	4	Soil	X	X	X	X	X	
6	04	8/19/97 12:00 PM	4	Soil	X	X	X	X	X	
7	05	8/19/97 12:15 PM	4	Soil	X	X	X	X	X	

Sample Receipt:

Relinquished By:

Relinquished By:

Relinquished By:

Number of Containers

COC Seals/Intact Y/N/A

Temperature

Turnaround Required

Data Deliverables Required

Signature

Printed Name

Date

Time

Signature

Printed Name

Signature

Printed Name

Date

Time

Signature

Printed Name

Signature

Printed Name

Date

Time

Signature

Printed Name

Signature

Printed Name

Date

Time

Signature

Printed Name

Signature

Printed Name

Date

Time

Signature

Printed Name

Signature

Printed Name

Date

Time

Signature

Printed Name

**CT&E Environmental Services Inc.
Alaska Division**

Laboratory Data Report

Contents:

COC

Quality Control Summary Forms

**The above Analyses are arranged consecutively in the following fashion: Volatiles, SemiVolatiles,
Metals, Inorganics, Miscellaneous.**

**Note: All quality assurance/quality control criteria is in compliance with the Alaska Department
of Environmental Conservation (ADEC) and/or CTE's Assurance Program Plan.**



CT&E Environmental Services Inc.

Laboratory Division

PO#: 9709

CHAIN OF CUSTODY

97.4216

Reports to:

ROCKWELL ENVIRONMENTAL SERVICES
1825 WOODBINE ROAD
PHARMINGS, ALASKA 99709

Invoice to:

SAME

Laboratory: Page 1 of 1
CT&E Environmental Services Inc.
200 W Potter Dr.

Anchorage, AK 99518-1605

Phone (907) 562-2343 Fax: (907) 561-5301

Phone: 455-6030 Fax: 455-6030

Contact person for questions concerning these samples: SUSAN FLOCK

Special Instructions: LEVEL I DATA DELIVERABLES

RUSH! NEEDS VERBAL RESULTS BY MONDAY AFTERNOON

457-6767

Project Name/Number

Sampled By:

Lab #	Sample #	Date/Time Sampled	# of Containers	Sample Matrix	AK101 GLO/ BULK	DEO/PCO	HVOGEN/MSD	PCB/PAH/MTLS	Comments
1	WO-SP-01	8/14/97 8:00 AM	4	SOIL	X	X	X	X	
2	WO-SP-02	8/14/97 10:15 AM	4	SOIL	X	X	X	X	
3	WO-01	8/14/97 11:30 AM	4	SOIL	X	X	X	X	
4	WO-02	8/14/97 10:30 AM	4	SOIL	X	X	X	X	
5	WO-03	8/14/97 11:30 AM	4	SOIL	X	X	X	X	
6	WO-04	8/14/97 12:00 PM	4	SOIL	X	X	X	X	
7	WO-05	8/14/97 12:15 PM	4	SOIL	X	X	X	X	

Sample Receipt:

Number of Containers	Signature	Time	Relinquished By:	Signature	Time
COC Seals/Intact Y/N/A	<u>Susan Flock</u>	<u>12:00</u>	Relinquished By:	<u>Mica Stenbom</u>	<u>9:15</u>
Temperature <u>6.6°C</u>	<u>Susan Flock</u>	<u>8:14</u>	Signature	<u>Mica Stenbom</u>	Time
Turnaround Required	<u>Susan Flock</u>	<u>12:00</u>	Printed Name	<u>Mica Stenbom</u>	Date
Data Deliverables Required	<u>Susan Flock</u>	<u>12:00</u>	Received By:	<u>Mica Stenbom</u>	Time
Level I Level II Level III	<u>Susan Flock</u>	<u>12:00</u>	Signature	<u>Mica Stenbom</u>	Time
	<u>Susan Flock</u>	<u>12:00</u>	Printed Name	<u>Mica Stenbom</u>	Date

CT&E Environmental Services Inc.
Analytical Quality Control Summary Page

Method: AK101/6020

Extraction Batch: 1037 UXXF

Run Date: 6/17

Analytical Batch: 1041 VFCE / 1040 VFCE

QC Parameter	Criteria Met?		
A. Calibration:	<u>(Y)</u>	N	N/A
B. Instrument/Method Blank:	<u>(Y)</u>	N	N/A
C. Initial/Continuing Calibration Verifications	<u>(Y)</u>	N	N/A
D. Laboratory Control Sample:	<u>(Y)</u>	N	N/A
E. Laboratory Control Sample Duplicate:	<u>(Y)</u>	N	N/A
Relative Percent Difference	<u>(Y)</u>	N	N/A
F. Sample Duplicate	<u>(X)</u>	N	<u>(N/A)</u>
G. Matrix Spike	Y	N	<u>(N/A)</u>
H. Matrix Spike Duplicate	Y	N	<u>(N/A)</u>
Relative Percent Difference	Y	N	<u>(N/A)</u>
I. Sample Surrogates:	<u>(Y)</u>	N	N/A *
J. QC Surrogates:	<u>(Y)</u>	N	N/A
K. Sample Holding Time	<u>(Y)</u>	N	N/A

Any parameter that did not meet QA criteria is fully explained below:

* See comments on sample reports

Is there any further action necessary for any out of control events described above? Y N

Should a Corrective Action be initiated? Y N

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: Michelle Gubner
Date: 6/16/97

Reviewer's Signature: Mike Ullrich
Date: 9/6/97

*** All out of control events require a supervisor's signature as reviewer. ***

Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 974216 (1, 2, 5)

Analysis: **Halogenated & Aromatic Volatile Organics**
Method: **EPA 601(8010)/602(8020)**
Matrix: **Liquid/Solid**

Analysis Lot Number: VBA06130821

Prep Lot Number(s): VXX2670

Analysis:


Assurance Notes:

Acceptance Criteria:

	Yes	No	N/A	
A. Holding Time:			<input checked="" type="checkbox"/>	14 days from sample collection for TCLP extraction.
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		14 days from sample collection (or TCLP extraction) for analysis.
B. Surrogates:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		80% - 120% Recovery

C. Notes: low surrogate recovery for -5 due to dilution (* 10)

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: 

Printed Name & Date: Doreen Schumacher

Reviewer's Signature: 

Printed Name & Date: 8-22-97

Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8/21/97

Analysis Lot Number: VBA06130821

Analysis: **Halogenated & Aromatic Volatile Organics**
 Method: **EPA 601(8010)/602(8020)**
 Matrix: **Liquid/Solid**

Analysis:

Assurance Notes:

Acceptance Criteria:

		Yes	No*	
A. Calibration:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	r ² Greater than or equal to 0.99
B. Method Blank:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All concentrations are below the Practical Quantitation Limit
C. Continuing Calibration Verification Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	* 80% - 120% Recovery
E. Laboratory Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery
F. Laboratory Control Sample Duplicate:	All criteria met.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	80% - 120% Recovery
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0% - 25% Relative Percent Difference
G. QC Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery


H. Notes: (for soil matrix, see 8/20/97 for analysis and comments on extraction QC)

* no closing CCV (ELCD) due to detector malfunction

(opening CCV for 8/22/97 within QC goals)

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

***Out-of-control conditions
 require a supervisor's signature.**

Analyst's Signature: 

Supervisor's Signature: _____

Printed Name & Date: Doreen Schumacher 8.22.97

Date: _____

Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Lot Number: VBA06130822

Prep Lot Number(s): VXX2670

Workorder Number: 974216 (3, 7, 4, 6)

Analysis: Halogenated & Aromatic Volatile Organics

Method: EPA 601(8010)/602(8020)

Matrix: Liquid/Solid

Analysis:

Assurance Notes:

Acceptance Criteria:

Yes No N/A

A. Holding Time:

All criteria met. ☐ ☐ ☒

14 days from sample collection for
TCLP extraction.

All criteria met. ☒ ☐

14 days from sample collection
(or TCLP extraction) for analysis.

