100.38.033

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

SEATTLE
FAIRBANKS
ANCHORAGE
SAINT LOUIS

November 26, 1993

State of Alaska DEC
Contaminated Sites Remediation Program
410 Willoughby Ave., Suite 105
Juneau, Alaska 99801-1795

Attn: Mary Siroky

RE: SUMMARY REPORT AND ALASKA HAZARD RANKING MODEL SCORING, HENSON SUBDIVISION, FAIRBANKS, ALASKA

This letter presents the final Alaska Hazard Ranking Model (AHRM) score for the Henson Subdivision site in Fairbanks, Alaska. The score was developed based on existing information obtained from Alaska Department of Environmental Conservation (ADEC) files, and from a limited site investigation program conducted by Shannon & Wilson, and calculated using the revised AHRM version dated May 2, 1993. This work was performed under NTP 910076013A of the Term Agreement for Preliminary Assessments between ADEC and Shannon & Wilson, Inc. dated June 25, 1993. This letter presents the work performed in two general sections, one describing the field investigation conducted at the site, and a second describing the site ranking methodology and results.

Site Description

The Henson Subdivision site is located at the southwest corner of Dennis and Holmes Roads in the Badger Road area of Fairbanks, Alaska (Figure 1). It consists of three lots, designated 1A, 1B, and 1C (Figure 2). Several businesses have operated on the site over the past two decades, most recently Kiser Laundry, which ceased operation in 1988. The site occupies slightly over 4 acres of generally level ground with an intermittent slough crossing the southern portion of the site. The slough was partially full at the times of site visits made by Shannon & Wilson on August 9, October 6, and October 27, 1993. Four structures are located on the property including two large metal shop buildings, the former laundromat building, and one other frame building. The two apartment buildings referenced in Shannon & Wilson's Work Plans For Limited Site Investigation, Henson Subdivision (September 1993) had been razed by the time of our field sampling activities. Of the remaining buildings, only the eastern shop building appeared occupied. At the time of our first site visit, several refrigerated trailer vehicles were parked south of the building as well as to the east.

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The site has been the subject of several visits by ADEC in support of various investigations. The initial site visit (in 1987) investigated overflow problems with the laundry's septic system. Subsequent visits to the site were made in 1988 and 1991 by ADEC to investigate the presence of approximately 35 drums, of what appeared to be used waste oil, and other solid waste (including batteries). The drums were removed by the property owner some time prior to September 1991. The site's listing on the Contaminated Sites Database was based on the presence of the drums and solid waste.

The solid waste observed during the 1991 visit may have been unearthed during a road drainage project performed at that time along Dennis and Holmes Roads. During the site visit by Shannon & Wilson, only a small amount of metal scrap was observed spread about the site, not the large piles of soil and debris documented by photographs in ADEC files. No batteries were observed; one open-top drum was present, and four separate stained areas were identified. Documents in ADEC files indicate that the majority of debris formerly located at the site has been disposed of at the borough landfill.

Scope of Work

To collect enough data to adequately score the site using the AHRM, the following work was recommended by Shannon & Wilson in a Work Plan dated September 1993.

- Perform an aerial photo review to substantiate observations of past activities and to assist in determining the former locations of the drum areas.

- Collect six near-surface (0 to 6 inches) soil samples at locations of stained areas and in the former drum location(s) for analysis for Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1, volatile organic compounds (VOCs) by Method 8240, and total lead by Method 7421. One duplicate sample was also to be collected.

- Install one groundwater monitoring well and collect one groundwater sample and duplicate for analysis for VOCs by Method 502.2.

- Determine the location of the existing water supply well on site and collect one groundwater sample for analysis for VOCs by Method 502.2.

Results of Field Investigation

The results of the aerial photograph review were inconclusive with respect to its primary objective, identifying specific areas of concern for the purpose of soil sampling. In subsequent telephone discussions with Vanessa Blevins of ADEC, the location of the drums was established as being on and adjacent to a concrete pad, south of the eastern shop building (Figure 2). The near-surface samples were collected on October 6, prior to the presence of a permanent snow cover, by Chris Darrah, a geologist with our firm.

The near-surface sampling activities were focused on the area south of the eastern shop building, with one additional sample collected from an obviously stained area on the west side of the same building, and the last sample collected to the west of the northwest corner of the laundry building at the location of the soil boring and monitoring well. Figure 2 depicts the sampling locations. Table 1 presents the results of analyses of the near-surface soil samples.

Table 1 Near-Surface Soil Analytical Results

Sample Designation	Depth (in feet)	Headspace Reading (ppm)	TPH 418.1 (mg/Kg)	VOC's 8240 (mg/Kg)	Total Lead (mg/Kg)
S584-SS01	0-0.5	550	690	ND	32
584-SS02	0-0.3	740	462	ND	63
584-SS03	0-0.3	535	223	ND	22
584-SS04	0-0.6	135	23,300	ND	110
584-SS05	0-0.5	370	1,810	ND	7.8
584-SS06	0-0.5	10	238	ND	19
584-SS07	0-0.6	(Dup. of SSO4)	15,500	ND	120

The primary area of interest with respect to the drum area and area of affected soil, as identified by ADEC, was between the east shop building and the slough. Samples SS01, SS02, SS03, and SS05 were all collected in this area. No VOCs were detected above their method detection limits (MDLs) in these samples. TPH results from nonvisually stained areas were moderately elevated (223 to 690 ppm), with one location as high as 1,810 ppm. Lead results were also

varied. Based on other work performed by Shannon & Wilson in the Fairbanks area, background lead levels may be expected to range from 10 to 20 ppm. Of the samples collected from the drum area, two (SS01 and SS02) were reported to have lead concentrations above that background range.

Sample SS07 was collected as a duplicate of SS04 from an area of obviously stained ground. The soil at that location was saturated with an oily substance. TPH results of 23,300 and 15,500 ppm from SS04 and SS07, respectively, were not unexpected based on the oily nature of the soils observed during sampling. This was the only visually obvious stained area from which samples were collected at this site. As proposed in the project Work Plans, stained areas would be characterized by the collection of samples from only one of those areas. Lead levels of 110 and 120 ppm, respectively, in those samples may be related to waste oil. However, if one assumes that waste oil would normally contain levels of metals that meet the USEPA specifications for burning of waste oil, then the samples in question contain excessive levels of lead based on their concentration of TPH.

Sample SS06 was collected approximately 30 feet west of the northwest corner of the laundry building. The soil boring was also installed at this location for the purpose of collecting a groundwater sample in an area downgradient of the reported drum storage area. Results of analyses of this near-surface soil sample showed low levels of TPH and probable background levels of lead. All of the near-surface soil samples were subject to headspace screening, wherein a representative sample of soil was placed in a plastic bag and allowed to warm to room temperature. The samples were then shaken vigorously for 10 to 15 seconds, the tip of a photoionization detector (PID) was inserted into the bag, and the maximum instrument reading was recorded. Headspace screening results give a qualitative indication of the presence of volatile organic compounds. High PID readings recorded for the near-surface soils at this site, however, contrasted with the complete absence of detectable levels of VOCs presented in the analytical report.

According to the laboratory, it is possible that some volatile compounds that are not on the target analyte list for the EPA Method 8240 analysis may have been present in the soils. The contents of the drums on site were tested in September 1988 for conformance with USEPA specifications for burning of waste oil, and it was noted that the results "looked more like solvent than waste oil". Other factors which may contribute to positive PID readings are the presence of biogenic materials. The laboratory report suggested the potential presence of biogenic materials in both samples SS01 and SS02.

The location or status of the existing water supply well could not be determined. In the course of attempting to determine its location, Shannon & Wilson contacted ADEC personnel and performed our own search in the field. Vanessa Blevins of ADEC recalled analytical results in the ADEC files indicating the presence of aromatic compounds in a sample from the existing well or a previous water supply well on site, but our search of the files did not produce any such results.

The monitoring well installation task proposed in the Work Plan was modified slightly at the request of ADEC. Rather than installing a permanent well casing, a water sample was collected directly from the soil boring. This was done to minimize the permanent impact of the field investigation on the site. The location of the monitoring well was selected based on our current understanding of groundwater flow direction. United States Geological Survey (USGS) data suggest a groundwater flow direction in this area of approximately North 40° West.

The soil boring (designated Boring B-1) was drilled to a total depth of 16.5 feet with samples collected at 2.5-foot intervals. No soil samples from the boring were analyzed by the laboratory. They were, however, subject to headspace screening as described above. PID readings were highest in the two samples above the water table (50 ppm at 5.0 feet and 35 ppm at 7.5 feet). Water was encountered at approximately 8 feet below ground surface. The other PID readings were all below 10 ppm, markedly lower than those reported for the near-surface samples. A graphic log of Boring B-1 is included in this report as an attachment.

Once the boring was advanced to approximately 8 feet below the water table, a new, clean section of PVC well casing was installed through the hollow stem of the drill auger. A 10-foot section of 0.020-inch slot well screen was used, with a section of blank casing extending the well to the ground surface. A portable, gasoline-powered centrifugal pump with new, clean development hose was used to purge the well of water and suspended solids until the parameters of water pH, temperature, conductivity, and turbidity had stabilized. The water samples were collected using a new, clean polyethylene bailer. One sample and one duplicate were collected for analysis for VOCs by EPA Method 502.2. Benzene and dichloroethylene were the only two analytes reported above their MDLs. Analytical results are presented in Table 2. The reported presence of these compounds in the groundwater resulted in a significant change in the AHRM ranking approach for this site. A preliminary score of 55 presented in the project Work Plans was based on previously identified areas of leaking drums and stained soil, with no documented reports of groundwater contamination. The discovery of groundwater contamination by a chlorinated solvent during this site investigation, even though the source soils for this

contamination have not been identified, has changed the scoring approach and significantly changed the final score.

Table 2 Groundwater Sample Analytical Results

Sample Designation	Benzene (µg/L)	cis-1, 2-Dichloro-ethylene (µg/L)
MCL	5	NA
5841-1027-08W	3.7	1.7
5841-1027-09W	3.6	1.6

Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) procedures are included in any field investigation program to promote and determine the reliability and quality of the sample analytical results. Shannon & Wilson has developed a Quality Assurance Program Plan (QAPP) detailing the procedures and methodologies used both in the field and during reporting to evaluate and document the integrity of the sampling program. This QAPP has been approved by ADEC for work on underground storage tank sites and is on file with ADEC. A copy of our QAPP was provided to the ADEC Contaminated Sites Remediation Program office in Juneau along with the proposed Work Plans for this site in September 1993.

QA/QC procedures followed for this project included the use of new, clean sampling equipment for each near-surface sample location, decontamination of the nondedicated sampling equipment, and the collection of field duplicate samples to evaluate the integrity of the sampling and analytical processes. The shovel used to loosen the soil for sampling was decontaminated using a tap water and laboratory-grade detergent wash and distilled water rinse. A new pair of latex gloves was worn by the sampler and a new, clean stainless steel spoon was used at each sample location. Drill equipment was cleaned with a high-pressure hot water wash prior to mobilizing to the site, and new, clean water sampling equipment was used during the well development and water sampling processes.

The collection of field duplicate samples assists in the evaluation of precision of the sampling and analysis process. Precision examines the spread of data about their mean and is expressed as the relative percent difference (RPD) between the sample's analytical results and its

duplicate's analytical results. Precision can only be evaluated when both the sample and its duplicate have concentrations of an analyte reported above the MDL. At the Henson Subdivision site, the RPD for benzene in the water sample and its duplicate was well within the QA objectives established for that analyte and presented in our QAPP. A RPD range is not established for cis-1,2-Dichloroethylene in our QAPP. The RPD was calculated, however, and was within the range established for other VOCs listed therein. RPDs of field duplicate analytical results for TPH and lead in the near-surface soil samples were also within their established ranges.