B. Surrogates:

All criteria met. ☒ ☒

80% - 120% Recovery

C. Notes: low surrogate recovery on -7 due to matrix interference (confirmed upon analysis of re-extraction)

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: 

Printed Name & Date: Doreen Schumacher 8-24-97

Reviewer's Signature: 

Printed Name & Date: 8-26-97

Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8/22/97

Analysis Lot Number: VBA06130822

Analysis: **Halogenated & Aromatic Volatile Organics**
Method: **EPA 601(8010)/602(8020)**
Matrix: **Liquid/Solid**

Analysis:	Assurance Notes:	Yes No*		Acceptance Criteria:
		Yes	No*	
A. Calibration:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	r ² Greater than or equal to 0.99
B. Method Blank:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All concentrations are below the Practical Quantitation Limit
C. Continuing Calibration Verification Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery
E. Laboratory Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery
F. Laboratory Control Sample Duplicate:	All criteria met.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	80% - 120% Recovery
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0% - 25% Relative Percent Difference
G. QC Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery

H. Notes: (for VXX2670 soil matrix, see 8/20/97 for analysis and comments on extraction QC)

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

***Out-of-control conditions
require a supervisor's signature.**

Analyst's Signature: Doreen Schumacher

Supervisor's Signature: _____

Printed Name & Date: Doreen Schumacher 8-24-97

Date: _____

Semi-Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 97.4216 (1-4)

Analysis: **Polychlorinated Biphenyls**
Method: **EPA 8081**
Matrix: **Solid**

Analysis Lot Number: SHT07170816
XGC 2871

Extraction Lot Number: XXXX138

Analysis:

Assurance Notes:

Acceptance Criteria:

Yes No N/A

A. Holding Time:

All criteria met. ☐ ☐ ☒

14 days from sample collection for
TCLP extraction.

All criteria met. ☒ ☐

14 days from sample collection (or
7 days from TCLP extraction) for
prep extraction.

All criteria met. ☒ ☐

40 days from extraction for analysis.

B.

Surrogates:

All criteria met. ☒ ☐

10% - 91% Recovery for Tetra or
15% - 125% Recovery for Deca.

C.

Notes:

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature:

Lizhen Zhang

Printed Name & Date Lizhen Zhang

8/16/97

Reviewer's Signature:

Shirley T. ...

Printed Name & Date:

8-21-97

Semi-Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8/18/97

Analysis Lot Number: SHE07170818

Extraction Lot Number: VXX 7138

Analysis: **Polychlorinated Biphenyls**

Method: **EPA 8081**

Matrix: **Solid**

Analysis:

Assurance Notes:

Acceptance Criteria:

Yes No* N/A

- A. Calibration: All criteria met. ☒ ☐ $R^2 > 0.99$
- B. Method Blank: All criteria met. ☐ ☐ $\times < 0.10\text{ppm}$ in solution.
- C. Continuing Calibration Verification Std: All criteria met. ☒ ☐ $< 15\%$ Difference
- D. Laboratory Control Sample: All criteria met. ☐ ☐ \times 50% - 139% Recovery for Aroclor 1242
44% - 116% Recovery for Aroclor 1254
39% - 110% Recovery for Aroclor 1260
- E. Laboratory Control Sample Duplicate: All criteria met. ☐ ☐ \times 50% - 139% Recovery for Aroclor 1242
All criteria met. ☐ ☐ $\times \pm 30\%$ Relative Percent Difference
- F. QC Surrogates: All criteria met. ☒ ☐ 70% - 130% Recovery for one of two surrogates.

G. Notes:

See SIR 07230819 for item B, D, E

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

*Out-of-control conditions
require a supervisor's signature.

Analyst's Signature:

Lizhen Zhang

Supervisor's Signature: _____

Printed Name & Date:

Lizhen Zhang 8/19/97

Date: _____

Semi-Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 97.4216 15-7)

Analysis: **Polychlorinated Biphenyls**
Method: **EPA 8081**
Matrix: **Solid**

Analysis Lot Number: SIR 07230819
XGC 2872

Extraction Lot Number: XXX 3138

Analysis:

Assurance Notes:

Acceptance Criteria:

Yes No N/A

A. Holding Time:

All criteria met. ☐ ☐ ☒

14 days from sample collection for
TCLP extraction.

All criteria met. ☒ ☐

14 days from sample collection (or
7 days from TCLP extraction) for
prep extraction.

All criteria met. ☒ ☐

40 days from extraction for analysis.

B.

Surrogates:

All criteria met. ☒ ☐

10% - 91% Recovery for Tetra or
15% - 125% Recovery for Deca.

C.

Notes:

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature:

Lizhen Zhang

Reviewer's Signature:

[Signature]

Printed Name & Date Lizhen Zhang

8/20/97

Printed Name & Date:

8-21-97

Semi-Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8/19/97

Analysis Lot Number: SIR07230819

Extraction Lot Number: XXX3138

Analysis: **Polychlorinated Biphenyls**

Method: **EPA 8081**

Matrix: **Solid**

Analysis:

Assurance Notes:

Acceptance Criteria:

Yes No*

- A. Calibration: All criteria met. ☒ ☐ $R^2 > 0.99$
- B. Method Blank: All criteria met. ☒ ☐ $\leq 0.10\text{ppm}$ in solution.
- C. Continuing Calibration Verification Std: All criteria met. ☒ ☐ $< 15\%$ Difference
- D. Laboratory Control Sample: All criteria met. ☒ ☐
50% - 139% Recovery for Aroclor 1242
44% - 116% Recovery for Aroclor 1254
39% - 110% Recovery for Aroclor 1260
- E. Laboratory Control Sample Duplicate: All criteria met. ☒ ☐ 50% - 139% Recovery for Aroclor 1242
All criteria met. ☒ ☐ $\pm 30\%$ Relative Percent Difference
- F. QC Surrogates: All criteria met. ☒ ☒ 70% - 130% Recovery for one of two surrogates.

G. Notes:

See comments on PRR xCL 2872.

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

*Out-of-control conditions
require a supervisor's signature.

Analyst's Signature:

Lizhen Zhang

Supervisor's Signature: _____

Printed Name & Date: Lizhen Zhang 8/20/97

Date: _____

CT&E Environmental Services Inc.
Analytical Quality Control Summary Page

Method: AK102

Extraction Batch: 1035XXXF

Run Date: 8/19

Analytical Batch: 1040/1038/1039 XECK

QC Parameter	Criteria Met?		
A. Calibration:	(Y)	N	N/A
B. Instrument/Method Blank:	(Y)	N	N/A
C. Initial/Continuing Calibration Verifications	(Y)	N	N/A
D. Laboratory Control Sample:	(Y)	N	N/A
E. Laboratory Control Sample Duplicate:	(Y)	N	N/A
Relative Percent Difference	(Y)	N	N/A
F. Sample Duplicate	Y	N	(N/A)
G. Matrix Spike	Y	N	(N/A)
H. Matrix Spike Duplicate	Y	N	(N/A)
Relative Percent Difference	Y	N	(N/A)
I. Sample Surrogates:	(Y) *	N	N/A
J. QC Surrogates:	(Y)	N	N/A
K. Sample Holding Time	(Y)	N	N/A

Any parameter that did not meet QA criteria is fully explained below:

* See comments on final reports

Is there any further action necessary for any out of control events described above? Y N

Should a Corrective Action be initiated? Y N

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: Michelle Purpus
Date: 9/6/97

Reviewer's Signature: Mike Calkins
Date: 9/6

*** All out of control events require a supervisor's signature as reviewer. ***

CT&E Environmental Service Inc.
Alaska Division
Quality Control Summary

Below is a summary of the Quality Assurance measures performed in conjunction with the analysis of your samples.

Metals Analysis	Assurance Notes:	Acceptance Criteria:
I. Holding Time:	All criteria met.	6 Months, except 28 days Mercury
II. Analysis:		
A. Calibration:	All criteria met.	Correlation Coefficient ≥ 0.995 ICP: $\pm 5\%$ High Std. readback
B. Method & Calibration Blanks:	All criteria met.	All concentrations are below the Practical Quantitation Limit
D. Calibration Verification Standards:	All criteria met.	90%-110% Recovery except Mercury 80-120%
E. Lab Control:	All criteria met.	All concentrations are within the EPA 95% confidence interval.
F. Sample Duplicate:	All criteria met.	0%-20% Relative Percent Difference
G. Matrix Spike:	All criteria met.	Recovery (75-125%)
H. Matrix Spike Duplicate:	All criteria met.	Recovery (75-125%) RPD $\leq 20\%$
III. Notes:	<hr/> <hr/> <hr/> <hr/> <hr/>	

VI. Certification:

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Reviewer's Signature:

Printed Name & Date:

Date:

Mike Tully
Mike Tully
9/6/97



CT&E Environmental Services Inc.

Laboratory Division

WASTE OIL
WO-SP-03
WO-SP-04

Laboratory Analysis Report

August 29, 1997

Susan Frick
Rockwell Environmental Service
1825 Woodbine
Fairbanks, AK 99709

Client Name	Rockwell Environmental Services
Project ID	3615 Braddock Street [974219]
Printed	August 29, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Environmental Services Inc.

CT&E Ref.# 974219001
 Client Name Rockwell Environmental Services
 Project Name/# 3615 Braddock Street
 Client Sample ID WO-SP-03
 Matrix Soil
 Ordered By
 PWSID

Client PO#
 Printed Date/Time 08/29/97 16:02
 Collected Date/Time 08/14/97 16:10
 Received Date/Time 08/15/97 08:35
 Technical Director: Stephen C. Ede

Released By

[Signature]

Sample Remarks:

8010 - FINAL result (closing CCV meets QC goals)(no change on sample result).
 BTEX-Result may be biased high due to co-elution with nontarget hydrocarbons.
 GRO/BTEX-Surrogate recoveries outside acceptable range due to matrix interference.
 DRO-Heavier hydrocarbons contributing to diesel range quantitation.
 DRO-Sample too dilute to quantify surrogate.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.150	0.0258	mg/Kg	SW846-7131		08/20/97	08/21/97	KGF
Chromium	12.1	2.58	mg/Kg	SW846-7191		08/20/97	08/21/97	KGF
Lead	5.31	2.58	mg/Kg	SW846-7421		08/20/97	08/21/97	KGF
Mercury by Cold Vapor	0.0948 U	0.0948	mg/Kg	SW846-7471		08/20/97	08/20/97	AMF
Silver	0.0515 U	0.0515	mg/Kg	SW846-7761		08/20/97	08/21/97	KGF
^								
Total Solids	92.3		%	SM18 2540G			08/18/97	EWS
Barium	53.9	3.97	mg/Kg	SW846 6010		08/19/97	08/21/97	EMM
Arsenic	3.95	0.258	mg/Kg	SW846-7060		08/20/97	08/21/97	WTA
Selenium	2.58 U	2.58	mg/Kg	SW846-7740		08/20/97	08/21/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	1150	31.2	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Benzene	0.779 U	0.779	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Toluene	0.779 U	0.779	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Ethylbenzene	0.854	0.779	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
P & M -Xylene	7.71	0.779	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
o-Xylene	24.3	0.779	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	7660		%	AK101/8020	(50-150)	08/14/97	08/26/97	



CT&E Ref.# 974219001
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID WO-SP-03
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:02
Collected Date/Time 08/14/97 16:10
Received Date/Time 08/15/97 08:35
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
1,4-Difluorobenzene <Surr>	91.6		%	AK101/8020	(50-150)	08/14/97	08/26/97	
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Methylene chloride	0.538 U	0.538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,2-Dichloroethene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1-Dichloroethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroform	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,1-Trichloroethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Carbon tetrachloride	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloroethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichloroethene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichloropropane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromodichloromethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Tetrachloroethene	0.221	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Dibromochloromethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chlorobenzene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromoform	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2,2-Tetrachloroethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,3-Dichlorobenzene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,4-Dichlorobenzene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,2-Dichlorobenzene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Bromomethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloroethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
2-chloroethylvinyl ether	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Chloromethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
cis-1,3-Dichloropropene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
trans-1,3-Dichloropropene	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
1,1,2-Trichloroethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Trichlorofluoromethane	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS



CT&E Ref.# 974219001
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID WO-SP-03
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:02
Collected Date/Time 08/14/97 16:10
Received Date/Time 08/15/97 08:35
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Vinyl chloride	0.0538 U	0.0538	mg/Kg	SW846-8010A		08/20/97	08/22/97	DRS
Surrogates								
4-Bromofluorobenzene <Surr>	94.1		%	SW846-8010A	(80-120)	08/20/97	08/22/97	
DRO/RRO Combination								
Diesel Range Organics	5830	420	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Residual Range Organics GC	8150	5250	mg/Kg	AK102/103		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	97.2		%	AK102/103	(50-150)	08/15/97	08/28/97	
d-Triacontane <Surr>	1390		%	AK102/103	(50-150)	08/15/97	08/28/97	
PCB's by GC ECD								
Aroclor-1016	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1221	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1232	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1242	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1248	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1254	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1260	0.0339 U	0.0339	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	98.2		%	SW846-8080	(15-125)	08/19/97	08/19/97	
Tetrachloro-m-xylene <Surr>	97.8		%	SW846-8080	(10-91)	08/19/97	08/19/97	



CT&E Ref.# 974219002
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID WO-SP-04
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:02
Collected Date/Time 08/14/97 16:20
Received Date/Time 08/15/97 08:35
Technical Director: Stephen C. Ede

Released By

Sample Remarks:
DRO/RRO-Pattern is consistant with weathered middle distillate fuel.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.0882	0.0246	mg/Kg	SW846-7131		08/20/97	08/21/97	KGF
Chromium	8.82	2.46	mg/Kg	SW846-7191		08/20/97	08/21/97	KGF
Lead	3.00	2.46	mg/Kg	SW846-7421		08/20/97	08/21/97	KGF
Mercury by Cold Vapor	0.0758 U	0.0758	mg/Kg	SW846-7471		08/20/97	08/20/97	AMF
Silver	0.0492 U	0.0492	mg/Kg	SW846-7761		08/20/97	08/21/97	KGF
Total Solids								
Total Solids	97.2		%	SM18 2540G			08/18/97	EWS
Barium	46.1	4.56	mg/Kg	SW846 6010		08/19/97	08/21/97	EMM
Arsenic	2.58	0.246	mg/Kg	SW846-7060		08/20/97	08/21/97	WTA
Selenium	2.46 U	2.46	mg/Kg	SW846-7740		08/20/97	08/21/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	1.71 U	1.71	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Benzene	0.0427 U	0.0427	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Toluene	0.0427 U	0.0427	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Ethylbenzene	0.0427 U	0.0427	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
P & M -Xylene	0.0427 U	0.0427	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
o-Xylene	0.0427 U	0.0427	mg/Kg	AK101/8020		08/14/97	08/26/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	97.1		%	AK101/8020	(50-150)	08/14/97	08/26/97	
1,4-Difluorobenzene <Surr>	93.6		%	AK101/8020	(50-150)	08/14/97	08/26/97	



CT&E Ref.# 974219002
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID WO-SP-04
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:02
Collected Date/Time 08/14/97 16:20
Received Date/Time 08/15/97 08:35
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Methylene chloride	0.505 U	0.505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,2-Dichloroethene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1-Dichloroethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroform	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,1-Trichloroethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Carbon tetrachloride	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloroethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichloroethene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichloropropane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromodichloromethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Tetrachloroethene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Dibromochloromethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chlorobenzene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromoform	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2,2-Tetrachloroethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,3-Dichlorobenzene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,4-Dichlorobenzene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,2-Dichlorobenzene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Bromomethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloroethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
2-chloroethylvinyl ether	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Chloromethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
cis-1,3-Dichloropropene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
trans-1,3-Dichloropropene	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
1,1,2-Trichloroethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Trichlorofluoromethane	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS
Vinyl chloride	0.0505 U	0.0505	mg/Kg	SW846-8010A		08/20/97	08/21/97	DRS



CT&E Ref.# 974219002
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID WO-SP-04
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:02
Collected Date/Time 08/14/97 16:20
Received Date/Time 08/15/97 08:35
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	96.5		%	SW846-8010A	(80-120)	08/20/97	08/21/97	
DRO/RRO Combination								
Diesel Range Organics	16.3	4.01	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Residual Range Organics GC	50.2 U	50.2	mg/Kg	AK102/103		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	58.4		%	AK102/103	(50-150)	08/15/97	08/19/97	
d-Triacontane <Surr>	79.9		%	AK102/103	(50-150)	08/15/97	08/19/97	
PCB's by GC ECD								
Aroclor-1016	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1221	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1232	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1242	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1248	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1254	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Aroclor-1260	0.0336 U	0.0336	mg/Kg	SW846-8080		08/19/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	91.2		%	SW846-8080	(15-125)	08/19/97	08/19/97	
Tetrachloro-m-xylene <Surr>	81.1		%	SW846-8080	(10-91)	08/19/97	08/19/97	

CHAIN OF CUSTODY

20#

Reports 10:

Invoice 10:

Example: meaty services

Sample

Laboratory:

Page of

CT&E Environmental Services Inc.

200 W Potter Dr.

Anchorage, AK 99518-1605

Phone: (907) 562-2343 Fax: (907) 561-5301

Phone: 455-6030 Fax: 455-6030

Contact person for questions concerning these samples:

Susan Fick

Phone: 457-6767

Fax: 455-6050

Special Instructions:

Risk Transfer

DATA I DERIVED

[illegible]

Sample Receipt:		Relinquished By:		Relinquished By:		Relinquished By:	
Number of Containers	Signature	Time	Signature	Time	Signature	Time	Signature
COC Seals/Intact Y/N/NA	Printed Name: SUSAN FRICK	Date: 8/15/12	Printed Name: Joe Deane	Date: 8/15/12	Printed Name:	Date:	Printed Name:
Temperature	Received By:	Time:	Received By:	Time:	Received at Laboratory By:		
Turnaround Required	Signature:	Time: 0835	Signature:	Time:	Time:		
Data Deliverables Required	Printed Name: ERIC W. Smith	Date: 8/15/12	Printed Name:	Date:	Printed Name: MONICA STEINBOCK		
Le: Lev:					Date: 8/13		



CT&E Environmental Services Inc.