AHRM Scoring Summary Scores 107

The following sections describe the information sources and methodologies used to rank the Henson Subdivision site using the AHRM. ADEC has files for this site in its Contaminated Sites, Waste Water, and Water Quality divisions. The preliminary score presented in our project Work Plans dated September 1993 was based on the reported presence of stained ground, presumably from petroleum products. Unknown elements in that score included Quantity, Groundwater Exposure Index, and Surface Water Index. The site investigation described in this document assisted in the characterization of the stained ground, surficial contamination apparently resulting from the former presence of drums, and the extent of groundwater contamination.

The site was ranked based on the presence of dichloroethylene in the groundwater, with benzene in the groundwater, and lead and TPH in the near-surface soils contributing to the multiple contaminants element. Since no chlorinated compounds were reported in the limited number of surface samples collected for this project, an "unknown" value has been assigned to quantity, consistent with directions contained in the AHRM. Using the near-surface soil contamination as basis for site ranking would have yielded a score approximately 45 percent lower than by using the groundwater contamination. In our opinion the presence of groundwater contamination presents a greater potential environmental concern at this site than contamination of near-surface soils.

The basis for selecting a scoring value for each element is included in the allotted space on the accompanying Hazardous Site Ranking Form and is presented in the following table.

Element	Value	Reason
1) Toxicity	4	Dichloroethylene
2) Quantity	2.1	Unknown
3) Release	1	Analytical results document release
4) Access	0	Contamination underground (consistent with groundwater contamination from unknown source)
5) Air Exposure Index	0.2	Unknown
6a) Population Density	8	Suburban residential
6b) Population Proximity	1	Businesses, residences within 500 feet
7) Groundwater Use	0.8	Primarily private wells. Community well may be within one mile
8) Groundwater Exposure Index	1.0	Groundwater contamination exists, but not documented at tap
9) Surface Water Use	0.2	Use of surface water as drinking water unlikely
10) Surface Water Exposure Index	0.4	Surface water contamination unknown
11) Surface Water Environments	2	Slough crosses site
12) Environmental/ Recreational Area	0	Not an environmental/ recreational area
13) Observed Environmental Impacts	Not applicable	Not applicable
14) Multiple Contaminants	Yes	Dichloroethylene and benzene in groundwater, lead and TPH in soil

A ranking score of 107 is calculated using these input values. The elements of Quantity, Air Exposure, and Surface Water Exposure remain unknown. In our opinion, the reliability of these values (in terms of uncertainties and unknowns) is comparable with the reliability of values which have been used to calculate scores for other sites on the Contaminated Sites Database. Therefore, no additional site investigation is considered necessary at this time under our current Notice to Proceed to allow scoring of the site. An AHRM Hazardous Site Ranking Form has been completed for this site and has been attached to this summary. The discrepancy between the score presented here and the preliminary score presented in our project Work Plans is due to a significantly revised site ranking approach. The preliminary score presented in the Work Plan was based on previously identified areas of leaking drums and stained soil, with no documented reports of groundwater contamination. The final score presented herein is based on documented contamination of the groundwater, with the Toxicity value based on the presence of dichloroethylene.

Closure

This summary letter presents the final AHRM score for the Henson Subdivision site and an accompanying discussion of the methods and information sources used in its calculation. Site-specific analytical data used in the ranking of this site were collected during a limited site investigation conducted by Shannon & Wilson, Inc. for that purpose. The site investigation conducted for this project should not be construed as a comprehensive site characterization. In addition, the ranking model score is not intended to provide full characterization of a site but only an indication of the nature of the site with respect to other sites on the Database.

This report was developed for the State of Alaska DEC Contaminated Sites Remediation Program. Shannon & Wilson performed this site scoring using available information and our best professional judgment as to current conditions at the site. It is possible that other areas, types, or levels of contamination exist at the site which were not discovered by the limited field sampling program conducted for this project. Furthermore, conditions at the site or in its regulatory status may change over time or otherwise differ from those presented in reports reviewed for this site. Such changes are beyond our control, and if they do occur may require reevaluation of the ranking score presented herein.

We appreciate this opportunity to be of service to you. If you have any questions concerning this project please call the undersigned.

Sincerely,

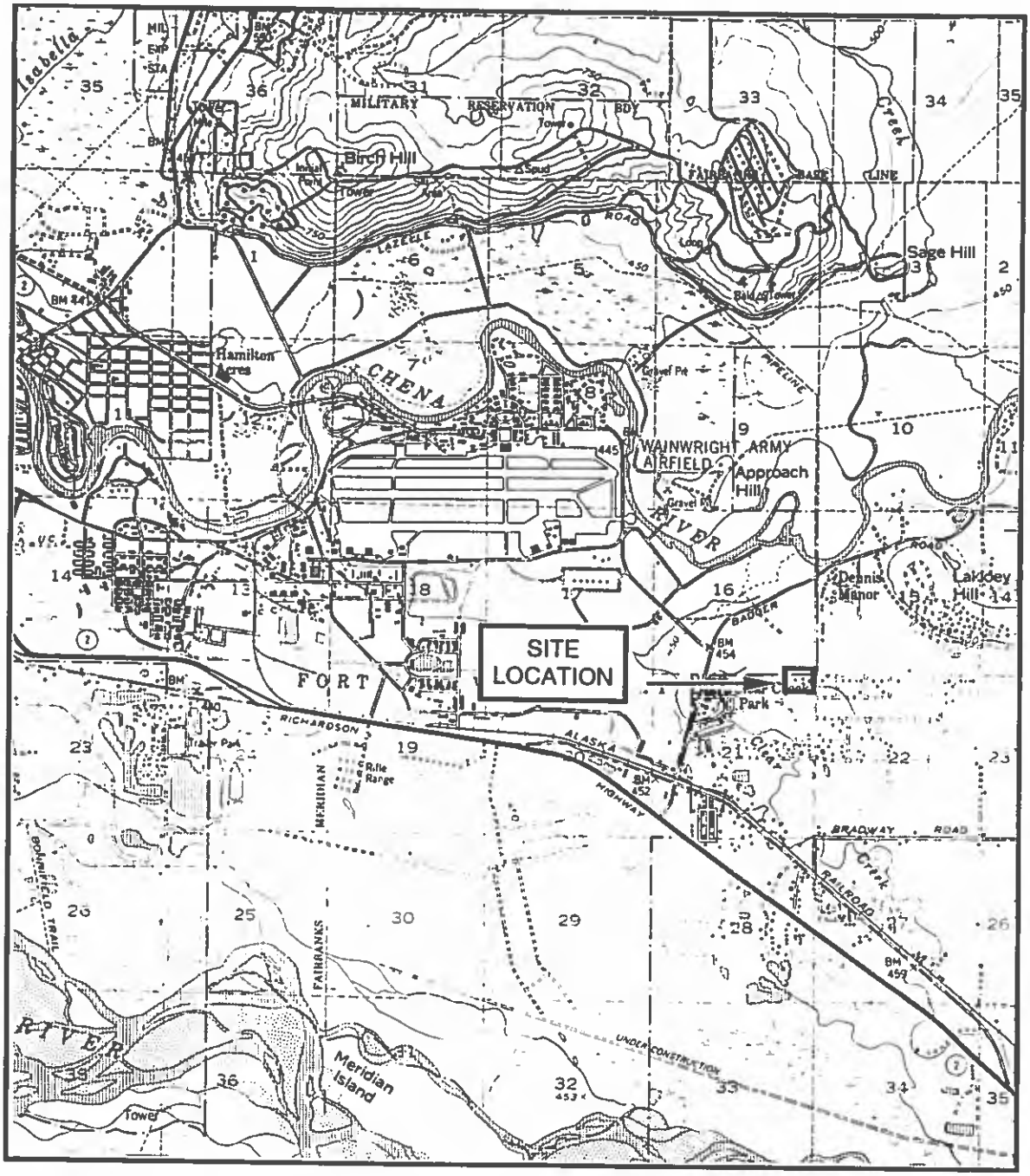
SHANNON & WILSON, INC.