Laboratory Division

BURIED HEATING OIL

Laboratory Analysis Report

August 29, 1997

Susan Frick
Rockwell Environmental Service
1825 Woodbine
Fairbanks, AK 99709

Client Name	Rockwell Environmental Services
Project ID	3615 Braddock Street [974222]
Printed	August 29, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Ref.# 974222001
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID HO-01
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 17:36
Collected Date/Time 08/15/97 10:10
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	88.3		%	SM18 2540G			08/18/97	EWS
GRO/8020 Combo								
Gasoline Range Organics	1.10 U	1.10	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Benzene	0.0275 U	0.0275	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Toluene	0.0275 U	0.0275	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Ethylbenzene	0.0275 U	0.0275	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
P & M -Xylene	0.0339	0.0275	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
o-Xylene	0.0275 U	0.0275	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	73.3		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	118		%	AK101/8020	(50-150)	08/15/97	08/19/97	
AK102								
Diesel Range Organics	8.10	4.00	mg/Kg	AK102 DRO		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	67.3		%	AK102 DRO	(50-150)	08/15/97	08/28/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974222002
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID HO-02
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:03
Collected Date/Time 08/15/97 10:20
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	90.4		%	SM18 2540G			08/18/97	EWS
GR0/8020 Combo								
Gasoline Range Organics	1.43	0.792	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Benzene	0.0198 U	0.0198	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Toluene	0.0198 U	0.0198	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Ethylbenzene	0.0840	0.0198	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
P & M -Xylene	0.407	0.0198	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
o-Xylene	0.0582	0.0198	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	78.3		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	114		%	AK101/8020	(50-150)	08/15/97	08/19/97	
AK102								
Diesel Range Organics	9.73	4.87	mg/Kg	AK102 DR0		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	80.8		%	AK102 DR0	(50-150)	08/15/97	08/28/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974222003
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID HO-03
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:03
Collected Date/Time 08/15/97 10:30
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	96.9		%	SM18 2540G			08/18/97	EWS
GRO/8020 Combo								
Gasoline Range Organics	0.904 U	0.904	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Benzene	0.0226 U	0.0226	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Toluene	0.0226 U	0.0226	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Ethylbenzene	0.0226 U	0.0226	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
P & M -Xylene	0.0226 U	0.0226	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
o-Xylene	0.0226 U	0.0226	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	88.9		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	120		%	AK101/8020	(50-150)	08/15/97	08/19/97	
AK102								
Diesel Range Organics	3.75 U	3.75	mg/Kg	AK102 DRO		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	69.6		%	AK102 DRO	(50-150)	08/15/97	08/19/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974222004
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID HO-04
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:03
Collected Date/Time 08/15/97 10:40
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	84.5		%	SM18 2540G			08/18/97	EWS
GR0/8020 Combo								
Gasoline Range Organics	1.82	1.65	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Benzene	0.0412 U	0.0412	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Toluene	0.0412 U	0.0412	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Ethylbenzene	0.0412 U	0.0412	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
P & M -Xylene	0.0412 U	0.0412	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
o-Xylene	0.0412 U	0.0412	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	78.5		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	108		%	AK101/8020	(50-150)	08/15/97	08/19/97	
AK102								
Diesel Range Organics	4.55 U	4.55	mg/Kg	AK102 DRO		08/15/97	08/19/97	MTT
Surrogates								
5a Androstane <surr>	63.6		%	AK102 DRO	(50-150)	08/15/97	08/19/97	



CT&E Ref.# 974222005
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID HO-SP-01
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:03
Collected Date/Time 08/15/97 11:05
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
^								
Total Solids	91.6		%	SM18 2540G			08/18/97	EWS
GRO/8020 Combo								
Gasoline Range Organics	1.38 U	1.38	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Benzene	0.0346 U	0.0346	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Toluene	0.0346 U	0.0346	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Ethylbenzene	0.0346 U	0.0346	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
P & M -Xylene	0.0346 U	0.0346	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
o-Xylene	0.0346 U	0.0346	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	83.8		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	117		%	AK101/8020	(50-150)	08/15/97	08/19/97	
AK102								
Diesel Range Organics	10.8	4.33	mg/Kg	AK102 DRO		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	87.4		%	AK102 DRO	(50-150)	08/15/97	08/28/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974222006
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID HO-SP-02
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:03
Collected Date/Time 08/15/97 11:10
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

DRO-Pattern is consistant with weathered middle distillate fuel.
DRO-Heavier hydrocarbons contributing to diesel range quantitation.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	85.5		%	SM18 2540G			08/18/97	EWS
GRD/8020 Combo								
Gasoline Range Organics	1.43 U	1.43	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Benzene	0.0357 U	0.0357	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Toluene	0.0357 U	0.0357	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Ethylbenzene	0.0357 U	0.0357	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
P & M -Xylene	0.0357 U	0.0357	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
o-Xylene	0.0357 U	0.0357	mg/Kg	AK101/8020		08/15/97	08/19/97	MTT
Surrogates								
4-Bromofluorobenzene <Surr>	81.7		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	119		%	AK101/8020	(50-150)	08/15/97	08/19/97	
AK102								
Diesel Range Organics	56.7	4.24	mg/Kg	AK102 DRO		08/15/97	08/28/97	MTT
Surrogates								
5a Androstane <surr>	105		%	AK102 DRO	(50-150)	08/15/97	08/28/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974222007
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street
Client Sample ID Trip Blank
Matrix Soil
Ordered By
PWSID

Client PO#
Printed Date/Time 08/29/97 16:03
Collected Date/Time
Received Date/Time 08/15/97 13:34
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	100		%	SM18 2540G			08/15/97 MTT	
GRO/8020 Combo								
Gasoline Range Organics	2.04 U	2.04	mg/Kg	AK101/8020		08/15/97	08/19/97 MTT	
Benzene	0.0510 U	0.0510	mg/Kg	AK101/8020		08/15/97	08/19/97 MTT	
Toluene	0.0510 U	0.0510	mg/Kg	AK101/8020		08/15/97	08/19/97 MTT	
Ethylbenzene	0.0510 U	0.0510	mg/Kg	AK101/8020		08/15/97	08/19/97 MTT	
P & M -Xylene	0.0510 U	0.0510	mg/Kg	AK101/8020		08/15/97	08/19/97 MTT	
o-Xylene	0.0510 U	0.0510	mg/Kg	AK101/8020		08/15/97	08/19/97 MTT	
Surrogates								
4-Bromofluorobenzene <Surr>	84.2		%	AK101/8020	(50-150)	08/15/97	08/19/97	
1,4-Difluorobenzene <Surr>	120		%	AK101/8020	(50-150)	08/15/97	08/19/97	



CT&E Environmental Services Inc.
Laboratory Division

PO#:

Reports to:

Rockwell Environmental Services
1835 Woodsdale Road
Fairbanks, AK 99709

Invoice to:

Same

CT&

97.4222

Laboratory:

CT&E Environmental Services Inc.
200 W Potter Dr.
Anchorage, AK 99518-1605
Phone (907) 562-2343 Fax: (907) 561-5301

Page 1 of 1

Phone: 455-6030 Fax: 455-6030

Contact person for questions concerning these samples:

Special Instructions: DATA I DEVE/FAV/LES 1 RUSH 1

Phone: 457-6767 Fax: 455-6030

Project Name/Number

3615 BRADDOCK STREET

Sampled By:

SUSAN FRANK

Lab #	Sample #	Date/Time Sampled	# of Containers	Sample Matrix	Comments
01	H0-01	8/13/97 10:10am	2	Soil	X
02	H0-02	8/13/97 6:30am	2	Soil	X
03	H0-03	8/13/97 10:30am	2	Soil	X
04	H0-04	8/13/97 10:40am	2	Soil	X
05	H0-SP-01	8/13/97 11:05am	2	Soil	X
06	H0-SP-02	8/13/97 11:10am	2	Soil	X
07	TRIP BLANK	—	1	Soil	X

Sample Receipt:

Number of Containers

COC Seals/Intact V/N/A

Temperature

Turnaround Required

Relinquished By:

Signature: [Signature]

Date: 8/13/97

Relinquished By:

Time:

Date:

Relinquished By:

Time:

Date:

Received By:

Signature: [Signature]

Time:

Received at Laboratory By:

Signature: [Signature]

Time:

Date:

Time:

Signature:

Date:

Signature:

Date:

Signature:

Date:

Signature:

Date:



CT&E Environmental Services Inc.

Laboratory Division

South Trench

Laboratory Analysis Report

August 29, 1997

Susan Frick
Rockwell Environmental Service
1825 Woodbine
Fairbanks, AK 99709

Client Name	Rockwell Environmental Services
Project ID	3615 Bradrock St/Osborne [974197]
Printed	August 29, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Ref.# 974197001
Client Name Rockwell Environmental Services
Project Name/# 3615 Bradrock St/Osborne
Client Sample ID TP-01
Matrix Soil
Ordered By
PWSID

Client PO# 9707
Printed Date/Time 08/29/97 10:51
Collected Date/Time 08/08/97 14:45
Received Date/Time 08/08/97 16:25
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

SW846 EPA 7740-Se- Result for Se is suspect due to a failure to meet M.S.A. acceptance criteria.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
RCRA Metals								
Cadmium	0.0654	0.0218	mg/Kg	SW846-7131		08/19/97	08/20/97	KGF
Chromium	9.42	4.36	mg/Kg	SW846-7191		08/19/97	08/20/97	KGF
Lead	4.27	0.436	mg/Kg	SW846-7421		08/19/97	08/20/97	KGF
Mercury by Cold Vapor	0.105 U	0.105	mg/Kg	SW846-7471		08/11/97	08/12/97	AMF
Silver	0.0436 U	0.0436	mg/Kg	SW846-7761		08/19/97	08/20/97	KGF
Total Solids	77.7		%	SM18 2540G			08/14/97	DAV
Barium	57.4	5.99	mg/Kg	SW846 6010		08/12/97	08/13/97	EMM
Arsenic	3.66	2.18	mg/Kg	SW846-7060		08/19/97	08/20/97	WTA
Selenium	2.18 U	2.18	mg/Kg	SW846-7740		08/19/97	08/20/97	WTA
GRO/8020 Combo								
Gasoline Range Organics	3.15	1.20	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Benzene	0.0300 U	0.0300	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Toluene	0.0532	0.0300	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Ethylbenzene	0.0370	0.0300	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
P & M -Xylene	0.146	0.0300	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
o-Xylene	0.0567	0.0300	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	118		%	AK101/8020	(50-150)	08/08/97	08/13/97	
1,4-Difluorobenzene <Surr>	92.4		%	AK101/8020	(50-150)	08/08/97	08/13/97	



CT&E Ref.# 974197001
Client Name Rockwell Environmental Services
Project Name/# 3615 Bradrock St/Osborne
Client Sample ID TP-01
Matrix Soil
Ordered By
PWSID

Client PO# 9707
Printed Date/Time 08/29/97 10:51
Collected Date/Time 08/08/97 14:45
Received Date/Time 08/08/97 16:25
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Halogenated Volatile Organics								
1,1-Dichloroethene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Methylene chloride	0.640 U	0.640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
trans-1,2-Dichloroethene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,1-Dichloroethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Chloroform	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,1,1-Trichloroethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Carbon tetrachloride	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,2-Dichloroethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Trichloroethene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,2-Dichloropropane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Bromodichloromethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Tetrachloroethene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Dibromochloromethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Chlorobenzene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Bromoform	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,1,2,2-Tetrachloroethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,3-Dichlorobenzene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,4-Dichlorobenzene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,2-Dichlorobenzene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Bromomethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Chloroethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
2-chloroethylvinyl ether	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Chloromethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
cis-1,3-Dichloropropene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
trans-1,3-Dichloropropene	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
1,1,2-Trichloroethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Trichlorofluoromethane	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS
Vinyl chloride	0.0640 U	0.0640	mg/Kg	SW846-8010A		08/13/97	08/15/97	DRS



CT&E Ref.# 974197001
Client Name Rockwell Environmental Services
Project Name/# 3615 Bradrock St/Osborne
Client Sample ID TP-01
Matrix Soil
Ordered By
PWSID

Client PO# 9707
Printed Date/Time 08/29/97 10:51
Collected Date/Time 08/08/97 14:45
Received Date/Time 08/08/97 16:25
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
4-Bromofluorobenzene <Surr>	95		%	SW846-8010A	(80-120)	08/13/97	08/15/97	
DRO/RRO Combination								
Diesel Range Organics	5.04 U	5.04	mg/Kg	AK102/103		08/11/97	08/27/97	WAA
Residual Range Organics GC	63.0 U	63.0	mg/Kg	AK102/103		08/11/97	08/27/97	WAA
Surrogates								
5a Androstane <surr>	93.2		%	AK102/103	(50-150)	08/11/97	08/27/97	
d-Triacontane <Surr>	89.3		%	AK102/103	(50-150)	08/11/97	08/27/97	
PCB's by GC ECD								
Aroclor-1016	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1221	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1232	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1242	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1248	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1254	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Aroclor-1260	0.0421 U	0.0421	mg/Kg	SW846-8080		08/18/97	08/19/97	LZ
Surrogates								
Decachlorobiphenyl <Surr>	73		%	SW846-8080	(15-125)	08/18/97	08/19/97	
Tetrachloro-m-xylene <Surr>	78.3		%	SW846-8080	(10-91)	08/18/97	08/19/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974197002
Client Name Rockwell Environmental Services
Project Name/# 3615 Bradrock St/Osborne
Client Sample ID TP-02
Matrix Soil
Ordered By
PWSID

Client PO# 9707
Printed Date/Time 08/29/97 10:51
Collected Date/Time 08/08/97 15:05
Received Date/Time 08/08/97 16:25
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	97.1		%	SM18 2540G			08/14/97	DAV
GRO/8020 Combo								
Gasoline Range Organics	1.66	1.08	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Benzene	0.0269 U	0.0269	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Toluene	0.0269 U	0.0269	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Ethylbenzene	0.0269 U	0.0269	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
P & M -Xylene	0.0269 U	0.0269	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
o-Xylene	0.0269 U	0.0269	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	118		%	AK101/8020	(50-150)	08/08/97	08/13/97	
1,4-Difluorobenzene <Surr>	97.5		%	AK101/8020	(50-150)	08/08/97	08/13/97	
AK102								
Diesel Range Organics	4.00 U	4.00	mg/Kg	AK102 DRO		08/19/97	08/20/97	WAA
Surrogates								
5a Androstane <surr>	96.1		%	AK102 DRO	(50-150)	08/19/97	08/20/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974197003
Client Name Rockwell Environmental Services
Project Name/# 3615 Bradrock St/Osborne
Client Sample ID Trip Blank
Matrix Soil
Ordered By
PWSID

Client PO# 9707
Printed Date/Time 08/29/97 10:51
Collected Date/Time
Received Date/Time 08/08/97 16:25
Technical Director: Stephen C. Ede

Released By

Stephen C Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	96.8		%	SM18 2540G			08/14/97	DAV
GRO/8020 Combo								
Gasoline Range Organics	2.44	2.08	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Benzene	0.0521 U	0.0521	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Toluene	0.0521 U	0.0521	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Ethylbenzene	0.0521 U	0.0521	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
P & M -Xylene	0.0521 U	0.0521	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
o-Xylene	0.0521 U	0.0521	mg/Kg	AK101/8020		08/08/97	08/13/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	118		%	AK101/8020	(50-150)	08/08/97	08/13/97	
1,4-Difluorobenzene <Surr>	86.2		%	AK101/8020	(50-150)	08/08/97	08/13/97	



CT&E Environmental Services Inc.

Laboratory Division

HEATING OIL AST

Laboratory Analysis Report

September 02, 1997

Susan Frick
Rockwell Environmental Service
1825 Woodbine
Fairbanks, AK 99709

Client Name	Rockwell Environmental Services
Project ID	3615 Braddock Street/AST [974669]
Printed	September 02, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Environmental Services Inc.

CT&E Ref.# 974669002
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street/AST
Client Sample ID ASTTP-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 16:19
Collected Date/Time 08/22/97 15:15
Received Date/Time 08/22/97 17:10
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
^								
Total Solids	87.8		%	SM18 2540G			08/27/97	DAV
GRO/8020 Combo								
GRO/8020 Combo								
Gasoline Range Organics	2.01 U	2.01	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Benzene	0.0501 U	0.0501	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Toluene	0.0501 U	0.0501	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Ethylbenzene	0.0501 U	0.0501	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
P & M -Xylene	0.0501 U	0.0501	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
o-Xylene	0.0501 U	0.0501	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	93		%	AK101/8020	(50-150)	08/27/97	08/28/97	
1,4-Difluorobenzene <Surr>	81.2		%	AK101/8020	(50-150)	08/27/97	08/28/97	
AK102								
AK102								
Diesel Range Organics	4.55 U	4.55	mg/Kg	AK102 DRO		08/28/97	08/30/97	WAA
Surrogates								
5a Androstane <surr>	74.7		%	AK102 DRO	(50-150)	08/28/97	08/30/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974669003
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street/AST
Client Sample ID ASTTP-03
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 16:19
Collected Date/Time 08/22/97 15:20
Received Date/Time 08/22/97 17:10
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

GRO/BTEX - High recovery on surrogate 4-Bromofluorobenzene due to matrix interference/sample dilution. Total xylene > 10ppm..