By _____
Christopher Darrah
Geologist

Reviewed by:

_____
John Cronin, C.P.G.
Vice President

Enclosures: Figures 1 and 2
Log of Boring B-1
Hazardous Site Ranking Form
Laboratory Test Reports



0 1/2 1 2

Scale in Miles

NOTE

Adapted from USGS Fairbanks (D-2) Quadrangle Topographic Map, Alaska. Scale 1:63,360, 1954, revised 1972 and 1975

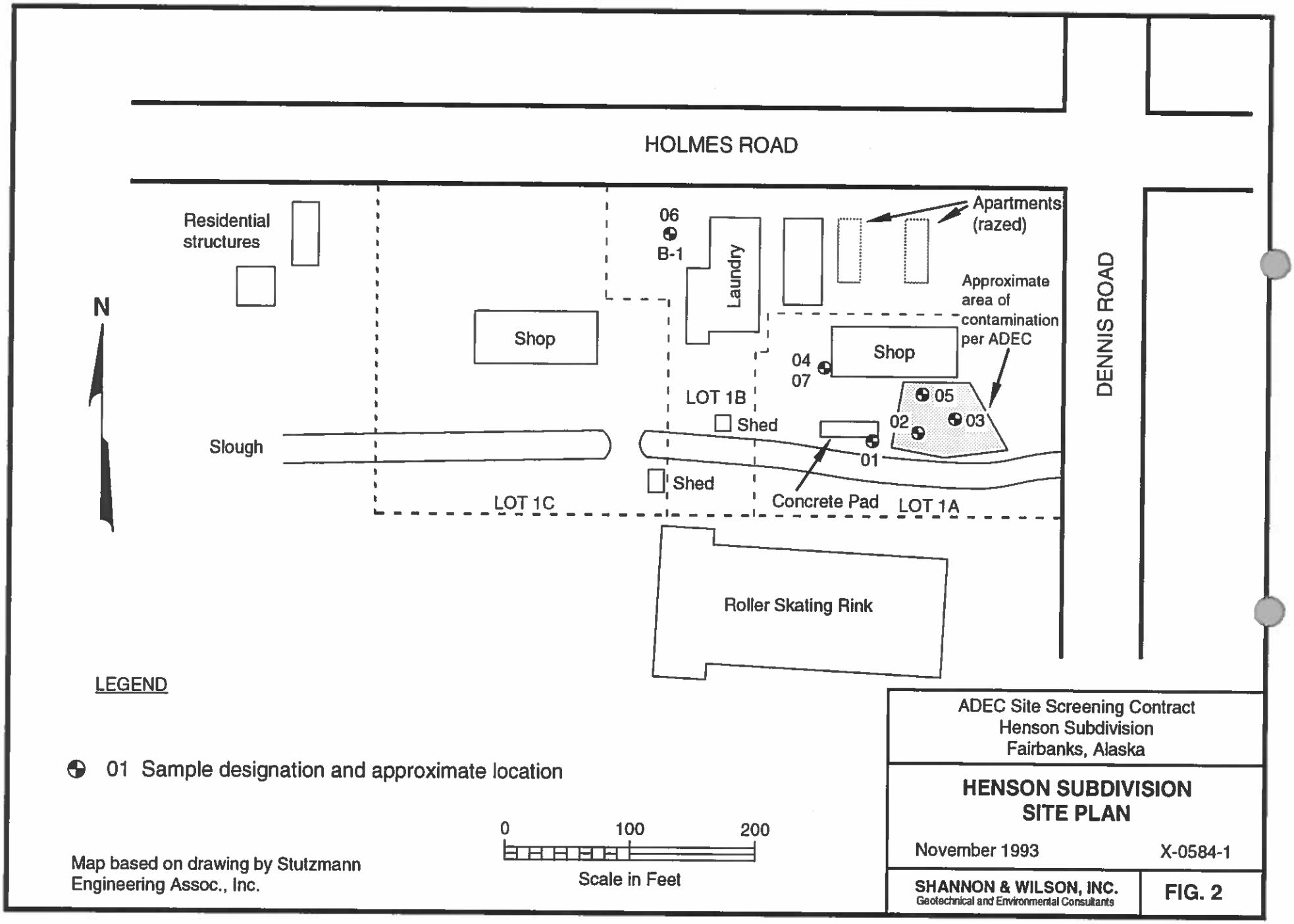
ADEC Site Screening Contract
Henson Subdivision Site
Fairbanks, Alaska

VICINITY MAP

November 1993 X-0584-1

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1


HOLMES ROAD
DENNIS ROAD
Residential structures
06
B-1
Laundry
Apartments (razed)
Approximate area of contamination per ADEC
Shop
Shop
04
07
05
02
03
01
LOT 1B
Shed
Slough
Shed
LOT 1C
Concrete Pad
LOT 1A
Roller Skating Rink
N
LEGEND
01 Sample designation and approximate location
0
100
200
Scale in Feet
Map based on drawing by Stutzmann Engineering Assoc., Inc.
ADEC Site Screening Contract
Henson Subdivision
Fairbanks, Alaska
HENSON SUBDIVISION
SITE PLAN
November 1993
X-0584-1
SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants
FIG. 2

C:\DOS\BORING\X0584B1.LOG 11-17-1993 13:22:56

SOIL DESCRIPTION	GRAPHIC LOG	DEPTH	SAMPLE	GROUND WATER DEPTH	PENETRATION RESISTANCE (300 lb weight, 30 in drop) ▲ Blows per Foot
Surface Elevation: 400					0 20 40
Brown, slightly silty, gravelly SAND		0.5	S-1	0.0 During drilling	
Brown with lenses of gray, slightly silty fine SAND			S-2	5.0	
		6.5	S-3		
Brown and gray, gravelly SAND to sandy GRAVEL			S-4	10.0	
				15.0	
		16.5	S-5		
Bottom of Boring Boring Completed 10/27/93				20.0	
Note: Water sample collected from temporarily-installed 2-inch PVC well screen which was removed after sampling.				25.0	
				30.0	
				35.0	
				40.0	
				45.0	

0 20 40
● Water Content, %

LEGEND

Frozen Ground

- Gravel
- Sand
- Silt
- Clay
- Peat
- Organic Content

- Impervious Seal
- Water Level
- Screened Interval
- Thermistor
- 3 in O.D. Split Spoon Sample
- 3 in O.D. Thin-wall Sample
- G Grab Sample
- 3 in O.D. Dry Core Run
- Nx Rock Core
- ✳ Sample Not Recovered

ATTERBERG LIMITS

- Liquid Limit
- Water Content
- Plastic Limit

Note: Stratification lines represent approximate boundaries between soil types and transition may be gradual.

ADEC Site Screening Contract
Henson Subdivision
Fairbanks, Alaska

LOG OF BORING B-1

November 1993 X-0584-1

SHANNON & WILSON, INC.
Geotechnical Consultants

FIG.

Sheet 1 of 1

ALASKA HAZARD RANKING MODEL

SITE NAME Henson Subdivision (Kiser Laundry)
Reckey 883109243O1

RANKING SCORE = 107

(Substance Factor 8.4 x (Human Target 8.64 + Environmental Target 2)) x Multiple Contaminants or Sites 1.2

Substance Factor 8.4 = Toxicity 4 x Quantity 2.1 x Release 1

Human Target 8.64 = Site Access 0 + Air Target Population 1.6 + Adj. Ground Water Use 6.4 + Adj. Surface Water Use 0.64

Air Target Population 1.6 = Air Exp. Index 0.2 x Pop. w/in 1 Mile 8 x Pop. w/in 500 feet 1

Adj. Ground Water Use 64 = Ground Water Use 0.8 x Ground Water Exposure Index 1 x Pop. w/in 1 Mile 8

Adj. Surface Water Use 0.64 = Surface Water Use 0.2 x Surface Water Exposure Index 0.4 x Pop. w/in 1 Mile 8

Environmental Target 2 = Surface Water Environments 2 + Environmental Recreation Areas 0

or, if above + 0, then
= Observed Impacts —

Tox	Quan (unk)	Rel	Acc	AirEx (unk)	PopDen	PopProx	GWUse	GWExp	SWUse	SWExp (unk)	SWEnv	EnvRec	ObsImp	Mult
4	2.1	1	0	0.2	8	1	0.5	1.0	0.2	0.4	2	0	-	4

HAZARDOUS SITE RANKING FORM

REAL NAME OF SITE Howson Subdivision **Date:** 11/18/93

RECKEY BR3109224301

1. Toxicity Value = 4

If more than one substance is present, use the one that will score the highest substance factor =[Toxicity x 3) +Quantity].

Value	Toxicity
(4)	Chlorinated solvents, other halogenated hydrocarbons, synthetic chlorinated organic pesticides
3	Metals, gasoline, naphtha, non-chlorinated pesticides
2.1	Unknown Substances
2	Diesel fuel, jet fuels, kerosene, non-chlorinated phenols, non-chlorinated solvents, crude oil
1	Waste lubricating oils, heavy fuel oils (No. 6 etc.), inorganic acids/bases

Note: Assign a value of 2 to drilling muds, based on the expected low levels of petroleum compounds and some metals.

Dichloroethylene detected in groundwater sample.

2. Quantity Value = 2.1

Value	Quantity
1	<10 drums or 550 drum or tank gallons, <500 spilled gallons, <100 cubic yards or tons, <100 ft²
2	10-100 drums or 550-5,500 drum or tank gallons, 500-10,000 spilled gallons, 100-500 cubic yards or tons, 100-10,000 ft²
(2.1)	Unknown quantity
3	100-1,000 drums or 5,500-55,000 drum or tank gallons, 10,000-40,000 spilled gallons, 500-2,000 cubic yards or tons, 10,000-43,560 ft²
4	>1,000 drums or >55,000 drum or tank gallons, >40,000 spilled gallons, >cubic yards or tons, >1 acre (43,560 ft²)

Unknown. Consistent with HRM scoring for sites with contamination detected only in groundwater.

3. **Release Information Value =** 1.0

Value	Release Information
(1.0)	Documented releases of contamination regardless of quantity
0.5	Containment management practices which may pose significant threat, but no documentation by observation or test results
0.2	Unknown potential for site release, or off-site contamination not clearly linked to site
0.1	Documented absence of releases at the site

Analytical results document release to groundwater.