DRO - Pattern consistent with weathered middle distillate.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	86.2		%	SM18 2540G			08/27/97	DAV
GRO/8020 Combo								
GRO/8020 Combo								
Gasoline Range Organics	423	9.66	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Benzene	0.242 U	0.242	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Toluene	0.983	0.242	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Ethylbenzene	4.28	0.242	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
P & M -Xylene	19.1	0.242	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
o-Xylene	11.0	0.242	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	5340		%	AK101/8020	(50-150)	08/27/97	08/28/97	
1,4-Difluorobenzene <Surr>	93.7		%	AK101/8020	(50-150)	08/27/97	08/28/97	
AK102								
AK102								
Diesel Range Organics	8410	92.5	mg/Kg	AK102 DRO		08/28/97	08/30/97	WAA
Surrogates								
5a Androstane <surr>	143		%	AK102 DRO	(50-150)	08/28/97	08/30/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974669004
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street/AST
Client Sample ID Trip Blank
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 16:19
Collected Date/Time
Received Date/Time 08/22/97 17:10
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Total Solids	100		%	SM18 2540G			08/28/97	DAV
GRO/8020 Combo								
GRO/8020 Combo								
Gasoline Range Organics	2.00 U	2.00	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Benzene	0.0500 U	0.0500	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Toluene	0.0500 U	0.0500	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Ethylbenzene	0.0500 U	0.0500	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
P & M -Xylene	0.0500 U	0.0500	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
o-Xylene	0.0500 U	0.0500	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	105		%	AK101/8020	(50-150)	08/27/97	08/28/97	
1,4-Difluorobenzene <Surr>	85.3		%	AK101/8020	(50-150)	08/27/97	08/28/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974669005
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street/AST
Client Sample ID ASTTP-04
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 16:19
Collected Date/Time 08/22/97 15:25
Received Date/Time 08/22/97 17:10
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

GRO/BTEX - High recovery on surrogate 4-Bromofluorobenzene due to matrix interference and/or sample dilution. Total xylen > 10ppm.

DRO - Surrogate recovery outside controls due to dilution.

DRO - Pattern consistent with weathered middle distillate.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
^								
Total Solids	88.0		%	SM18 2540G			08/27/97	DAV
GRO/8020 Combo								
GRO/8020 Combo								
Gasoline Range Organics	593	18.3	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Benzene	0.458 U	0.458	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Toluene	0.930	0.458	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Ethylbenzene	6.25	0.458	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
P & M -Xylene	21.9	0.458	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
o-Xylene	11.9	0.458	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	9510		%	AK101/8020	(50-150)	08/27/97	08/28/97	
1,4-Difluorobenzene <Surr>	88.5		%	AK101/8020	(50-150)	08/27/97	08/28/97	
AK102								
AK102								
Diesel Range Organics	11400	90.7	mg/Kg	AK102 DRO		08/28/97	08/30/97	WAA
Surrogates								
5a Androstane <surr>	233		%	AK102 DRO	(50-150)	08/28/97	08/30/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974669006
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street/AST
Client Sample ID AST-SP-01
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 16:19
Collected Date/Time 08/22/97 16:30
Received Date/Time 08/22/97 17:10
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

GRO/BTEX - High recovery on surrogate 4-Bromofluorobenzene due to matrix interference.
DRO - Pattern consistent with weathered middle distillate.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
^								
Total Solids	93.1		%	SM18 2540G			08/27/97	DAV
GRO/8020 Combo								
GRO/8020 Combo								
Gasoline Range Organics	10.2	1.00	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Benzene	0.0250 U	0.0250	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Toluene	0.0250 U	0.0250	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Ethylbenzene	0.0250 U	0.0250	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
P & M -Xylene	0.0876	0.0250	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
o-Xylene	0.0721	0.0250	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	211		%	AK101/8020	(50-150)	08/27/97	08/28/97	
1,4-Difluorobenzene <Surr>	86.1		%	AK101/8020	(50-150)	08/27/97	08/28/97	
AK102								
AK102								
Diesel Range Organics	818	4.29	mg/Kg	AK102 DRO		08/28/97	08/30/97	WAA
Surrogates								
5a Androstane <surr>	123		%	AK102 DRO	(50-150)	08/28/97	08/30/97	



CT&E Environmental Services Inc.

CT&E Ref.# 974669007
Client Name Rockwell Environmental Services
Project Name/# 3615 Braddock Street/AST
Client Sample ID AST-SP-02
Matrix Soil
Ordered By
PWSID

Client PO# 9709
Printed Date/Time 09/02/97 16:19
Collected Date/Time 08/22/97 16:40
Received Date/Time 08/22/97 17:10
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

DRO - Pattern consistent with weathered middle distillate.

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
^								
Total Solids	92.9		%	SM18 2540G			08/27/97	DAV
GRO/8020 Combo								
GRO/8020 Combo								
Gasoline Range Organics	1.65	1.13	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Benzene	0.0283 U	0.0283	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Toluene	0.0283 U	0.0283	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Ethylbenzene	0.0283 U	0.0283	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
P & M -Xylene	0.0283 U	0.0283	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
o-Xylene	0.0283 U	0.0283	mg/Kg	AK101/8020		08/27/97	08/28/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	118		%	AK101/8020	(50-150)	08/27/97	08/28/97	
1,4-Difluorobenzene <Surr>	85.7		%	AK101/8020	(50-150)	08/27/97	08/28/97	
AK102								
AK102								
Diesel Range Organics	335	4.30	mg/Kg	AK102 DRO		08/28/97	08/30/97	WAA
Surrogates								
5a Androstane <surr>	91.7		%	AK102 DRO	(50-150)	08/28/97	08/30/97	



CT&E Environmental Services Inc.

Laboratory Division



97.4669

PO#:

9709

C

Reports to:

Rockwell Environmental Services

1825 Woodbine Road

FAIRBANKS, ALASKA 99709

Phone: 455-6030 Fax: 455-6030

Contact person for questions concerning these samples:

Susan Fluck

See Sample Receipt below Do not analyze ASTP-0 until notified.

Phone: 457-6767 Fax: 455-6030

Invoice to:

Same

Laboratory:

CT&E Environmental Services Inc.

200 W Potter Dr.

Anchorage, AK 99518-1605

Phone (907) 562-2343 Fax: (907) 561-5301

Page 1 of 1

CHAIN OF CUSTODY

Project Name/Number 3615 BRADBOK STREET / AST				Sampled By: SUSAN FLUCK			
Lab #	Sample #	Date/Time Sampled	# of Containers	Sample Matrix	Comments		
1	ASTP-01	8/23/97	2	Soil			
2	ASTP-02	8/23/97	2	Soil	AK102 PRO AK101 TGM STEK	HOLD POTENTIAL ANALYSIS	
3	ASTP-03	8/23/97	2	Soil			
4	TRIP Blank	—	1	Soil			
5	ASTP-04	8/23/97	2	Soil			
6	AST-SP-01	8/23/97	2	Soil	RUSPH		
7	AST-SP-02	8/23/97	2	Soil			

Sample Receipt:		Relinquished By:		Relinquished By:		Relinquished By:	
Number of Containers	Signature	Time	Signature	Time	Signature	Time	Signature
COC Seals/Intact Y/N/A	Printed Name	Date	Printed Name	Date	Printed Name	Date	Printed Name
Temperature	Received By:	Time	Received By:	Time	Received at Laboratory By:	Time	Received at Laboratory By:
Turnaround Required	Signature	Date	Signature	Date	Signature	Date	Signature
Data Deliverables Required	Printed Name	Date	Printed Name	Date	Printed Name	Date	Printed Name



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
8005 SCHOON STREET

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518

(907) 456-3116 • FAX 456-3125
(907) 349-1000 • FAX 349-1016

DRINKING WATER ANALYSIS REPORT FOR TOTAL COLIFORM BACTERIA

Rockwell Environmental Services
1825 Woodbine Road

Fairbanks AK 99709

Date Received: 8/22/97 Time Received: 09:40

Date Analyzed: 8/22/97 Time Analyzed: 15:10

Date Reported: 8/25/97 Time Reported: 09:57

Next Sample Due:

Phone Number: ()455-6030

Fax Number: ()455-6030

Collected by:

Sample Type Private water Systems

Method of Analysis: MMO-MUG (Colilert)

Comments:

Comments

S = Satisfactory
U = Unsatisfactory
POS = Positive Test Result
ND = None Detected
TNTC = Too Numerous To Count (>200 Colonies)
CG = Confluent Growth
HSM = Heavy Sediment Masking, Results May Not Be Reliable
SA = Sample Age >30 Hours But <48 Hours, Results May Not Be Reliable
Old = Sample Age >48 Hours, Too Old For Analysis
R = Resample Required
NT = No Test

Sample		Total*	E. Coli	Other*	HPC**	* # Colonies/100 ml		** # Colonies/ml	Comments
Date	Time	Coliform		Bacteria	Result	Lab#	Location		
8/22/97	09:05	ND	ND	NT	NT	AJ9664	B3615-01		Satisfactory

Marian Ruth

Environmental Analyst

8/25/97

Northern Testing Laboratories, Inc

Fairbanks, AK



NORTHERN TESTING LABORATORIES, INC.