4. **Site Access Value =** 0

Value	Site Access
3	School within 500 feet and surface wastes partially controlled or uncontrolled
2	Access to the site is uncontrolled and wastes present at surface
1	Access to the site is partially controlled, or surrounding features restrict site access, or contaminated soil stockpiled (presumed covered)
(0)	Hazardous substances are underground, or site is secure

Contamination underground. Consistent with AHRM scoring for sites with contamination detected only in groundwater.

5. **Air Exposure Index Value =** 0.2

Value	Air Exposure Index
1.0	A documented (note in file) particulate release or large, ongoing releases of volatile organic compounds.
(0.2)	Sites with partially covered stockpiles of contaminated soils not known to be completely, effectively, and permanently covered
0.1	No significant air releases

Unknown. Consistent with AHRM scoring for sites with contamination detected only in groundwater.

6a. **Population Density Value =** 8

Value	Predominant Population Density within 1 mile
10	Urban residential (<¼ acre), (>35,000 people)
(8)	Suburban (¼ - 1 acre); Cities of 2,000 - 35,000; or industrial/commercial areas
5	Villages of <2,000 people; or low density housing (>1 acre) or low density/commercial; or few permanent residents, but intensive seasonal use
3	Rural, with some occupied buildings
0	No population

Suburban residential, consistant with other sites in vicinity on Ratabase

6b. **Population Proximity Value =** 1

Value	Population in Proximity to the Site (Also count workers at site, residents of military barracks or lodges and students at a school)
(1)	Occupied buildings or dwellings present within 500 feet of site.
0.5	No occupied buildings

Roller rink on property to South, residence on property to west.

7. **Ground Water Usage Value =** 0.8

Value	Ground Water Use Within 1 Mile
1.0	Municipal wells or other public water supply wells serving > 25 individuals.
(0.8)	Primarily community or private wells
0.4	No known wells, but possibility exists, or drinking water supply >1 mile from site
0.1	Ground water not available for drinking water or not used

Private wells

8. **Ground Water Exposure Index Value =** 1.0

Value	Exposure Index
4.0	Documented contamination of drinking water supply at the tap, exceeding the MCL
2.0	Documented contamination of drinking water supply at the tap, not exceeding the MCL
(1.0)	Ground water contamination exists, but no documented contamination of water supply at the tap
0.4	Ground water contamination unknown
0.0	Ground water documented to be free of contamination OR low potential for contamination

Groundwater contamination detected in monitoring well water sample collected for ranking information

9. **Surface Water Use Value =** 0.2

Value	Surface Water Use Within 1 Mile
1.0	Surface water used as a drinking water source. (NOTE: assign this value if surface drinking water supplies within one mile of the site have been abandoned due to site contamination.)
0.5	Surface water use unknown, but likely
(0.2)	Surface water use unknown but unlikely, or no use of surface water as a drinking water source

Use of surface water as a drinking water source is unknown, but unlikely.

10. **Surface Water Exposure Index Value =** 0.4

Value	Exposure Index
4.0	Documented contamination of surface drinking water supply at the tap, exceeding the MCL
2.0	Documented contamination of surface drinking water supply at the tap, not exceeding the MCL
1.0	Surface water contamination exists, but no documented contamination of drinking water supply at the tap
(0.4)	Surface water contamination unknown
0.0	Surface water documented to be free of contamination OR low potential for contamination

Surface water contamination unknown.

11. **Surface Water Environments Value =** 2

Value	Surface Water Environment Within ¼ Mile
5	Fresh or marine waters or wetlands present, and evidence of death or stress to fish or wildlife
3	Fresh or marine waters or wetlands present, and evidence of death or stress to plants
(2)	Fresh or marine waters or wetlands present, but no evidence of death or stress to fish, wildlife or plants
0	No fresh or marine waters or wetlands present

Slough traverses site, but no evidence of death or stress to fish, wildlife, or plants. Based on site observations

12. **Environmental/Recreation Area Value =** 0

Value	Environmental Area
5	The site is in an environmental/recreation area and evidence exists of death or stress to fish or wildlife
3	The site is in an environmental/recreation area and evidence exists of death or stress to plants
2	The site is in an environmental/recreation area with no evidence of death or stress to fish, wildlife or plants
(0)	The site is not in an environmental/recreation area

Site DA is not in an environmental/ recreational area.

If you have answered "0" to both questions 11 and 12, answer question 13. **If not...don't.** Use this data element only when there are documented impacts to environmental receptors which ARE NOT WITHIN 1/4 MILE OF SURFACE WATERS OR LOCATED WITHIN 1/4 MILE OF AN ENVIRONMENTAL or RECREATION AREA. Otherwise, skip to question 14.

13. **Observed Environmental Impacts Value =** /

Value	Environmental Impacts
5	Evidence of death or stress to fish or wildlife
3	Evidence of death or stress to plant life
0	No evidence of death or stress to wildlife to plant life

Not applicable

14. **Sites with Multiple Sources or Contaminants Value =** Yes (Yes or No)

Determine if multiple sources or contaminants are present at the site. If the response for this is *YES*, the final score will be multiplied by 1.2 to reflect additional risks posed by multiple sources or contaminants. If there are not multiple sources or contaminants, the final score will not be adjusted.

Dichloroethylene and benzene in groundwater. lead and TPH in near-surface soils.

Scores assigned by: Christopher Neal

Date: 11/18/93

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.9329-1
Client Sample ID :5841-1027-08W
Matrix :WATER

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :72686
Report Completed :11/03/93
Collected :10/27/93 @ 12:00 hrs.
Received :10/27/93 @ 16:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUB.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organic Chem				EPA 502.2/524.2				
1,1,1 Trichloroethane	0.0010	U	mg/L	EPA 502.2/524.2	0.200	11/02	11/02	KWM
1,1 Dichloroethylene	0.0010	U	mg/L	EPA 502.2/524.2	0.0070	11/02	11/02	KWM
1,2 Dichloroethane	0.0010	U	mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 502.2/524.2	0.0020	11/02	11/02	KWM
Benzene	0.0037		mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2	0.0750	11/02	11/02	KWM
Trichloroethylene	0.0010	U	mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
TTHM	0.0010	U	mg/L	EPA 502.2/524.2	0.100	11/02	11/02	KWM
Bromobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromoform	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromomethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
tert-Butylbenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chlorodibromomethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chloroethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chloroform	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
12Dibromo-3-Chloropropa	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
o-Chlorotoluene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
p-Chlorotoluene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Dibromomethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
m-Dichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
o-Dichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
cis-1,2-Dichloroethylen	0.0017		mg/L	EPA 502.2/524.2		11/02	11/02	KWM
trans-1,2-Dichloroethyl	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Dichloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.9329-1
Client Sample ID :5841-1027-08W
Matrix :WATER

1,3-Dichloropropene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Ethylene Dibromide(EDB)	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Fluorotrichloromethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Napthalene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Styrene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Tetrachloroethylene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Toluene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
p & m Xylene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
o-Xylene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1900

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.9329-2
Client Sample ID :5841-1027-09W
Matrix :WATER

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :72686
Report Completed :11/03/93
Collected :10/27/93 @ 12:05 hrs.
Received :10/27/93 @ 16:00 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUB.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Volatile Organic Chem				EPA 502.2/524.2				
1,1,1 Trichloroethane	0.0010	U	mg/L	EPA 502.2/524.2	0.200	11/02	11/02	KWM
1,1 Dichloroethylene	0.0010	U	mg/L	EPA 502.2/524.2	0.0070	11/02	11/02	KWM
1,2 Dichloroethane	0.0010	U	mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
Carbon Tetrachloride	0.0010	U	mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
Vinyl Chloride	0.0010	U	mg/L	EPA 502.2/524.2	0.0020	11/02	11/02	KWM
Benzene	0.0036		mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
1,4-Dichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2	0.0750	11/02	11/02	KWM
Trichloroethylene	0.0010	U	mg/L	EPA 502.2/524.2	0.0050	11/02	11/02	KWM
TTHM	0.0010	U	mg/L	EPA 502.2/524.2	0.100	11/02	11/02	KWM
Bromobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromochloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromodichloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromoform	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Bromomethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
n-Butylbenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
sec-Butylbenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
tert-Butylbenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chlorodibromomethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chloroethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chloroform	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Chloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
12Dibromo-3-Chloropropa	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
o-Chlorotoluene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
p-Chlorotoluene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Dibromomethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
m-Dichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
o-Dichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Dichlorodifluoromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,1-Dichloroethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
cis-1,2-Dichloroethylen	0.0016		mg/L	EPA 502.2/524.2		11/02	11/02	KWM
trans-1,2-Dichloroethyl	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
Dichloromethane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,2-Dichloropropane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,3-Dichloropropane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
2,2-Dichloropropane	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM
1,1-Dichloropropene	0.0010	U	mg/L	EPA 502.2/524.2		11/02	11/02	KWM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.9329-2
Client Sample ID :5841-1027-09W
Matrix :WATER

1,3-Dichloropropene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Ethylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Ethylene Dibromide(EDB)	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Fluorotrichloromethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Hexachlorobutadiene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Isopropylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
p-Isopropyltoluene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Napthalene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
n-Propylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Styrene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1112-Tetrachloroethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1122-Tetrachloroethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Tetrachloroethylene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
Toluene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,3-Trichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,4-Trichlorobenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,1,2-Trichloroethane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,3-Trichloropropane	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,2,4-Trimethylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
1,3,5-Trimethylbenzene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
p & m Xylene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM
o-Xylene	0.0010	U	mg/L	EPA 502.2/524.2	11/02 11/02	KWM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

93.9329

JRY

Shannon & Wilson, Inc.

Chain of Custody Record

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

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

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

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

Page 1 of 1
Laboratory CTE
Attn:

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

	Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOA 502.2						Total Number of Containers	Remarks/Matrix
1	5841-1027-08W		12:00	10/6/93		X	X						2	Water
2	5841-1027-09W		12:05	"		X	X						2	"

Project Information	Sample Receipt
Project Number: X-584-1	Total Number of Containers
Project Name: Henson Sub.	COC Seals/Intact? Y/N/NA
Contact: Chris Darrah	Received Good Cond./Cold
Ongoing Project? Yes ☒ No ☐	Delivery Method:
Sampler: C Daniels	(attach shipping bill, if any)

Instructions

Requested Turn Around Time: Standard

Special Instructions:

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1600	Signature: Time:	Signature: Time:
Printed Name: Christopher Date: 10/7/93	Printed Name: Date:	Printed Name: Date:
Company: SEW	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1600	Signature: Time: 0945	Signature: Time:
Printed Name: Dave Meyer Date: 10/8/93	Printed Name: Judy L. Mays Date: 10/08/93	Printed Name: Date:
Company: CTE	Company: C.T.E	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.9308-1
Client Sample ID :584-SS01
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :10/14/93
Collected :10/06/93 @ 11:03 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION. PID = 550 PPM. THE RATIO BETWEEN TOTAL PETROLEUM HYDROCARBONS - METHOD 418.1 - AND OIL AND GREASE - METHOD 413.2 - OF 0.55 INDICATES THE PRESENCE OF BIOGENIC HYDROCARBONS.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	84.1		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	690	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	32		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.9308-1
Client Sample ID :584-SS01
Matrix :SOIL

Styrene	0.025	U	mg/Kg	EPA 8240	10/08 10/12	MCM
Xylene (total)	0.025	U	mg/Kg	EPA 8240	10/08 10/12	MCM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.9308-2
Client Sample ID :584-SS02
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :10/14/93
Collected :10/06/93 @ 11:20 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By : C. Hoyestead

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION. PID = 740 PPM. THE RATIO BETWEEN TOTAL PETROLEUM HYDROCARBONS - METHOD 418.1 - AND OIL AND GREASE METHOD 413.2 - 0.39 INDICATES THE PRESENCE OF BIOGENIC HYDROCARBONS.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	85.8		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	462	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	63		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-2
Client Sample ID :584-SS02
Matrix :SOIL