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FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518

(907) 456-3116 • FAX 456-3125
(907) 349-1000 • FAX 349-1016

Rockwell Environmental Services
1825 Woodbine Road
Fairbanks AK 99708

Attn: Mark Rockwell

Report Date: 08/29/97

Date Arrived: 08/22/97

Date Sampled: 08/22/97

Time Sampled: 0905

Collected By: S Frick

MDL = Method Detection
Limit

Our Lab #: F173082
Location/Project: -
Your Sample ID: B3615-01
Sample Matrix: Water
Comments:

* Flag Definitions
B = Below Regulatory Min.
H = Above Regulatory Max.

Lab#	Method	Parameter	Units	Results *	Date MDL Prepared	Date Analyzed
F173082	EPA 150.1	pH	Unit	7.2		08/22/97
	EPA 200.9	Arsenic, Total	mg/L	0.004	0.003 08/24/97	08/28/97
		Lead, Total	mg/L	<MDL	0.002 08/24/97	08/26/97
	SM2320-B	Alkalinity as CaCO3	mg/L	139	1	08/25/97
	SM2540-F	Settleable Solids	mL/L	<MDL	0.1	08/22/97

Marci L. Irwin
Reported By: Marci L. Irwin
Chemist



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(907) 349-1000 • FAX 349-1016

Rockwell Environmental Services
1825 Woodbine Road
Fairbanks, AK 99708

Attn: Mary Rockwell

Our Lab #: A151505
Location/Project:
Your Sample ID: B361S-01
Sample Matrix: Water
Comments: (F173082)

Report Date: 08/29/97
Date Arrived: 08/25/97
Date Sampled: 08/22/97
Time Sampled: 0905
Collected By: S.F.

** Definitions **

B = Present in Blank
H = Above Regulatory Max
E = Estimated Value
M = Matrix Interference
D = Lost to Dilution
MDL = Method Detection Limit

Lab Number	Method	Parameter	Units	Result *	MDL	Date Prepared	Date Analyzed
A151505	EPA 8260	Bromodichloromethane	ug/L	<MDL	0.20		08/27/97
		Bromoform	ug/L	<MDL	0.50		
		Bromomethane	ug/L	<MDL	0.50		
		Carbon Tetrachloride	ug/L	<MDL	0.20		
		Chlorobenzene	ug/L	<MDL	0.20		
		Chloroethane	ug/L	<MDL	0.50		
		2-Chloroethylvinylether	ug/L	<MDL	0.50		
		Chloroform	ug/L	<MDL	0.20		
		Chloromethane	ug/L	<MDL	0.50		
		Dibromochloromethane	ug/L	<MDL	0.20		
		1,2-Dichlorobenzene	ug/L	<MDL	0.20		
		1,3-Dichlorobenzene	ug/L	<MDL	0.20		
		1,4-Dichlorobenzene	ug/L	<MDL	0.20		
		Dichlorodifluoromethane	ug/L	<MDL	0.50		
		1,1-Dichloroethane	ug/L	<MDL	0.20		
		1,2-Dichloroethane	ug/L	<MDL	0.20		
		1,1-Dichloroethylene	ug/L	<MDL	0.20		
		trans-1,2-Dichloroethylene	ug/L	<MDL	0.20		
		1,2-Dichloropropane	ug/L	<MDL	0.20		
		cis-1,3-Dichloropropene	ug/L	<MDL	0.20		
		trans-1,3-Dichloropropene	ug/L	<MDL	0.20		
		Methylene Chloride	ug/L	<MDL	0.50		
		1,1,2,2-Tetrachloroethane	ug/L	<MDL	0.20		
		Tetrachloroethylene	ug/L	<MDL	0.20		
		1,1,1-Trichloroethane	ug/L	<MDL	0.20		
		1,1,2-Trichloroethane	ug/L	<MDL	0.20		
		Trichloroethylene	ug/L	<MDL	0.20		
		Fluorotrichloromethane	ug/L	<MDL	0.50		
		Vinyl Chloride	ug/L	<MDL	0.50		
		cis-1,2-Dichloroethylene	ug/L	<MDL	0.20		
		Surrogate Spike (Recovery)	%	101			

Reported By: Daniel J. Bacon
Operations Manager




NORTHERN TESTING LABORATORIES, INC.

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8005 SCHOON STREET

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518

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(907) 349-1000 • FAX 349-1016

Lab Number	Method	Parameter	Units	Result *	MDL	Date Prepared	Date Analyzed
A151505	EPA 8260	Benzene	ug/L	<MDL	0.20		08/27/97
		Chlorobenzene	ug/L	<MDL	0.20		
		1,2-Dichlorobenzene	ug/L	<MDL	0.20		
		1,3-Dichlorobenzene	ug/L	<MDL	0.20		
		1,4-Dichlorobenzene	ug/L	<MDL	0.20		
		Ethylbenzene	ug/L	<MDL	0.20		
		Toluene	ug/L	<MDL	0.30		
		Xylenes	ug/L	<MDL	0.40		
		Surrogate Recovery	%	101			


Reported By: Daniel J. Bacon
Operations Manager



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
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ANCHORAGE, ALASKA 99518

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(907) 349-1000 • FAX 349-1016

Rockwell Environmental Services
1825 Woodbine Road
Fairbanks, AK 99708

Attn: Mary Rockwell

Our Lab #: A151506
Location/Project:
Your Sample ID: Travel Blank
Sample Matrix: Water
Comments:

Report Date: 08/29/97
Date Arrived: 08/25/97
Date Sampled: 08/22/97
Time Sampled:
Collected By:

**** Definitions ****

B = Present in Blank
H = Above Regulatory Max
E = Estimated Value
M = Matrix Interference
D = Lost to Dilution
MDL = Method Detection Limit

Lab Number	Method	Parameter	Units	Result *	MDL	Date Prepared	Date Analyzed
A151506	EPA 8260	Bromodichloromethane	ug/L	<MDL	0.20		08/27/97
		Bromoform	ug/L	<MDL	0.50		
		Bromomethane	ug/L	<MDL	0.50		
		Carbon Tetrachloride	ug/L	<MDL	0.20		
		Chlorobenzene	ug/L	<MDL	0.20		
		Chloroethane	ug/L	<MDL	0.50		
		2-Chloroethylvinylether	ug/L	<MDL	0.50		
		Chloroform	ug/L	<MDL	0.20		
		Chloromethane	ug/L	<MDL	0.50		
		Dibromochloromethane	ug/L	<MDL	0.20		
		1,2-Dichlorobenzene	ug/L	<MDL	0.20		
		1,3-Dichlorobenzene	ug/L	<MDL	0.20		
		1,4-Dichlorobenzene	ug/L	<MDL	0.20		
		Dichlorodifluoromethane	ug/L	<MDL	0.50		
		1,1-Dichloroethane	ug/L	<MDL	0.20		
		1,2-Dichloroethane	ug/L	<MDL	0.20		
		1,1-Dichloroethylene	ug/L	<MDL	0.20		
		trans-1,2-Dichloroethylene	ug/L	<MDL	0.20		
		1,2-Dichloropropane	ug/L	<MDL	0.20		
		cis-1,3-Dichloropropene	ug/L	<MDL	0.20		
		trans-1,3-Dichloropropene	ug/L	<MDL	0.20		
		Methylene Chloride	ug/L	<MDL	0.50		
		1,1,2,2-Tetrachloroethane	ug/L	<MDL	0.20		
		Tetrachloroethylene	ug/L	<MDL	0.20		
		1,1,1-Trichloroethane	ug/L	<MDL	0.20		
		1,1,2-Trichloroethane	ug/L	<MDL	0.20		
		Trichloroethylene	ug/L	<MDL	0.20		
		Fluorotrichloromethane	ug/L	<MDL	0.50		
		Vinyl Chloride	ug/L	<MDL	0.50		
		cis-1,2-Dichloroethylene	ug/L	<MDL	0.20		
		Surrogate Spike (Recovery)	%	103			

Reported By: Daniel J. Bacon
Operations Manager



NORTHERN TESTING LABORATORIES, INC.

3330 INDUSTRIAL AVENUE
8005 SCHOON STREET

FAIRBANKS, ALASKA 99701
ANCHORAGE, ALASKA 99518

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(907) 349-1000 • FAX 349-1016

Lab Number	Method	Parameter	Units	Result *	MDL	Date Prepared	Date Analyzed
A151506	EPA 8260	Benzene	ug/L	<MDL	0.20		08/27/97
		Chlorobenzene	ug/L	<MDL	0.20		
		1,2-Dichlorobenzene	ug/L	<MDL	0.20		
		1,3-Dichlorobenzene	ug/L	<MDL	0.20		
		1,4-Dichlorobenzene	ug/L	<MDL	0.20		
		Ethylbenzene	ug/L	<MDL	0.20		
		Toluene	ug/L	<MDL	0.30		
		Xylenes	ug/L	<MDL	0.40		
		Surrogate Recovery	%	103			

Reported By: Daniel J. Bacon
Operations Manager

APPENDIX D

ADEC MATRIX SCORE SHEET

FOR: 3615 BRADDOCK STREET FAIRBANKS ALASKA 99701

TABLE E - MATRIX SCORE SHEET

Part A: Determine score for each item*

1.	Depth to Groundwater Less than 5 feet 5 - 15 feet 16 - 25 feet 26 - 50 More than 50 feet	(10) (8) (6) (4) (1)	8
2.	Mean Annual Precipitation More than 40 inches 26 - 40 inches 16 - 25 Less than 15 inches	(10) (5) (3) (1)	1
3.	Soil Type (Unified Soil Classification) Clean, coarse-grained soils Coarse-grained soils with fines Fine-grained soils (low organic carbon) Fine-grained soils (high organic carbon)	(10) (8) (3) (1)	8
4.	Potential Receptors (Select the most applicable category) a. Public water system within 1000 feet, or private water system within 500 feet b. Public/private water system within 1/2 mile c. Public/private water system within one mile d. No water system within one mile e. Nonpotable groundwater	(15) (12) (8) (4) (1)	15
5.	Volume of Contaminated Soil More than 500 cubic yards 101 - 500 cubic yards 26 - 100 cubic yards 10 - 25 cubic yards Less than 10 cubic yards	(10) (8) (5) (2) (0)	5

*The items to be scored are defined at 18 AAC 78.315(b).

TOTAL: 37

Part B: Add scores from Part A to determine matrix score and cleanup level

Matrix Score for Each Category	Cleanup Level in mg/kg				
	Gasoline Range Organics	Diesel Range Organics	Residual Range Organics	Benzene	Total BTEX
Category A: More than 40	50	100	2000	0.1	10
Category B: 27-40	100	200	2000	0.5	15
Category C: 21-26	500	1000	2000	0.5	50
Category D: Less than 21	1000	2000	2000	0.5	100

APPENDIX E

ADEC NOTICE OF CLOSURE FORMS



NOTIFICATION OF CLOSURE UNDERGROUND STORAGE TANKS



Notice of Closure is required for any tank and/or piping removed, closed in-ground, or changed in service.
See 18 AAC 78.085 (a). "Change in service" means to change the use of a UST from containing a regulated substance to a non-regulated substance (such as heating oil).

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

Name FORMER GENERAL PARTS & SERVICE
Address 3615 BRADDOCK STREET
City FAIRBANKS
State/Zip ALASKA 99707
Phone/Fax DISCONNECTED

Name DAN MARTINDALE
Address 2200 SPAR AVENUE
City ANCHORAGE
State/Zip ALASKA 99501
Phone/Fax 907-276-2020

Facility ID Number:

Scheduled Date for Closure:

8/12/97

This form **MUST** be completed and sent to ADEC at the address listed below 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 by the State of Alaska for Decommissioning.

A UST with a confirmed release must be permanently removed from the ground. In-place closure or change in service is not allowed.

A Site Assessment or Release Investigation in accordance with 18 AAC 78.090 must be performed at time of closure by an impartial third party using "Qualified" persons under a Standard Sampling Procedures Manual (SSPM).

Person to Perform Closure MARK ROCKWELLUST Worker License # 253

Person and Company to Perform Site Assessment or Release Investigation:

SUSAN FLICK
MARK ROCKWELL
ROCKWELL ENVIRONMENTAL
SERVICES

Is the Person "Qualified" and on file with ADEC? YES

Method of Closure: Removal X
In-ground _____ (If so, See Discussion on Reverse Side)
Change in Service _____ (If so, what is new fuel usage? _____)

Is there a leak/spill at this site? YES (if so, please notify the closest ADEC office)Have you contacted the local fire department of your intent to close the tank(s)? NOWhere are the tank, piping, equipment, and sludge to be disposed? WASTE OIL ONLY TO BE BURNED IN HEATER.Closure for (please check): ☒ Tanks and Piping ☐ Tanks only ☐ Piping only

Tank Number	Tank Age	Tank Size	Last Product Stored	Date Last Used
<u>NONE</u>	<u>~ 7 YRS</u>	<u>500 GALLON</u>	<u>WASTE OIL</u>	

Closure Notice Submitted By:

☒ Owner ☐ Operator ☐ OtherDANIEL L. MARTINDALEPRES

(Please print name)

(Title)

(Signature)

(Date)

8/28/97

Return Completed Form to: ADEC, Storage Tank Program
555 Cordova Street
Anchorage, AK 99501
FAX # (907) 269-7507

**NOTIFICATION OF POST-CLOSURE
UNDERGROUND STORAGE TANKS**

Post-Closure information is required 30 days after UST closure or change in service. See 18 AAC 78.005 (d).
The Owner/Operator or his/her representative must fill out and sign Page 1.
The Certified worker who performed or supervised the closure must fill out and sign Page 2.

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

Name FORMER GENERAL PARTS & SERVICE
Address 3615 BRADDOCK STREET
City FAIRBANKS
State/Zip ALASKA
Phone/Fax DISCONNECTED

Name NAN MARTINDALE
Address 2200 SPAR AVENUE
City ANCHORAGE
City/State ALASKA
Phone/Fax (907)

Facility ID # _____

TANKS REMOVED OR CLOSED IN-GROUND

Tank#	Tank Size	Removed or Closed In-ground	Last Product Stored	Contamination Found?
<u>NONE</u>	<u>500 GAL</u>	<u>REMOVED</u>	<u>WASTE OIL</u>	<u>YES</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

CLOSURE:

Performed By: (Person) MARK ROCKWELL (Company) ROCKWELL ENVIRONMENTAL SERVICES (UST License #) 253

Date Completed: 8/14/97

PERSON WHO PERFORMED/SUPERVISED CLOSURE MUST FILL OUT BACK PAGE

SITE ASSESSMENT/RELEASE INVESTIGATION:

Performed by:
(Person) SUSAN FRICK (Company) ROCKWELL ENVIRONMENTAL SERVICES

SITE ASSESSMENT REPORT MUST BE SUBMITTED TO LOCAL ADEC OFFICE WITHIN 60 DAYS
AFTER CLOSURE. RELEASE INVESTIGATION REPORT MUST BE SUBMITTED TO ADEC
WITHIN 45 DAYS AFTER CLOSURE.

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.

Submitted by: ☒ Owner ☐ Operator ☐ Other _____

(Please Print Name)

DANIEL MARTINDALE

(Title)

PRC

(Signature)

(Date) 9/11/97

Return Completed Form to: ADEC, Storage Tank Program
555 Cordova Street
Anchorage, AK 99501
FAX # (907) 269-7507

Certified persons who perform or supervise UST closure must complete and sign this checklist.
(18 AAC.78.455 (a)(8))

Tank Removal

- ☒ Notified ADEC Office 15 - 60 days prior to beginning permanent closure. (Notified Verbally)
 ≈ 2 days prior.
- ☒ Notified applicable local government and fire department.
- ☒ Emptied and clean tank by removing liquids and accumulated sludges.
- ☒ Purged or inert the tank of flammable vapors.
- ☒ Removed piping and plug or cap all accessible holes except vent line.
- ☒ Removed and dispose of tank(s) properly.
- ☒ Submitted Post Closure Notice to ADEC within 30 days after completion of Closure.

In-ground Closure/Change in Service

- ☐ Notified ADEC Office 15 - 60 days prior to beginning permanent closure.
- ☐ Notified applicable local government and fire department.
- ☐ Emptied and clean tank by removing liquids and accumulated sludges.
- ☐ Removed piping and plug or cap all accessible holes except for vent line.
- ☐ Purged the tank of flammable vapors.
- ☐ Filled the tank as full as possible with sand or other inert material.
- ☐ Removed and cap the vent line.
- ☐ Submitted Post Closure Notice to ADEC within 30 days after completion of Closure.

Must be performed or supervised by a person certified in UST Decommissioning in Alaska.

Person who performed or supervised UST work:

MARK ROCKWELL PRINCIPAL INVESTIGATOR 253
 (Please Print Name) (Title) (UST Worker License #)
 Mark P. Rockwell 9/14/97
 (Signature) (Date)

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 at 1-800-478-4974.