Styrene	0.025	U	mg/Kg	EPA 8240	10/08 10/12	MCM
Xylene (total)	0.025	U	mg/Kg	EPA 8240	10/08 10/12	MCM

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-3
Client Sample ID :584-SS03
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :10/14/93
Collected :10/06/93 @ 11:28 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION. PID = 534 PPM.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	86.2		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	223	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	22		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Styrene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Xylene (total)	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-3
Client Sample ID :584-SS03
Matrix :SOIL

==========

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-4
Client Sample ID :584-SS04
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :10/14/93
Collected :10/06/93 @ 11:35 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION.
PID = 134 PPM. VERY OILY.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	93.7		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	23300	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	110		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.200	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.200	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Styrene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Xylene (total)	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM

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REPORT of ANALYSIS

5633 B STREET
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FAX: (907) 561-5301

Chemlab Ref.# :93.9308-4
Client Sample ID :584-SS04
Matrix :SOIL

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-5
Client Sample ID :584-SS05
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :10/14/93
Collected :10/06/93 @ 11:58 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION.
PID = 372 PPM.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	91.9		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	1810	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	7.8		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.200	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.200	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Styrene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Xylene (total)	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-5
Client Sample ID :584-SS05
Matrix :SOIL

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

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REPORT of ANALYSIS

Chemlab Ref.# :93.9308-6
Client Sample ID :584-SS06
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :10/14/93
Collected :10/06/93 @ 12:05 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION.
PID = 12 PPM.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	95.3		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	238	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	19		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.200	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.200	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Styrene	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Xylene (total)	0.020	U	mg/Kg	EPA 8240		10/08	10/12	MCM

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.9308-6
Client Sample ID :584-SS06
Matrix :SOIL

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

COMMERCIAL TESTING & ENGINEERING CO.
ENVIRONMENTAL LABORATORY SERVICES
SINCE 1908

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

REPORT of ANALYSIS

Chemlab Ref.# :93.9308-7
Client Sample ID :584-SS07
Matrix :SOIL

Client Name :SHANNON-WILSON*FAIRBANKS
Ordered By :CHRIS DARRAH
Project Name :
Project# :
PWSID :UA

WORK Order :71937
Report Completed :11/05/93
Collected :10/06/93 @ 11:40 hrs.
Received :10/06/93 @ 14:10 hrs.
Technical Director:STEPHEN C. EDE
Released By :

Sample Remarks: SAMPLE COLLECTED BY: C. DARRAH. PROJECT #X-584-1 HANSON SUBDIVISION. VERY OILY. CORRECTED RESULTS.

Parameter	Results	QC Qual	Units	Method	Allowable Limits	Ext. Date	Anal Date	Init
Percent Solids	94.7		%	SM17 2540G			10/09	SMK
Total Petroleum Hydro	15500	D	mg/Kg	EPA 418.1		10/08	10/09	SMK
Sample Preparation	---			EPA 3050 Digest				
Lead	120		mg/Kg	EPA 7421 GF		10/11	10/12	KAW
Volatile Organics				EPA 8240				
Chloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromomethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Vinyl Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Methylene Chloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Disulfide	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
12-Dichloroethene(total	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chloroform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
2-Butanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,1-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Carbon Tetrachloride	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromodichloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,2-Dichloropropane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
cis-1,3-Dichloropropene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Trichloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Dibromochloromethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1,1,2-Trichloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Benzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
trans-1,3-Dichloroprope	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Bromoform	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
4-Methyl-2-Pentanone	0.250	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Tetrachloroethene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
1122-Tetrachloroethane	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Toluene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Chlorobenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Ethylbenzene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Styrene	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM
Xylene (total)	0.025	U	mg/Kg	EPA 8240		10/08	10/12	MCM

COMMERCIAL TESTING & ENGINEERING CO.
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SINCE 1908

REPORT of ANALYSIS

5633 B STREET
ANCHORAGE, AK 99518
TEL: (907) 562-2343
FAX: (907) 561-5301

Chemlab Ref.# :93.9308-7
Client Sample ID :584-SS07
Matrix :SOIL

==========

* See Special Instructions Above
** See Sample Remarks Above
U = Undetected, Reported value is the practical quantification limit.
D = Secondary dilution.

UA = Unavailable
NA = Not Analyzed
LT = Less Than
GT = Greater Than

93.9308

Shannon & Wilson, Inc.

Chain of Custody Record

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

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

11600 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

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

Page _____ of _____
Laboratory _____
Attn: _____

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

	Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs 8240	TPH 418.1 and Lead					Total Number of Containers	Remarks/Matrix
1	584-SS01		1603	10/6/93		X	1	1					2	S; 1 PID = 550 ppm
2	584-SS02		1120	"		X	1	1					2	= 740
3	584-SS03		1128	"		X	1	1					2	= 534
4	584-SS04		1135	"		X	1	1					2	(very oily) = 134
5	584-SS05		1158	"		X	1	1					2	= 372
6	584-SS06		1205	"		X	1	1					2	= 12
7	584-SS07		1140	"		X	1	1					2	(very oily)

Project Information

Project Number: X-584-1
Project Name: Hanson Subdivision
Contact: Chris Darrah
Ongoing Project? Yes [X] No [ ]
Sampler: CDarrah

Sample Receipt

Total Number of Containers:
COC Seals/Intact? Y/N/NA:
Received Good Cond./Cold:
Delivery Method:
(attach shipping bill, if any)

Instructions

Requested Turn Around Time: Standard
Special Instructions: Not true C-O-C

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature:	Signature:	Signature:
Time: 1410	Time: 1630	Time:
Printed Name: Christopher J. Darrah	Printed Name: Dave Heyer	Printed Name:
Date: 10/6/93	Date: 10/6/93	Date:
Company: S&W	Company: CT&E	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature:	Signature:	Signature:
Time: 1430	Time: 1000	Time:
Printed Name: Dave Heyer	Printed Name: Jody L. Maus	Printed Name:
Date: 10/6/93	Date: 10/7/93	Date:
Company: CT&E	Company: CT&E	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR