OIL SPILL TECHNOLOGY, INC. -

John H. Janssen, President

SITE ASSESSMENT

of

JACK'S CHEVRON SERVICE DELTA JUNCTION, ALASKA

Prepared for:

JACK ADAMS, OWNER DELTA JUNCTION, ALASKA

RECEIVED

Prepared by:

DEC 1 5 1995

JOHN H. JANSSEN OIL SPILL TECHNOLOGY

DEPT. OF ENVIRONMENTAL CONSERVATION NRO

28

DR. DAVE SHAW

SEPTEMBER, 1995

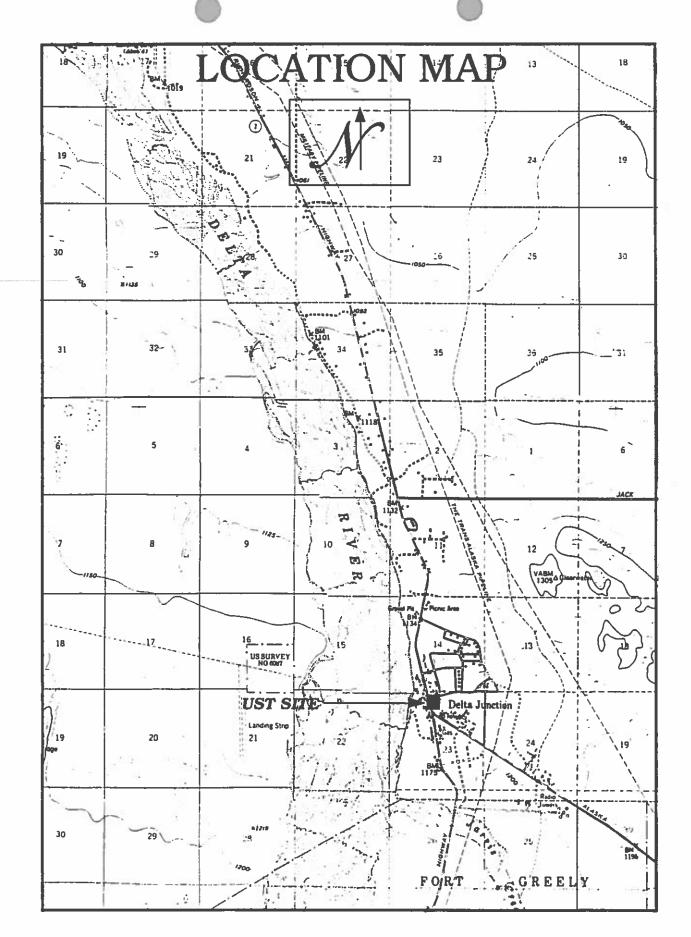
1100 Esro Road

Fairbanks, Alaska 99712

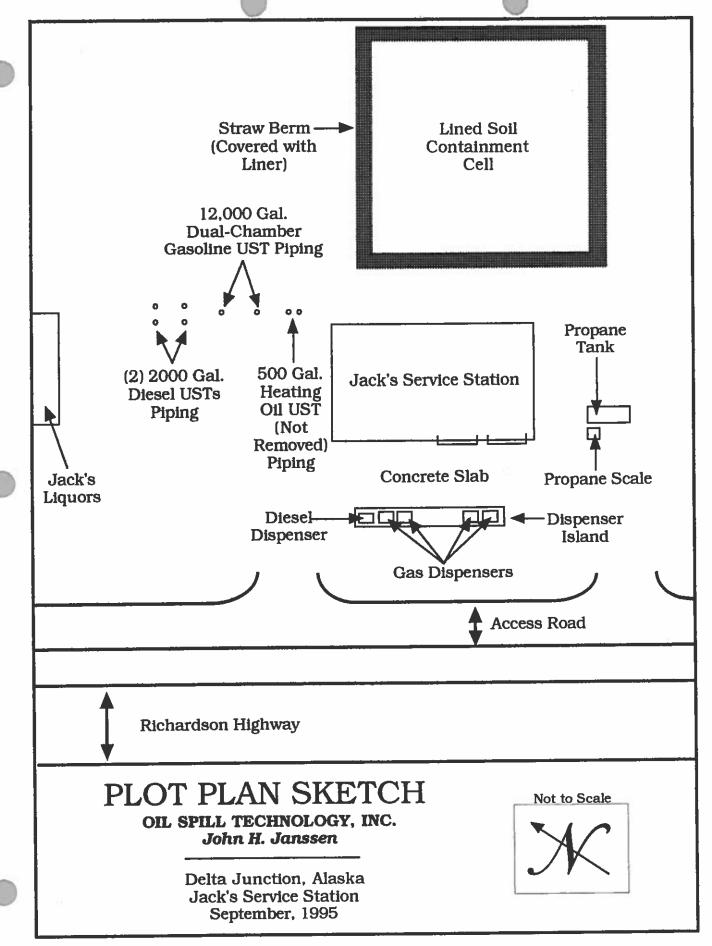
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SITE DESCRIPTION

Location of tank(s):

Jack's Chevron Service is located in Delta Junction, Alaska at Mile 266.5 on the Richardson Highway and 1/4 Mile Lakeview Drive. The owner has provided a legal description as that of Lots 7, 9, and 10; U.S.S. 2770 and that portion of lots 85 and 86 east of the Richardson Highway; R/W.

Owner of tank(s): Jack Adams

Operator of tank(s): Jack Adams

Type of facility: Retail fueling station and store

History of tank(s) site:

Four (4) underground storage tanks (USTs) were installed at the fueling station site 28 years ago in 1967 on what is now a six (6) acre parcel that was purchased by Jack Adams in 1968. According to the current owner, six (6) different parties have held title to the land prior to 1968, including the U.S. Government. According to local accounts, the site was used for fuel transfer in the 1940's, and these operations resulted in chronic leaks and fumes. A list of former owners may be found in the Correspondence section in Appendix #3.

During the 1994 preliminary site investigation conducted for the purpose of informing the lending institution representing Jack's Chevron, some confusion occurred regarding the number of tanks to be removed. At that time, it was believed that one (1) 2000 gallon capacity diesel tank and one (1) dual-chambered, 12,000 gallon capacity gasoline tank were to be removed. A third UST was used to supply heating fuel to the gas station and was therefore not regulated; thus no other reference is made to that tank in the narrative of this report. However, a fourth UST (a 2000 gallon capacity diesel tank) was known to exist underground, yet because it had not been in use since the year of its installation in 1967, it was not realized that its removal was required. Once this confusion was discovered and rectified,

preparations were then made to remove in 1995 a total of three (3) USTs – those which had been used for retail sale.

The 12,000 gallon capacity, dual-chambered gasoline tank, which has a history of containing both regular (leaded) and unleaded gasoline in separate chambers, was in use until its removal in September, 1995. As mentioned previously, only one (1) of the two (2) diesel USTs was in use until their removal also in September, 1995. All three (3) USTs, located on the north side of Jack's Chevron, were linked to the station's fuel dispensers with buried fuel lines. Tank and line tightness tests conducted in 1992 indicated no leaks in either the lines or the in-use diesel tank and Super Unleaded chamber of the gas tank. The Regular Unleaded chamber was not tested due to the presence of water in the tank. A copy of the tank tightness test results may be found in the Correspondence section in Appendix #3 of this report. The nearest well is 220' deep and is located approximately 150-200' from the UST locations. There have been no reported spills at this site.

Surface conditions:

A visual inspection of the site was performed on 9/14/95 prior to excavation of both the dispenser and UST areas. Some evidence of contamination did appear around the USTs' fill and vent pipes and at the dispensers, the amount of which could not be determined. The dispenser area was covered by concrete and was flanked by the service station building on the east and the access road on the west. The UST area was located between Jack's Chevron and Jack's Liquor.

Subsurface conditions:

The Delta River has been the influencing factor in shaping the geological conditions at this UST site. The site is situated east of the Delta River on an old floodplain. Because of this, dominant soils at the site are characterized by sorted fluvial deposits consisting mostly of sands and gravels. The Delta River has also had an influence on the groundwater level which fluctuates on a seasonal basis. The 220' deep water well is located behind Jack's Chevron at a distance of roughly 200' from the river. Groundwater flows to the north/northwest.

Page 4
River is much
Further From
Further From
River
From River

SITE INVESTIGATION

In August, 1994, John H. Janssen conducted a preliminary site investigation at Jack's Chevron in Delta Junction at the request of the owner, Jack Adams. That site investigation was not designed to meet the intent of State of Alaska site assessment requirements as it was conducted solely for the purpose of providing information to Mr. Adam's lending institution. At that time, potential contamination sources were identified as: 1) the UST area on the north side of the building; 2) the fuel transfer area at the dispenser island on the west side of the building; and 3) beneath buried fuel lines linking the USTs to the dispensers. An L-shaped plume of significant contamination stretching from the dispenser area to the UST area was established based on preliminary, secondary and final lab samples collected from various test holes.

With this information in mind, it was decided that the tanks should be removed at the end of the 1995 summer season when public activity at the site slowed. Before John H. Janssen returned to Jack's Chevron in September, 1995, contractor Copper Valley Enterprises had installed new replacement USTs in the propane tank area, south of the dispensers. This occurred before any of the old USTs or contaminated soils were removed. Since 1994 secondary and final sampling indicated very little or no contamination on the south side of the service station, this area was used as the new UST replacement area. Clean soils were removed to make way for the new tanks, and the soils were stockpiled in a location north/northeast of the service station just beyond the old UST area.

Furthermore, Copper Valley Enterprises constructed a 100' x 100' soil containment/remediation cell before John Janssen's arrival in preparation for the removal of contaminated soils. The cell was lined with an impervious liner, and was diked with a straw bale berm that was covered by the liner. Clean soils removed from the new UST area were packed around the outside of the berm to secure the liner in place. An earthen ramp consisting of clean, new UST area soils was then constructed at the soil cell to be used as an entrance and buffer to protect the liner from the movement of heavy machinery.

On September 14, 1995, John Janssen arrived at the site, along with Dr. Dave Shaw, to conduct a formal site assessment in compliance with their

approved Quality Assurance Program Plan dated April 20, 1992, as required by the State of Alaska Underground Storage Tank regulations: 18 AAC 78. The following narrative discusses activity that was observed, accomplished, and photographed at the site during the dates of September 14-23, 1995:

Excavation of the dispenser area commenced first after five dispensers, the concrete island, and concrete pad were wholly or partially removed. A large track backhoe was used to remove soil from the dispenser area and to load it into dump trucks. Once at the soil remediation cell, the trucks emptied their loads onto the cell starting at the ramp and worked back in order to create a protective surface on which the trucks could drive to avoid damaging the liner.

As more contaminated soils were removed from the dispenser area, a two foot lift (consisting of roughly 800 cubic yards) was accumulating at the soil cell. At this point, fertilizer in the form of urea was spread over the soils and perforated vent pipes were laid across the soils at the cell. Fertilizer was again spread in another two foot lift at four feet. Dispenser area soils continued to be stockpiled and spread over the fertilizer and pipes until a total of roughly 2000 cubic yards of dispenser area soils were stored at the cell.

Because more contaminated material remained in the dispenser area, excavation could not continue to widen in an east to west direction if the structural stability of the access road and Jack's Chevron were to be maintained. Contamination was found to be extremely minimal at the southern end of the excavation, and so digging was shifted to the north end. Finally, the dispenser area excavation measured 75' x 30' by 17' deep and further excavation was halted. A decision was made to remediate the remaining contaminated soils in place. Thus, a system of horizontal and vertical perforated and wrapped vent pipes were installed. Fissures were noted within the steep-sided walls of the excavation which threatened to slough off at the expense of the gas station. With the vent system already in place, immediate measures were taken to support the crumbling walls by partially filling the excavation with 3/4 minus aggregate.

While the last remains of the dispenser area soils were spread at the cell, the three (3) USTs were pumped of their liquid contents and were purged with air in preparation for their removal. Then, the buried fuel lines between the USTs and the dispensers were unearthed and removed. Excavation of the USTs commenced at the 12,000 gallon capacity gasoline tank and continued in a

northward direction until the two (2) 2000 gallon capacity diesel tanks were removed. A fiber optic cable was buried parallel to and east of both the gas station and UST's, which restricted the excavation from advancing in that direction. The gasoline tank was measured at 10' 9" in diameter by 20' 0" in length and was then properly marked #1 Gas UST. Upon their removal, the diesel tanks were measured (each was 6' 4" in diameter by 8' 8 1/2" in length) and marked – UST #2 and UST #3, along with a "D" to indicate their contents (refer to photos #26-28).

Once the tanks were removed from the 37' x 20' x 12' deep UST excavation, preliminary and secondary sampling indicated the presence of yet more contamination. Therefore, the contractor excavated westward in the direction of the plume until the excavation approximately doubled in size. A total of approximately 700 cubic yards of soil were removed from the UST excavation and were transported to the soil remediation cell. At last, the ramp-shaped, sloping cell contained a total of roughly 2700 cubic yards of contaminated soil and attained six (6) feet at its highest point.

Final sampling was accomplished by John Janssen and Dr. Dave Shaw on September 23rd after both had logged numerous phone conversations with ADEC personnel concerning sampling specifics. The next day, the collected samples were delivered to an approved lab in Fairbanks; the final lab sample results report was delivered approximately two weeks later on October 9, 1995.

During the course of this investigation and site assessment, a Photovac brand hand-held Micro-tip HL-2000 photoionization detector (PID) was calibrated and used to monitor hydrocarbon PPM levels in areas (especially within the excavations) prone to contamination. Approximately 200 soil readings were made during the rough field screening process, concentrating mainly on the UST and dispenser area excavations, the fuel line areas, and soils removed from the excavations prior to their transportation to the soil remediation cell.

Copper Valley Enterprises verified that the three (3) removed tanks were later cleaned and disposed of in accordance with ADEC and EPA regulations (refer to the letter included in the Correspondence section, Appendix #3).

FIELD SCREEN TESTING

SECONDARY FIELD SCREENING

On September 23, 1995, John H. Janssen and Dr. Dave Shaw collected ten (10) secondary (baggie-type) samples from ten (10) different locations at the Jack's Chevron UST site. Samples #1 and #2 were collected from soils beneath the 12,000 gallon capacity gasoline UST. Two (2) samples were collected from soils beneath each of the two (2) 2000 gallon capacity diesel USTs for a total of four (4) samples (#3-6). Sample #7 was collected at the excavation's northern end from the bottom of the UST excavation. Sample #8 was collected at the opposite end of the excavation beyond the south edge of the gasoline UST. Finally, due to safety hazards associated with the dangerously steep and unstable dispenser area excavation, Samples #9 and #10 were collected from soils removed from the center of the dispenser area excavation and stockpiled at the soil containment cell. Refer to the Plot Plan Sketch on Page 11 for these locations. (Matching numbers in the dispenser area excavation show locations where sampling stockpiled soils originated).

The collected soil samples were placed and sealed individually within ziploc-type baggies and were warmed for approximately 45 minutes. Hydrocarbon PPM levels were then measured using a Photovac brand Micro-tip HL-2000 Photoionization Detector (PID) as per QAPP requirements. These readings represent volatile petroleum hydrocarbons in the atmosphere adjacent to a soil sample. Thus, they give a rough indication of the concentration of petroleum in the soil which is determined by laboratory analysis. For results, see table of readings and sketch on the following pages.

OIL SPILL TECHNOLOGY, INC. FIELD SCREENING LOG

Sample #	Primary* PID Reading (PPM)	Secondary** PID Reading (PPM)	Time	Location	
1	3700	4260	10:45	UST Exc.	
2	2800	4588	10:52	UST Exc.	
3	3400	5900	11:02	UST Exc.	
4	1992	5772	11:09	UST Exc.	
5	3296	2434	11:13	UST Exc.	
6	570	4041	11:17	UST Exc.	
7	1691	4785	11:22	UST Exc.	
8	680	1278	11:26	UST Exc.	
9	1595	3352	11:30	Dispenser	
10	2345	3029	11:41	Dispenser	
<u> </u>			 		
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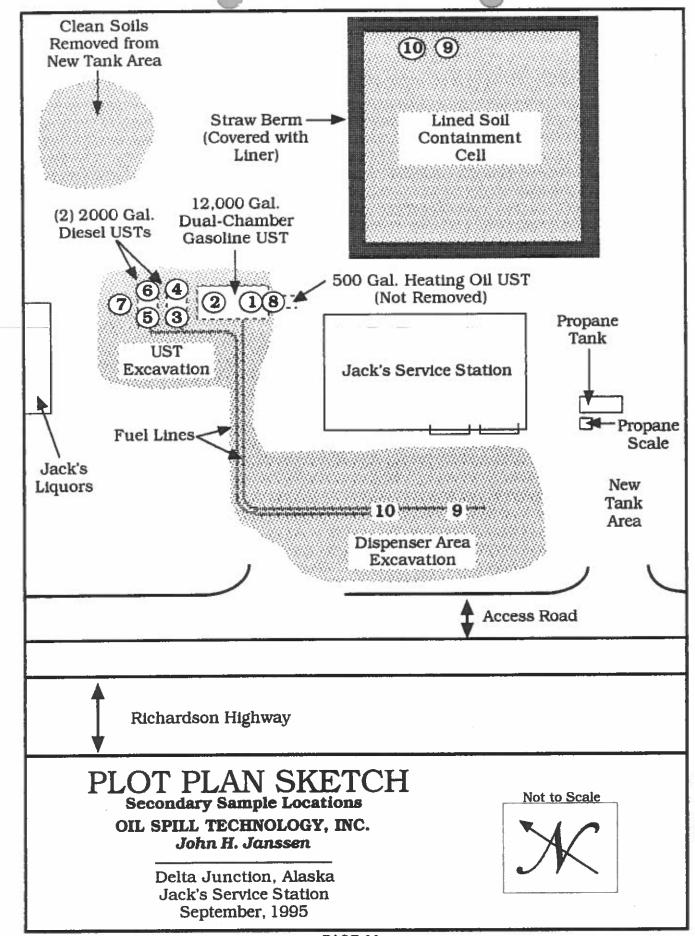
^{*}Primary readings are PID readings taken of the soil in the open air before filling the baggie.

Job: Jack's Chevron Service

Location: Mile 265, 8 Richardson Highway, Delta Junction, Alaska

Taken by: John Janssen/Dr. Dave Shaw Date: September 23, 1995

^{**}Secondary readings represent those readings taken after warming the baggie.

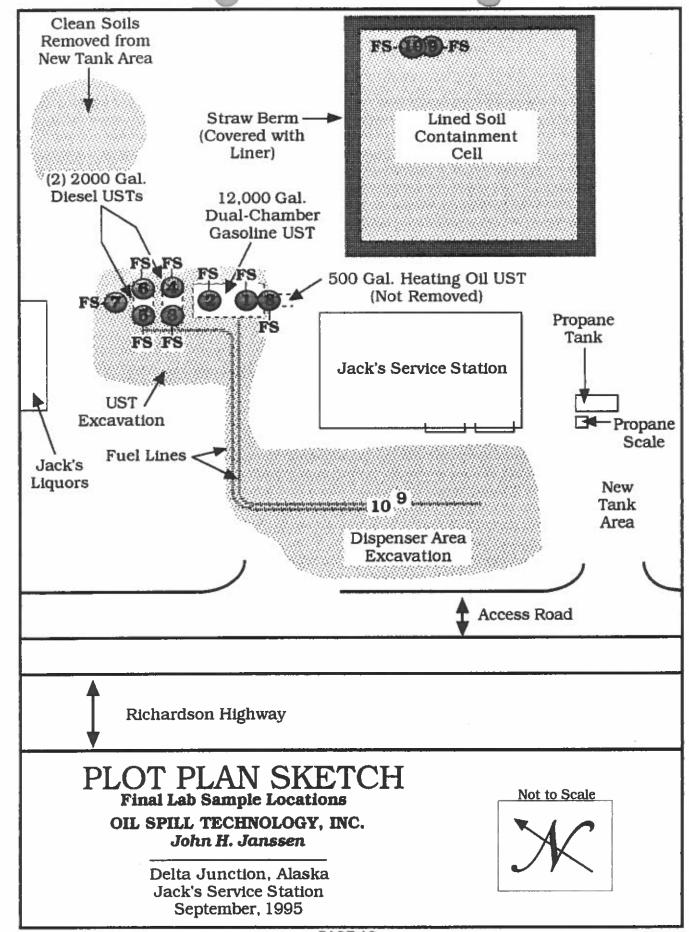


FINAL SAMPLING

On September 23, 1995, John H. Janssen and Dr. Dave Shaw collected ten (10) final laboratory samples from soils at Jack's Chevron in Delta Junction. The samples were collected from nine (9) different locations at the UST site. Final samples JC-FS-1 and -2 were collected from soils beneath the gasoline UST; JC-FS-3 and -4 were collected from soils beneath the center UST, a 2000 gallon capacity diesel UST; JC-FS-5 and -6 were collected from soils beneath the northernmost tank, also a 2000 gallon capacity diesel UST. Final sample JC-FS-7 was collected from the north side and bottom of the UST excavation in soils beyond the tanks. JC-FS-8 was collected from soils just south of the gasoline UST. Finally, due to safety considerations, JC-FS-9 and JC-FS-10 were collected from dispenser area soils that were stockpiled at the lined, soil containment cell. Final lab samples JC-FS-1 through JC-FS-8 and JC-FS-10 were collected from the same area where the secondary field screening (baggie) samples were taken. However, JC-FS-9 was not, and was instead collected as a duplicate of JC-FS-10. Refer to the plot plan sketch on the following page for a visual description of the locations described above. (Matching numbers in the dispenser area excavation show locations where sampling stockpiled soils originated).

A trip blank was prepared but after much discussion with ADEC personnel, it was finally agreed that laboratory analysis of the trip blank was not necessary for this site assessment.

The collected samples were transported to an approved laboratory in Fairbanks where they were tested for four (4) parameters as required by the State of Alaska: Method AK 101 for gasoline range organics; method AK 102 for diesel range organics; method 8020 for BTEX, and method 7420 for Lead. The sample records and copies of the laboratory analysis reports can be found in Appendix #2.



CONCLUSIONS

This project was designed to remove three (3) commercially used, 28-year-old underground storage tanks (UST's) and associated fill, pump, and vent pipes and fuel lines at Jack's Chevron. The USTs consisted of one (1) dual-chambered gasoline UST (which has stored both leaded and unleaded gasoline) and two (2) 2,000 gallon capacity diesel tanks.

The preliminary matrix score for this site is 35, which would allow concentrations of diesel range organics (DRO) up to 200 PPM, gasoline range organics (GRO) up to 100 PPM, and BTEX up to 15 PPM. No single sample of the ten (10) collected meet these three qualifications. The following table shows DRO, GRO, BTEX, and Lead results:

Results of DRO, GRO, BTEX, and Lead Analyses in Parts Per Million (PPM)

Sample ID	DRO	GRO	BTEX	Lead
JC-FS-1	568.4	6718.0	1636.0	29.8
JC-FS-2	674.3	8716.8	2060.3	49.7
JC-FS-3	416.6	3631.8	1200.0	30.3
JC-FS-4	724.3	9099.3	2009.4	29.6
JC-FS-5	78.1	163.9	35.9	40.2
JC-FS-6	2479.3	6631.0	1231.8	50.1
JC-FS-7	1447.5	3624.8	790.6	39.8
JC-FS-8	69.9	198.0	18.3	30.0
JC-FS-9	444.9	1979.7	95.8	30.2
JC-FS-10	380.2	2377.2	375.9	30.1

Only JC-FS-5 and JC-FS-8 exhibited some resemblance of acceptable results concerning GRO and DRO concentrations; however, BTEX results analyzed in those same samples exceeded acceptable limits. Thus, based on the results indicated above, it is obvious that contamination remains at the site.

RECOMMENDATIONS

Hydrocarbon contamination has occurred at a number of sources at this site in connection with the storage and retail sale of diesel and gasoline. It appears that fuel has been released at three sources – from the USTs, the fuel lines (rough field screening indicated that leaks occurred at pipe connections), and from the dispensers at the fuel transfer area.

Contaminated material is known to exist in the following four (4) areas [releases occurred at only three (3)] at Jack's Chevron. Each location is accompanied by a description of possible general short- and long-term soil treatment/remediation alternatives as follows:

- 1) Dispenser area west of the building: Approximately 2000 cubic yards of contaminated soils have already been removed from this area and have been stockpiled at the soil remediation cell. Additional contamination remained; therefore short-term remediation measures were taken by installing a horizontal and vertical air vent system after which clean aggregate was used to fill the excavation. Since surrounding obstacles limit further excavation, it would not be practical to continue to remove any more material. A long-term approach may then include the installation and activation of an aeration system to force air movement throughout the pipes, thus bringing vapors more quickly to the surface.
- 2) UST area north of the building: Roughly 700 cubic yards of contaminated soils have been removed and stockpiled at the soil remediation cell. Contamination still exists in the area. Therefore, a number of options are available. First, the most extensive effort would include the continued removal of contaminated material. Optionally, this could be entailed by installing a vent system similar to the system installed at the dispenser area. Clean fill material may be used to fill the excavation. The second option would include the installation of a vent system without removing any additional contaminated material. The addition of fertilizer may also be beneficial. In either case, again, the activation of a forced-air system in the long run may be advantageous to improve the rate of bioremediation.
- 3) Fuel line area northwest of the building: The extent of excavation in this area occurred such that only a shallow trench was dug to remove the fuel lines. Additional contamination remains. Available options here are the same as those described in 2). A long-term alternative might be to join any existing horizontal and vertical air vent systems on-site and/or to activate a forcedair system.
- 4) Lined Soil Remediation/Containment Cell: This area has already been diked, lined, fertilized, and vented to serve as a containment area for the bioremediation of soils removed on-site. Because perforated air vent pipes exist at the cell, the option of discing or tilling is limited to the uppermost layers of the present remediation cell; however it is an option, as is the

There was no sign of major leakage at any of these connections that we were made aware of.

construction of yet another, but perhaps smaller, similar cell if the need arises to accommodate more removed soils. The addition of water and/or fertilizer may be carried out on a regular, seasonal basis depending on the rate of remediation. However, it is recommended that the cell be securely covered with an impervious liner in preparation for the winter months.

Thermal treatment for soils at this site has not been recommended at this time due to the site's far location from a thermal treatment plant along with the associated liability and costs of transportation, and because the total amount of remaining contaminated soil is presently unknown.

It is also recommended that sampling be performed on an annual basis to gauge improvements in environmental conditions at this site. The results can then be used to make decisions regarding future remediation measures at this site. The extent and number of samples should be determined in consultation with ADEC personnel as should any final remediation decisions while considering cost, time, and other factors.

LIMITATIONS

This report presents data based on the limited number of soil samples taken during and after excavation and removal of the tanks, lines and fittings on this site, as well as on information gathered during this investigation. Findings presented are based on the sampling and analysis that was performed. This should not be construed as an exhaustive study of soil and/or groundwater at this site. The sampling performed was intended to confirm the presence or absence of hydrocarbon contamination associated with spills at this site. It is possible that subsurface tests may have missed some areas of higher levels of contamination. It was not the intent of this investigation to detect contamination by other compounds for which laboratory analyses were not performed. No conclusions should be drawn concerning the presence or absence of other contaminants. In addition, no assurances are made that regulatory agencies or their staff will reach the same conclusions that are presented here.

The data presented in this report should be considered to be representative of the situation only at the time the samples were collected.

I certify that I have personally reviewed the information submitted in this report, as well as attached documents in the Appendices. I believe that the submitted information is true, accurate, and complete based on the collected data, statements, and my knowledge of the individuals directly involved in this investigation.

Sincerely,

John H. Janssen

OH SPILL TECHNOLOGY, INC.

Signature, Date

Principal Investigator

President, Oil Spill Technology, Inc.

10-26-95

MATRIX SCORE

MATRIX SCORE SHEET

1. Depth to Subsurface Water < 5 feet (10) 5 - 15 feet (8) 15 - 25 (6) 25 - 50 (4) > 50 feet (1) 2. Mean Annual Precipitation > 40 inches (10) 25 - 40 (5)
5 - 15 feet (8) 15 - 25 (6) 25 - 50 (4) > 50 feet (1) 1 2. Mean Annual Precipitation > 40 inches (10) 25 - 40 (5)
15 - 25 25 - 50 (4) > 50 feet (1) 1 2. Mean Annual Precipitation > 40 inches (10) 25 - 40 (5)
25 - 50 (4) > 50 feet (1) 1 2. Mean Annual Precipitation (10) 25 - 40 (5)
2. Mean Annual Precipitation > 40 inches 25 - 40 (1) (1) (1) (5)
2. Mean Annual Precipitation > 40 inches (10) 25 - 40 (5)
> 40 inches (10) 25 - 40 (5)
> 40 inches (10) 25 - 40 (5)
25 - 40 (5)
1
15 - 25
< 15 inches (1) 1]
3. Soil Type (Unified Soil Classification)
Clean, coarse-grained soils (10)
Coarse-grained soils with fines (8) 8
Fine-grained soils (low OC) (3)
Fine-grained soils (high OC) (1)
I me gramed sono (mgn oo)
4. Potential Receptors
Public Well within 1000 feet, or
Private Well(s) within 500 feet (15) 15
Municipal/private well within 1/2 mile (12)
Municipal/private well within 1 mile (8)
No known well within 1/2 mile (6)
• • • • • • • • • • • • • • • • • • • •
Non-potable groundwater (1)
5. Volume of Contaminated Soil
> 500 cubic yards (10) 10
100 - 500 cubic yards (8)
25 - 100 cubic yards (5)
> De Minimis - 25 cubic yards (2)
De Minimis (0)

Total	35
	
	

Matrix Score		Cleanup Level in mg/kg			
		Diesel	Diesel Gasoline/Unknown		
		diesel range pet. hydro.	gasoline range pet. hydro.	Benzene	BTEX
Level A	> 40	100	50	0.1	10
Level B	27-40	200	100	0.5	15
Level C	21-26	1000	500	0.5	50
Level D	< 20	2000	1000	0.5	100

ADEC UST PRELIMINARY RISK EVALUATION FORMS

ADEC Underground Storage Tank Program Preliminary Risk Evaluation Form (page 2)

How to fill out this form:

Please type or print in ink all the requested information. On pages 3-5, please fill in the letter of the correct choice on the line at the end of the question.

Facility ID Number 1776	Tax ID Number		
Applicant:	Facility:		
Name: Jack Adams Address: P.O. Box 587	Address: Mile 266.5 Richardson Highway		
Phone: (907) 895-1052	Delta Junction, AK 99737 Phone: (907) 895-1052		
Owner of Tank (If Not Same As Applicant):	Owner of Land (If Not Same As Applicant):		
Name: Same Address:	Address:		
Phone:	Phone:		
Preparer:			
Title: President	nology, Inc.		

Comments:

Please give any additional information you may have that may assist in processing the Risk Evaluation Form (i.e. directions to the site if it does not have a physical address, uncertainties over how to answer particular questions, etc.). Please use additional pages, if necessary.

ADEC Underground Storage Tai Program Preliminary Risk Evaluation form (page 3)

What type of product was released or detected? B & C State Use a. Chlorinated solvents, halogenated hydrocarbons, chlorinated pesticides. b. Gasoline, aviation gasoline (avgas), metals, naptha, non-chlorinated pesticides. c. Diesel, crude oil, Jet fuels (JP-4, JP-5), kerosene, non-chlorinated solvents/phenols. d. Waste oil, heavy fuel oils (No. 6 etc), tar, inorganic acids/bases. e. Unknown; or other 2. What quantity of the product was released? a. Unknown; estimate of contaminated soil is: 2700+ __ cubic yards; or contamination is estimated to be present over ____ square feet. b. Less than 10 gallons c. 10 - 550 gallons d. 551 - 5,500 gallons e. 5,501 - 55,000 gallons f. More than 55,000 gallons 3. Has a release at the site been documented? a. There has been a documented release of contaminants at the site. The level of contamination is currently either unknown or above cleanup guideline levels. b. Contamination at the site is suspected due to inadequate containment or management practices. Contamination has not yet been confirmed. c. Contamination has been documented to be currently below cleanup guidelines. d. It is unknown if there has been a release of contaminants at this site. 4. How controlled is access to the site? a. Access to site is not fully controlled AND school is within 500 feet of site AND wastes are present on the surface of the site. b. Access to site is uncontrolled AND wastes are present at the site's surface. c. Access to site is partially controlled by artificial or natural barriers; OR contaminated soil has been excavated and placed in covered stockpile on-site; OR contaminated soils are being bioremediated above ground. d. Release is confined underground; OR site is completely controlled AND no wastes are migrating on the surface outside of the controlled area of site. 5. Have contaminants been released to the atmosphere? a. A particulate release to the air has been documented; or large ongoing releases of volatile organics from the site have been confirmed. b. Releases of particulates or volatile organics to the air is suspected due to evidence of contamination at the ground surface but releases have not been documented; OR site has uncovered stockpiles of contaminated soils. c. There is an unknown potential for release of contaminants to the air; or site has partially covered stockpiles of contaminated soil which are not known to be completely, effectively and permanently covered; or site is being bioremediated above ground. d. There is no potential for release; OR contaminants are entirely underground; OR completely, effectively, and permanently covered. 6. What is the predominant land use within one mile of the site? ___ The site is in an urban area with a population greater than 35,000 people. b. The site is in a suburban residential area (lot sizes generally 1/4 - 1 acre) OR a city with 2,000-35,000 people OR an industrial/commercial area. c. The site is in a village of less than 2,000 people OR in an area where density is less than one housing unit per acre, OR low-density commercial areas within one mile of the site, OR area has few permanent residents but intensive seasonal use. d. The site is in a rural area; some occupied buildings are within one mile of the site; no small villages or associated commercial areas are within one mile of site. e. There is no population present within one mile of the site.

ADEC Unerground Storage Tan Program Preliminary Risk Evaluation form (page 4)

b. Community or private wells serving less than 25 people are within one mile of site c. There is no known groundwater use within one mile of site (in areas with municipe supplies, oceasional private wells may be present). d. Groundwater within one mile of the site is not available for use OR has been docur to be not in use. 9. Has there been any documentation of groundwater contamination?		
a. Municipal or other public wells serving 25 people (or more) are within one mile of site c. There is no known groundwater use within one mile of site (in areas with municipe supplies, occasional private wells may be present). d. Groundwater within one mile of the site is not available for use OR has been docur to be not in use. 9. Has there been any documentation of groundwater contamination? D a. Documentation shows that maximum contaminant level (MCL, at tap) for drinking supply has been exceeded due to groundwater contamination from releases at the levels of contamination at the tap are below MCL for drinking water. c. Groundwater contamination at the tap are below MCL for drinking water. c. Groundwater is documented. d. It is unknown if groundwater contamination on Site and contaminant characteristics indicate that contamination is unlikely (i.e. leaking underground tanks, contained soils). 10. Is surface water within one mile of site is known to be used as a drinking water sour b. Surface water within one mile of site probably used as a drinking water soure. c. Surface water within one mile of site probably NOT used as a drinking water soure. c. Surface water within one mile of site probably NOT used as a drinking water soure. 11. Has surface water been contaminated by releases from the site? D a. Documentation shows that maximum contaminant levels (MCLs) for drinking water soure levels of contamination shows that surface water has been contaminated from releases at the b. Documentation shows that surface water has been contaminated from releases at levels of contamination at the tap are below MCL for drinking water. c. Surface water contamination has been detected, but actual contamination of surfactinking water supplies has not been documented. d. It is unknown if surface water contamination on the site and contamination is not at ground surface, leaking underground storage tanks, contained soils). 12. What type of water bodies or wellands are present within 14 of the site? C a. Wetlands	State Use	a. Occupied buildings are within 500 feet of site.
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a. Wetlands or surface waters are within 1/4 mile of the site AND wildlife or fish are suspected to have been affected by contamination from the site. b. Wetlands or surface waters are within 1/4 mile of the site AND plant life is strongly suspected to have been affected by contamination from the site. c. Wetlands or surface waters are within 1/4 mile of the site AND wildlife, fish and plant are not suspected to have been affected by contamination from the site. d. No wetlands or surface waters are within 1/4 mile of the site. 13. Is the site in a critical terrestrial environment? (see definition in introduction)		 a. Documentation shows that maximum contaminant levels (MCLs) for drinking water at the tap have been exceeded due to surface water contamination from releases at the site. b. Documentation shows that surface water has been contaminated from releases at the site; levels of contamination at the tap are below MCL for drinking water. c. Surface water contamination has been detected, but actual contamination of surface drinking water supplies has not been documented. d. It is unknown if surface water contamination exists. e. Surface water is documented to be free of contamination OR site and contaminant characteristics indicate that contamination is unlikely (e.g. contamination is not present at ground surface, leaking underground storage tanks, contained soils).
a. The site is in a critical terrestrial environment AND wildlife or fish are strongly so to have been affected by contamination from the site.		 a. Wetlands or surface waters are within 1/4 mile of the site AND wildlife or fish are strongly suspected to have been affected by contamination from the site. b. Wetlands or surface waters are within 1/4 mile of the site AND plant life is strongly suspected to have been affected by contamination from the site. c. Wetlands or surface waters are within 1/4 mile of the site AND wildlife, fish and plant life are not suspected to have been affected by contamination from the site.
been affected by contamination from the site.		 a. The site is in a critical terrestrial environment AND wildlife or fish are strongly suspected to have been affected by contamination from the site. b. The site is in a critical terrestrial environment AND plant life is strongly suspected to have been affected by contamination from the site. c. The site is in a critical terrestrial environment AND wildlife, fish and plant life are not

d. The site is not in a critical terrestrial environment.

ADEC Upperground Storage Tar Program Prenminary Risk Evaluation form (page 5)

State Use	 14. Have wildlife, fish, or plant life been affected by contamination from the site?
	 a. More than one type of contaminant is KNOWN to have been released at the site. If so, please list the types <u>Gasoline and Diesel</u> b. Only one type of contaminant has been released at the site; OR site has suspected but NOT known multiple contaminants; OR only contaminant released is drilling mud; OR site has only one contaminant that is present at levels above applicable cleanup levels.
	 16. Were contaminants released from separate sources at the site? A (dispensers and tanks) a. Contaminants have been released at more than one point at the site; the sources are geographically isolated from each other (by hundreds of feet or acres); if so, please list the distance between sources of contamination: 50+ feet. b. Contaminants have been released at only one point at the site; OR site has multiple types of contaminants which have commingled in the same area.
	 17. Was the contamination released from a regulated underground petroleum storage tank? <u>C</u> a. The only contaminant released was from a regulated underground petroleum storage tank. b. No contamination occurred as a result of a release from a regulated underground petroleum storage tank. c. Contamination occurred from regulated underground petroleum storage tanks AND from other sources.

State Use		

CLOSURE NOTICE



CLOSURE NOTICE FOR ALASKA UNDERGROUND STORAGE TANKS



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

	Took Owner				
Facility - Location (Do not use P.O. Box)	Tank Owner				
Name Jacks Service Address mile 766 Pichardson Hiway Della Jet AK 99737 Phone 907 295-1052 Facility ID Number (If Know Scheduled Date for Closure					
This form MUST be completed and sent at least 15 and n	o more than 60 days prior to closure.				
Alaska Statute 46.03.375 requires those who supervise ar	UST closure be certified after March 25, 1992.				
A Site Assessment in accordance with 18 AAC 78.090 mu third party with an approved quality assurance program p					
Contractor to Perform Closure Copper Valley E	UST Worker License # AA IO				
Contractor to Perform Closure Copper Valley E Firm to Perform Site Assessment Oil Spill	Chauloy QAPP on File? yes				
Method of Closure: Removal If In-ground,	Type of Fill Material				
Is there a leak/spill at this site? wo (if so, ple Have you contacted the local fire department of you	ease notify the closest DEC office) or intent to close the tank(s)?				
Where are the tank, piping, equipment, and sludge to be disposed? Copper Valley Ent. is					
Tanks to be Closed					
Tank Number Tank Age Tank Size Last 1+2 28 12,000 69 3 23 2200 01	Product Stored Still bein used Still bein used Still bein used 1967				
Closure Notice Submitted By:					
Mark Ochum Partner (Signature) (Title)	0°-21-85 (Date)				
Mark Adams 907-0 (Please print name) (Phon					
Return Completed Form to: Alaska Department 3601 C Street, Suit	t of Environmental Conservation				

UST/Closure #92-01 rev 4/92

Anchorage, AK 99503 FAX # (907) 500 2 269-7507



LOST-CHOSOKE INFORMATION FOR ALASKA UNDERGROUND STOR E TANKS Post Closure in ation and Site Assessment report is required 30 day oner UST closure.



Facility - Location (Do not use	P.O. Box.)	Tank Owner		
Name Jack's Set Address mile 266 Richard Phone 907-895-10	MARASON Sharqson Sharqq737	Name Tack Adams Address /4 inite Cake uses Delta Tunction Alas Phone		
Facility ID #	6 Date Clos	sed 9-15-95		
		FOR ANY UST CLOSURE		
Site Assessment Performed ED CREUS Closure Performed By:	per VALLE E	LL Technology NT, UST License # AA10		
Date Site Assessment Perfo	rmed: OLC Solu	Technolorise		
SITE ASSESSMENT REPO ENVIRONMENTA	RT MUST BE SUBM AL CONSERVATION	ITTED TO DEPARTMENT OF DISTRICT OFFICE		
Was the closed tank replaced by If yes, please submit a new regis	y a new UST? Yes_ stration form containi	No ng information on the new tanks.		
Tanks R	emoved Or Closed	In-ground		
Tank Number Tank Size	Removed or Closed In-ground			
1 2,000 4 2,000	Remover	Diesel Yes Used Since 1967		
All releases/contamination shours. For further information Regulations (18 AAC 78) or co Conservation.	Telet to the Miscks	a DEC District Office within 24 Underground Storage Tank nt of Environmental		
Submitted By:				
(Name)	(Firm,) (Phone)		
Return Completed Form to: Alaska Department of Environmental Conservation 3601 C Street, Suite 398 Anchorage, AK 99503				

UST/Post Closure #92-02 rev 5/93

FAX # (907) (2008) 269-7507

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Date Received	Location of Data File		· <u>-</u>	
Comments				
				*
Signature of Reviewer		Name of Reviewer		



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James De John	- JAMA JANSSB	H Davin & Schrill
Signature of Collector	Name of Collector	SHOULD COHEIN
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Date Method	Destina	ation
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Comments		
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Signature of Transporter	Name of Transporter	BH
ANALYTICAL RESULTS		——————————————————————————————————————
Date Received Location of Data F	ile	
Comments		
		e#
Signature of Reviewer	Name of Reviewer	



Project VACK'N MERVICE	Date Time
Location	Client Custody (ves. No.
Material Intended	Record R
Sample Analysis Analysis	0,620 BTEX: 1000 X - F5-10
Description and Source of Sample Container	STAROL SPORTS AND THESE
Collection Procedure	Le Rond
Holding Conditions Preservation N	Method Maximum Holding Time
Comments	
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Signature of Collector	Name of Collector
TRANSPORT TO ANALYTICAL LA	ABORATORY
Date Method	Destination
9-24-95	TRUCK JORGONHER LAD
	'
Signature of Transporter	Name of Transporter Aug 33 84-(
ANALYTICAL RESULTS	
Date Received Location of Da	ata File
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	¥*
Signature of Reviewer	Name of Reviewer
Signature of treatener	- INSTITE OF MEASURE.

SAMPLE RESULTS

KECOMOD 10-11-95



BORE HEM MOBILE LAB & CONSULT G, Inc.

3529 College Road, Suite 204 Fairbanks, Alaska 99709-4017





October 9, 1995 Report #: 1119

File Name: RPOSTJC1.wps

FINAL REPORT

RESULTS OF DRO, GRO, BTEX & LEAD ANALYSES OF SOIL SAMPLES

JACK'S CHEVRON SITE INVESTIGATION PROJECT SEPTEMBER 1995 BATCH # 1

FOR MR. JACK ADAMS
JACK'S CHEVRON
PO BOX 587
DELTA JUNCTION, ALASKA 99737
p:(907) 895-1052
SAMPLED BY OIL SPILL TECHNOLOGY,INC.
1100 ESRO ROAD
FAIRBANKS, ALASKA 99712
p:(907) 488-2834

REPORT PREPARED BY BOREOCHEM LABORATORY

REPORT/REVIEWED AND APPROVED:

Tim Thomas

Laboratory Manager

SAMPLE INFORMATION

LAB ID	FIELD ID	CLIENT NAME	SAMPLER	SMP LOCATION	MATRIX
95092401	JC-FS-1	OST	Mr. John Janssen	UST Excavation	Soil
95092402	JC-FS-2	OST	Mr. John Janssen	UST Excavation	Soil
95092403	JC-FS-3	OST	Mr. John Janssen	UST Excavation	Soil
95092404	JC-FS-4	OST	Mr. John Janssen	UST Excavation	Soil
95092405	JC-FS-5	OST	Mr. John Janssen	UST Excavation	Soil
95092406	JC-FS-6	OST	Mr. John Janssen	UST Excavation	Soil
95092407	JC-FS-7	OST	Mr. John Janssen	UST Excavation	Soil
95092408	JC-FS-8	OST	Mr. John Janssen	UST Excavation	Soil
95092409	JC-FS-9	OST	Mr. John Janssen	Dispenser Excav	Soil
95092410	JC-FS-10	OST	Mr. John Janssen	Dispenser Excav	Soil
LAB ID	FIELD ID	SAMPLE DATE	SAMPLE TIME	RECEPTION TIME	RECEPTION DATE
95092401	JC-FS-1	9/23/95	1223	1305	9/24/95
95092402	JC-FS-2	9/23/95	1229	1305	9/24/95
95092403	JC-FS-3	9/23/95	1235	1305	9/24/95
25092404	JC-FS-4	9/23/95	1243	1305	9/24/95
J92405	JC-FS-5	9/23/95	1248	1305	9/24/95
95092406	JC-FS-6	9/23/95	1253	1305	9/24/95
95092407	JC-FS-7	9/23/95	1258	1305	9/24/95
95092408	JC-FS-8	9/23/95	1304	, 1305	9/24/95
95092409	JC-FS-9	9/23/95	1314	1305	9/24/95
95092410	JC-FS-10	9/23/95	1317	1305	9/24/95
LAB ID	FIELD ID	LAB RECEIVER	PRESERVATION	COC#	ANALYSES
95092401	JC-FS-1	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092402	JC-FS-2	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092403	JC-FS-3	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092404	JC-FS-4	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092405	JC-FS-5	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092406	JC-FS-6	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092407	JC-FS-7	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092408	JC-FS-8	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092409	JC-FS-9	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420
95092410	JC-FS-10	T Thomas	Cooled to 4 C	92495-1	AK 101,AK 102, 8020,7420

2 of

SAMPLE INFORMATION CONTINUED

LAB ID	FIELD ID	DRO BOTTLE	DRO EXTRACT	DRO ANALYSIS	HOLDING TIME	
95092401	JC-FS-1	1 x 8 oz glass /teflon	9/27/95	10/4/95	14d extract/40d analysis	
95092402	JC-FS-2	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092403	JC-FS-3	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092404	JC-FS-4	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092405	JC-FS-5	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092406	JC-FS-6	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092407	JC-FS-7	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092408	JC-FS-8	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092409	JC-FS-9	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
95092410	JC-FS-10	1 x 8 oz glass /teflon	9/27/95	10/5/95	14d extract/40d analysis	
LAB ID	FIELD ID	VOL BOTTLE	VOL EXTRACT	VOL ANALYSIS	HOLDING TIME	
95092401	JC-FS-1	2 x 2 oz glass/ teflon	9/25/95	9/28/95	14d to analysis	
95092402	JC-FS-2	2 x 2 oz glass/ teflon	9/25/95	9/29/95	14d to analysis	
95092403	JC-FS-3	2 x 2 oz glass/ teflon	9/25/95	9/29/95	14d to analysis	
95092404	JC-FS-4	2 x 2 oz glass/ teflon	9/25/95	9/29/95	14d to analysis	
95092405	JC-FS-5	2 x 2 oz glass/ teflon	9/25/95	9/29/95	14d to analysis	
95092406	JC-FS-6	2 x 2 oz glass/ teflon	9/25/95	9/29/95	14d to analysis	
95092407	JC-FS-7	2 x 2 oz glass/ teflon	9/25/95	10/6/95	14d to analysis	
92408	JC-FS-8	2 x 2 oz glass/ teflon	9/25/95	10/6/95	14d to analysis	
95092409	JC-FS-9	2 x 2 oz glass/ teflon	9/25/95	10/6/95	14d to analysis	
95092410	JC-FS-10	2 x 2 oz glass/ teflon	9/25/95	10/6/95	14d to analysis	
LAB ID	FIELD ID	LEAD BOTTLE	LEAD DIGEST	'LEAD ANALYSIS	HOLDING TIME	
95092401	JC-FS-1	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092402	JC-FS-2	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092403	JC-FS-3	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092404	JC-FS-4	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092405	JC-FS-5	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092406	JC-FS-6	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092407	JC-FS-7	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
	JC-FS-8	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	
95092408	1 20 40 0	- 12 0 00 DEGO 1000011	7.20,70			
95092408 95092409	JC-FS-9	1 x 8 oz glass /teflon	9/25/95	9/27/95	6 months	

SAMPLE PREPARATION DATA

SEMIVOLATILE EXTRACTIONS

20 grams of sample were mixed with 20 grams of sodium sulfate and spiked with 0.5 ml of 202 ppm o-terphenyl surrogate standards. After three sonications performed in accordance with AK 102 methods, the methylene chloride extracts were reduced to a volume of approximately 0.5 ml.

HEAVY METAL DIGESTIONS

0.1 grams of sample were digested in 10 ml of 70 % nitric acid by microwave oven and diluted to 50ml prior to analysis by atomic absorption spectrophotometer.

VULATILE EXTRACTIONS

10 grams of sample were extracted by addition of 9 ml of purge & trap grade methanol and were spike with 1 m of fluorobromobenze for a final volume of 10 ml. 50microliters of the methanol were injected into 4.95 ml of reagent water and purged with helium for introduction onto the gas chromatograph.

RESULTS OF DRO,GRO,BTEX & LEAD ANALYSES IN PARTS PER MILLION (mg/ dry kilogram)

#	Parameter	95092401	95092402	95092403	95092404	95092405
		JC-FS-1	JC-FS-2	JC-FS-3	JC-FS-4	JC-FS-5
	Diesel-range Organics	568.4	674.3	416.6	724.3	78.1
2	Gas-range Organics	6718.0	8716.8	3631.8	9099.3	163.9
3	Benzene	54.9	74.6	21.3	65.5	1.1
4	Toluene	543.5	623.3	343.0	683.1	10.3
5	Chlorobenzene	< 1.25	< 2.5	< 1.25	< 1.25	< 0.05
6	Ethylbenzene	131.8	155.2	102.2	168.0	2.3
7	m-p xylenes	628.8	823.1	552.8	775.2	15.3
8	o-xylenes	276.9	384.1	180.7	317.6	7.0
9	1,3-dichlorobenzene	< 1.25	< 2.5	< 1.25	< 1.25	< 0.05
10	1,4-dichlorobenzene	< 1.25	< 2.5	< 1.25	< 1.25	< 0.05
11	1,2-dichlorobenzene	< 1.25	< 2.5	< 1.25	< 1.25	< 0.05
12	Total BTEX	1636.0	2060.3	1200.0	2009.4	35.9
13	% Solids	83.8	88.0	96.3	91.1	84.6
14	Total Lead	29.8	49.7	30.3	29.6	40.2
15	% DRO SS	102.4%	91.6%	140.3%	105.5%	104.7%
16	% GRO SS	299.9%	187.3%	170.9%	116.3%	66.5%
17	% BTEX SS	146.9%	87.6%	77.7%	123.6%	52.9%
18	DRO Dilution Factor	1	1	1	1	1
19	GRO Dilution Factor	50	10 "	50	50	2
20	BTEX Dilution Factor	25	50	25	25	1
21	Lead Dilution Factor	1	1	1	1	1
22	DRO MRL	4.0	4.0	4.0	4.0	4.0
23	GRO MRL	50	10	50	50	2
24	BTEX MRL	1.25	2.5	1.25	1.25	0.05
25	Lead MRL	3.0	3.0	3.0	3.0	3.0

RESULTS OF DRO,GRO,BTEX & LEAD ANALYSES IN PARTS PER MILLION (mg/ dry kilogram)

#	Parameter	95092406	95092407	95092408	95092409	95092410
		JC-FS-6	JC-FS-7	JC-FS-8	JC-FS-9	JC-FS-10
1	Diesel-range Organics	2479.3	1447.5	69.9	444.9	380.2
2	Gas-range Organics	6631.0	3624.8	198.0	1979.7	2377.2
3	Benzene	36.1	23.0	0.1	0,6	2.1
4	Toluene	355.3	220.8	0.5	18.3	40.8
5	Chlorobenzene	<2.5	<2.5	< 1.0	< 0.05	< 0.1
6	Ethylbenzene	113.8	66.4	0.7	14.7	52.3
7	m-p xylenes	508.3	333.8	10.4	33.0	207.5
8	o-xylenes	218.3	146.6	6.6	29.2	73.2
9	1,3-dichlorobenzene	<2.5	<2.5	< 1.0	< 0.05	< 0.1
10	1,4-dichlorobenzene	<2.5	<2.5	< 1.0	< 0.05	< 0.1
11	1,2-dichlorobenzene	<2.5	<2.5	< 1.0	< 0.05	< 0.1
12	Total BTEX	1231.8	790.6	18.3	95.8	375.9
13	% Solids	88.5	86	89.9	85.9	85.3
14	Total Lead	50.1	39.8	30.0	30.2	30.1
15	% DRO SS	428.3%	246.6%	100.1%	100.1%	102.1%
16	% GRO SS	Not calculable	Not calculable	96.05%	50.00%	125.12%
17	% BTEX SS	95.0%	71.5%	58.5%	54.6%	54.2%
18	DRO Dilution Factor	1	1	1	1	1
19	GRO Dilution Factor	100	100 -	1	10	4
20	BTEX Dilution Factor	50	50	20	1	2
21	Lead Dilution Factor	1	1	1	11	1
22	DRO MRL	4.0	4.0	4.0	4.0	4.0
23	GRO MRL	100	100	1	10	4
24	BTEX MRL	2.5	2.5	1	0.05	0.1
25	Lead MRL	3.0	3.0	3.0	3.0	3.0

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QUALITY CONTROL DATA

#	Parameter	Spike TV	LCS(1) FV	LCS(2) FV	Average Recovery	RPD	MB Conc.	MDL
er .	1 41 41 41	(ppm)	(ppm)	(ppm)			(ppm)	
1	Diesel-range Organics	48.6	30.3	29.6	61.6%	2.4%	< 4.0	4.0
2	Gas-range Organics	63.0	57.0	63.9	96.0%	11.4%	<1.3	1.3
3	Benzene	8.10	9.26		114.3%	< 10 %	<0.05	0.05
4	Toluene	6.55	6.37		97.3%	< 10 %	<0.05	0.05
5	m&p-xylene	6.10	6.75		110.7%	< 10 %	<0.05	0.05
6	Total Lead	80	97.6	86.7	115.2%	11.7%	<3.0	3.0
7	DRO Lab Control % SS		80.5%	74.0%			62.5%	
8	GRO Lab Control % SS		86.8%	89.0%			92.9%	
1.—	BTEX Lab Control % SS		100.8%				104.0%	
-	BIEN Law Colmol 7033		1	<u> </u>		<u> </u>		
10	QC Acceptance Limits				60%130%	20%	<mdl< td=""><td></td></mdl<>	

METHODS

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

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

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

SW-846 3051: Microwave-Assisted Acid Digestion of Sediments, Sludges, Soils, and Oils. Environmental Protection Agency, Revision 0, November 1992.

SW-846 7420: Lead (AA Direct Aspiration). Environmental Protection Agency.

ABBREVIATIONS

4 C: 4 degrees Centigrade.

ID: Identification Number.

SMP: Sample.

FV: Found value.

EXT: Extraction.

ANAL. Analysis.

VOIatile Organic Analysis.

Alaska Department of Environmental Conservation.

United States Army Corps of Engineers.

QA: Quality Assurance.

PPM: Parts per million.

Surr.: Surrogate.

AFB: Airforce Base.

DRO: Diesel-range Organic.

RRO: Residual-range Organic.

BTEX: Benzene, Toluene, Ethylbenzene, Xylenes.

GRO: Gas-range organics.

TPH: Total Petroleum Hydrocarbon.

FLD ID: Field Identification number.

COC: Chain-of-Custody.

Oz: Ounce.
d.: Day.
Vol.: Volatile.

% SS: % Surrogate standard recovery.

m&p: Meta and para.

o-: ortho.

RPD: Relative Per cent Difference.

DL: Detection Limit.

LCS: Laboratory Control Sample.

	Chain of Custody Record and Request for Analytical Services		AND CONSULTING, INC.	른	Phone (907) 479-5459 FAX (907) 479-9544	Description of Project Specific QC Requested			13676		ANGEL SES ACCOUNT			Digest Digest CELP/ZHE PAYOUT	7	7	7	2 2	7	<i>y y y y</i>	7 7 7	7	7			(Partial)	Man
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FIELD QUALITY CONTROL SUMMARY

Field Quality Control Summary Jack's Chevron - Delta, Alaska

QC Designation	<u>Tolerance</u>	This Project
Holding time to	7 1 (AK400)	A days
extract DRO, soil	7 days (AK102)	4 days
Holding time to analyze DRO, soil	40 days (AK102)	11 days
analyze Dho, son	40 days (ARTOL)	Ti dayo
Holding time to		
extract GRO, soil	14 days (AK101)	2 days
Holding time to		
analyze GRO, soil	14 days (AK101)	5 days
II II was Alaman An		
Holding time to extract BTEX, soil	ASAP (8020)	2 days
Holding time to	AOAI (0020)	L days
analyze BTEX, soil	14 days (8020)	5 days
, ,	• • •	-
Holding time to		
digest lead, soil	6 months (7420)	2 days
Holding time to	6 months (7490)	4 days
analyze lead, soil	6 months (7420)	4 days
Precision,		
DRO in soil	±50%	15.7%
GRO in soil	±50%	18.2%
BTEX in soil	±40%	118.8% note 1
lead in soil	±40%	0.2%
IOUG III OOII		• **
Completeness	85%	100% note 2
Decontamination Blank	MDL	note 3
Trin Dlank	MDL	note 4
Trip Blank	IVIL/L	11010 7

Note:

^{1.} The field precision is substantially greater than the tolerance range. This may reflect non-homogeneity of the replicates or loss of volatiles from sample JC-FS-9. The two samples taken as replicates were from the taken from the despenser area where, for safety, soil was brought to the

surface, stockpiled and subsampled. However, even in the unlikely event that other samples' BTEX values are high by 120%, most samples would still have unacceptable BTEX.

- 2. Total number of samples required is 10. This includes 6 for three tanks, 2 for the excavation surface area (calculated as 704 square feet by the 'tank dimension plus five feet' method), 1 for dispenser and 1 field duplicate.
- 3. Decontamination blank not required for Level 1 sampling; see p. 50 of QAPP.
- 4. Trip blank not required for Level 1 sampling; see p. 50 of QAPP.

PHOTOGRAPHS



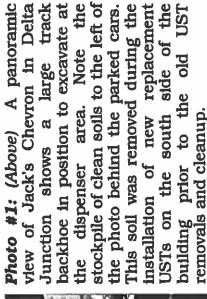


Photo #2: (Left) Fuel lines once serving the removed dispensers are photographed here alongside an access road that runs parallel to the Richardson Highway.





Photo #3: Four (4) dispensers, removed from the locations pictured in Photo #2, have been temporarily placed on the east side of the Chevron building.



Photo #4: A bulldozer constructs a ramp of clean soils (removed during excavation of the new replacement tanks) over the prepared contaminated soil containment area located on the east side of Jack's Chevron. The ramp will be used as both an entrance and a buffer to protect the liner from the movement of large machinery needed to access the area.



Photo #5: A large track backhoe loads a dump truck full of contaminated soils removed from the dispenser area on the west side of Jack's Chevron.



Photo #6: The dump truck deposits a load of contaminated soil onto the prepared liner at the soil containment area. By working its way backwards, the dump truck creates a protective surface on which it can drive to avoid damaging the liner.

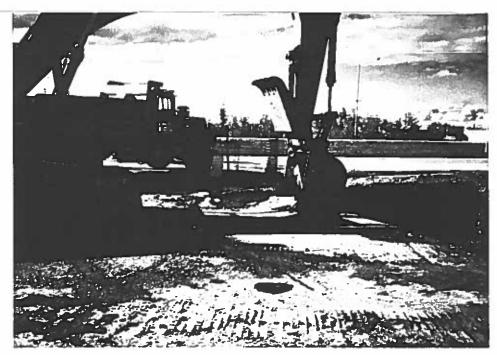


Photo #7: The large track backhoe is used to remove part of the concrete pad at the dispenser area.



Photo #8: Delta Fuel pumps any remaining liquid product out of the three (3) USTs which will soon be removed.

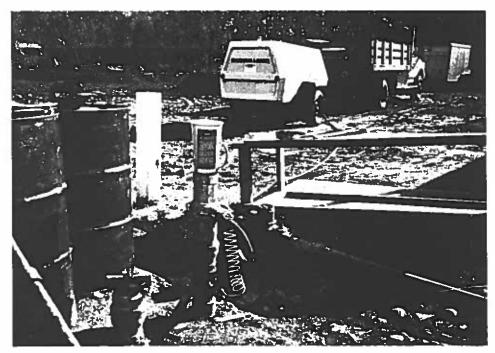


Photo #9: The tanks are then purged with air in preparation for their removal.



Photo #10: Excavation of the dispenser area continues.



Photo #11: A Copper Valley Enterprises crewman drains remaining fuel into a five-gallon bucket from lines removed at the dispenser area.

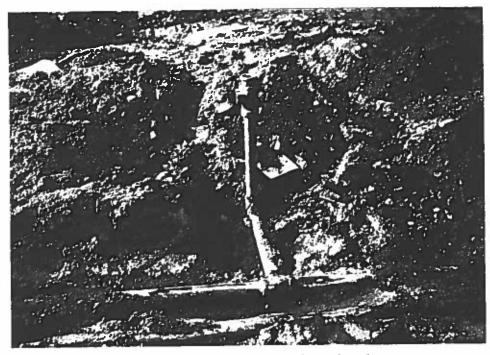


Photo #12: These fuel lines, exposed in the dispenser area, are discovered to be that of the threaded joint variety.

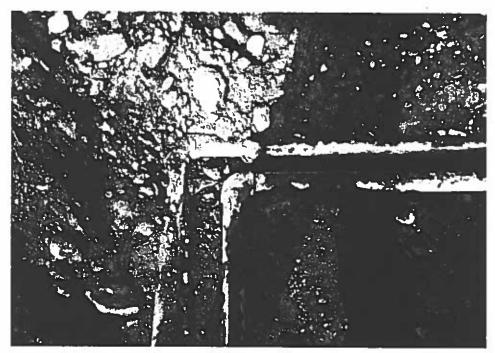


Photo #13: Elbow joints (also threaded) in the fuel lines between the USTs and the dispensers are unearthed here.

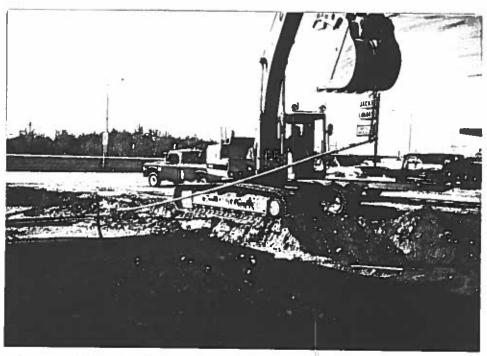


Photo #14: The large track backhoe removes a long length of fuel line between the joints shown above and the buried USTs.



Photo #15: Approximately 800 cubic yards of contaminated dispenser area soils have been spread here about two feet high within the soil containment cell. The cell is surrounded by a straw berm covered by a liner which is anchored in place by clean soils that have been packed along the sides.



Photo #16: Fertilizer has been spread on a two foot layer of contaminated dispenser area soils where perforated vent pipes have been also placed. Additional contaminated soils are then spread above the pipes.



Photo #17: Dispenser area soils continue to be stockpiled and spread at the soil containment area.

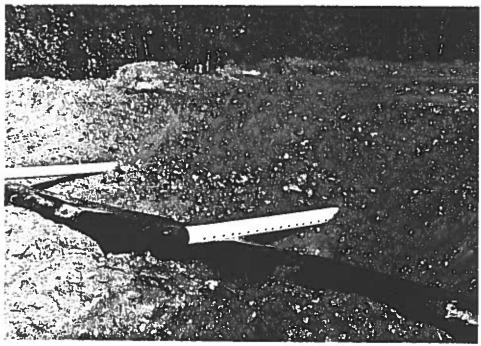


Photo #18: A closeup of the containment area perimeter shows the lined straw bale berm and the perforated vent pipes jutting out from contaminated dispenser area soils.

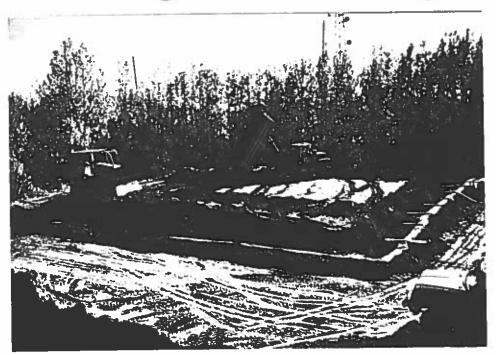


Photo #19: The last of the dispenser area soils, totaling approximately 2000 cubic yards, are spread out at the soil containment cell.

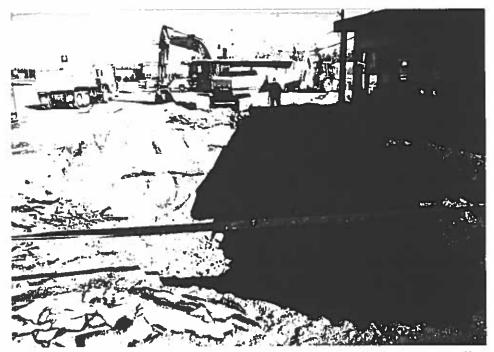


Photo #20: The dispenser area's steep-walled, potentially hazardous excavation has been cordoned off to restrict access. Further excavation of remaining, contaminated soils could not be carried out due to the close proximity of both Jack's Chevron and the access road to the area.



Photo #21: Excavation of the UST area on the north side of the building commences at the 12,000 gallon capacity, dual-chambered gasoline UST.



Photo #22: Excavation of a smaller 2000 gallon capacity diesel UST is then carried out.

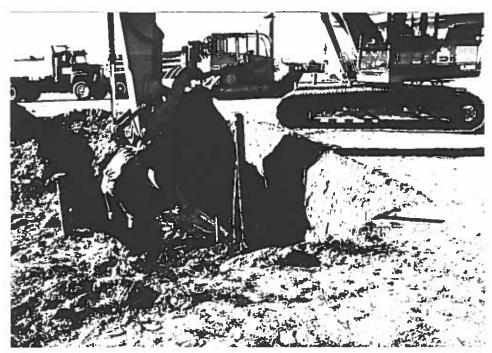


Photo #23: A contracting crewman shovels soil off the top of one (1) of two (2) diesel USTs while the large track backhoe excavates around the tank.

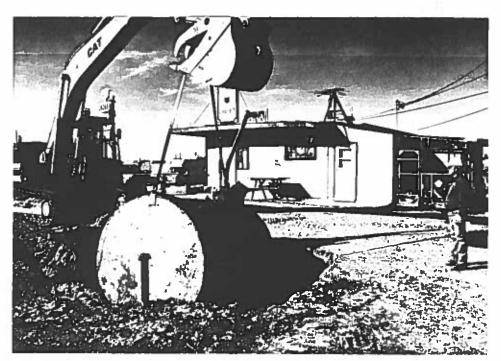


Photo #24: A diesel UST is removed from the excavation. Jack's Liquor is located in the background.



Photo #25: Same as Photo #24.



Photo #26: John Janssen marks the 12,000 gallon tank as UST #1, which is also identified as having contained gasoline.



Photo #27: John Janssen continues to mark the other two (2) removed tanks as UST #2 and UST #3, adding a "D" to identify their contents as that of diesel.

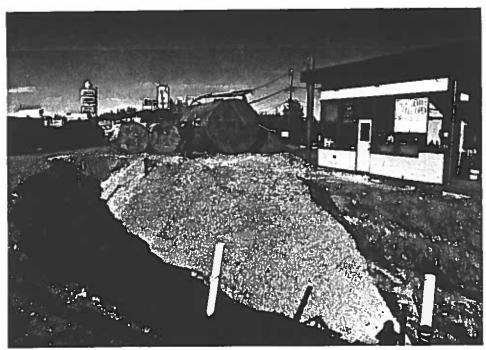


Photo #28: The marked tanks sit near the edge of the dispenser area excavation which has been partially filled with 3/4 minus aggregate.

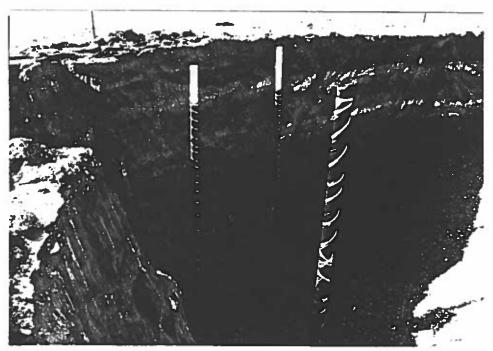


Photo #29: Wrapped air vent pipes which will serve to enhance aeration to remaining contaminated soils have been installed within the dispenser area excavation.



Photo #30: Dr. Dave Shaw uses a shovel to prepare one (1) of eight (8) secondary and final sampling locations within the UST excavation.



Photo #31: John Janssen collects secondary (baggie-type) field screening samples at locations in the UST excavation. Approximately 700 cubic yards of contaminated soils were removed here and were taken to the soil containment cell where they were spread above the dispenser area soils for a total of roughly 2700 cubic yards of removed soil.



Photo #32: John Janssen uses the PID to perform preliminary (rough) field screening approximately one foot below the excavated surface at the bottom of the UST excavation.



Photo #33: A plot plan sketch of the excavations and surrounding areas is drafted on-site.



Photo #34: John Janssen dons a vapor mask prior to climbing down into the excavation to collect final laboratory samples.



Photo #35: Pink-flagged stakes have been erected where John Janssen intends to collect final lab samples in soils formerly beneath the removed USTs.



Photo #36: Due to safety hazards posed by the steep-walled dispenser area excavation, samples (duplicate) are collected from contaminated soils that have been removed from the dispenser area and stockpiled at the soil containment cell.

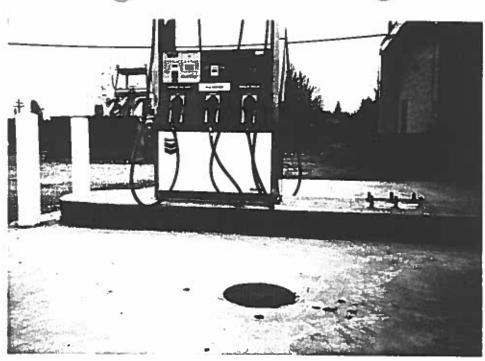


Photo #37: Weeks after the USTs were removed, John Janssen returned to Jack's Chevron to photograph the completed air vent system and new dispensers.



Photo #38: Manholes both in and beyond the concrete pad indicate air vent pipe locations.

CORRESPONDENCE

COPPER VALLEY ENTERPRISES GENERAL CONTRACTOR AA9527 P.O BOX 910 DELTA JCT AK 99737 PHONE /FAX (907) 895 4680 (907) 822-3614

OCTOBER 18, 1995

OIL SPILL TECHNOLOGIES
1100 ESRO ROAD
FAIRBANKS ALASKA
488-2834

ATTN: JOHN JANSSEN

SUBJECT: DISPOSITION OF UST'S FROM JACKS CHEVRON

JOHN, THIS LETTER IS TO INFORM YOU OF THE THREE UNDERGROUND STORAGE TANKS THAT WERE REMOVED FROM JACKS CHEVRON.

1 EA 2200 GALLON TANK (UNKNOWN)
1 EA 2200 GALLON TANK (DIESEL FUEL)
1 EA 12,000 GALLON TANK 2 COMPARTMENT (GASOLINE)

THE ABOVE TANKS HAVE BEEN CLEANED AND DISPOSED OF IN ACCORDANCE WITH ALL CURRENT ADEC AND EPA REGULATIONS. IF YOU HAVE ANY QUESTION PLEASE CALL.

ED CARNS

OWNER COPPER VALLEY ENTERPRISES

Jack's Chevron Service List of Previous Owners

(as listed by Jack Adams, Current Owner)

Jack Adams, 1968-1995

Sager Enterprise

Delta Distributors, Inc.

Roy Gilbertson

Curly Brant

Paul Chamberland

U.S. Government, Road Commission/Army, prior to 1949

TANKNOLOGY CORPORATION INTERNATIONAL 5225 HOILISIGN, Houston, Texas 77040-6284 Phone (800) 888-6563 Fax (7/3) 890-2255

Certificate of Tightness service order # 058052

Test Date 08/28/92

Underground storage tank system(s) tested and found tight for:

JACK'S SERVICE 97320 TANK OWNER:

TEST SITE ADDRESS:

CHEVRON 266 1/2 RICHARDSON HWY JACK'S SERVICE

[1.] LEAK DETECTOR(S) ONLY. JUNCTION, AK
2 LINE(S) ONLY, DELTA TANK(S) ONLY,

TANK SIZES & PRODUCTS TESTED

5000 SUPR UNL

3000 DIE N

LINES TESTED 1A, 2A

LEAK DETECTORS TESTED 10890-4685

Unit Mgr. Certificate Number & Name 245 NATHAN B. BELLOLI 06/94

Note: See VacuTect Test Report for tank Identification and site location drawing.

Corporate Seal Valid only with

LIS Patent #4462249, Canadian Patent # 1185693, European Patent Anpl. #169283 TANKNOLOGY & VacuTect are trademarks of TANKNOLOGY CORPORATION INTERNATIONAL



wher JACK'S SERVICE

VacuTect™ TEST REPORT

\$.O.

Date

Site # 97320

058052

08/28/92

<907> 895-9994 Phone

JACK ADAMS

Attn:

woice Name/Address JACK'S SERVICE PO BOX 587 DELTA JUNCTION, AK 99737

JACK'S SERVICE

CHEVRON 266 1/2 RICHARDSON HWY. DELTA JUNCTION, AK ite Name/Address

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NKNOLOGY Region: WESTERN REGION

)TE: Original VacuTect Data recordings are reviewed by Tanknology's Audit Control Department and maintained on file. Unit # 014

State Lic. #

State: AK

Tanknology Corporation International (800) 888-8563 • FAX (713) 690-2255 5225 Hollister St., Houston, TX 77040

Print: Certified Testers Name

Vacutect Th Certification Number

Sertified Testers Signature

Date Testing Completed For

Form-Tanks/Lines5/91

SERVICE ILCHAD, DG+ I GR IANA BANGKI

Vacufect " TEST REPORT

Site # 92320

C/2= 1420

Customer Jack's

99737

AK

Date

8-28-92 S.O.# 58052 Phone _

> Telta Junition Invoice Name/Address Roy Box 587 DElita Junction Site Name/Address mile 266/2. Richardson Hwy.

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Tanknology Corporation International

4960-F Allison Parkway

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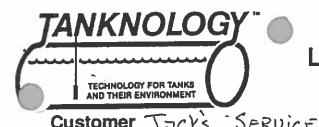
NOTE: Original VacuTect Data recordings are reviewed by Tanknolgy's Audit Control Department and maintained on file.

Unit # 14

992

TANKNOLOGY Region:

(707) 446-2494 • (800) 826-5837 • FAX (707) 446-2495



LINE TEST LOG

* S.O.# <u>5805</u>2

Unit 14

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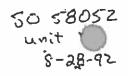
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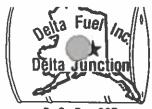
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FILL TUBE MEASUREMENT

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I do certify that the above measurements are correct and that the highest point of each fill tube is within 6 inches from the tank bottom.

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SIGNATURE	·
COMPANY	
8-28-92	
DATE WAY 14	FOR



P. O. Box 807

(907) 895-4515 Delta Junction Alaska 99737 (907) 895-4724

 $_{-}$ per gallon discount if paid in full by close of next business day.

Della Fuel Inc	All charges due on 10th of menth following date of invoice.
Jelta Junction	In ce No. 85323

Bate 9.13.95

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This Receipt Should be added to Closure grant Packet for Jacks Cheuron. Thanks Bill adam (907) 895-1052

Closure Notice Submitted By:

Alaska Department of Environmental Conservation 3601 C Street, Suite 398 Anchorage, AK 99503 FAY # 19071 RESENTED 269-7507

Hung, Eleanor

From:

Hung, Eleanor

To:

Horwath, Paul Weimer, Robert

Cc: Subject:

RE: Number of samples for big excavations

Date:

Wednesday, September 20, 1995 2:38PM

Welcome back Paul. Hope you are rested and ready to go. Thanks for responding.

I think we drove our point home in a way, but there appears to be a tremendous force of resistance. Shaw wants more communication with us and that is good. Janssen is very determined to do it his way. Maybe Shaw can help Janssen.

Just to brief you on what is going on:

We are still very much involved with Jack's Chevron. A lot of calls from Janssen and Shaw. They are willing to do a duplicate, but insist a trip is not applicable. The report I distributed to you and Robert on Jack's was a limited site assessment conducted last summer. Again and currently, they are on site and claim they are not doing a closure, but a preliminary site assessment with a multiple UST system consisting of (3) USTs which they have yanked. They have dug up about 3,000 cubic yards of very contaminated soil. They do not plan on digging up anymore as they have gone 20 feet bgs and the pit measures about 750 square feet. There is still contamination remaining so we are looking at an incomplete job. RP has no more money. All work will cease until more money comes in. Janssen insisted that 4 samples plus one duplicate would be all they would take. I insisted he must take at least 8 plus a duplicate and a trip based on the size of the excavation. Shaw called and stated they are doing it according to the QAPP and it is a level 1. I stated I disagreed. Because they were doing a site assessment and even if not a closure, the site will not be worked on for several years due to lack of finances- no RI even. So, for their own protection, best to cover themselves and do it right.

Shaw talked me out of the trip blank, but we did agree on the amount of samples for a multiple UST system. Janssen had to drive back from Delta Junction to Fairbanks to obtain more sample jars. He was not happy.

Curry's Corner -- Janssen did not want to submit his field notes. After Shaw and I had our meeting, I decided by the climate and sensitivity to not push it. He sort of admitted they were at fault though he was not speaking for Janssen. I did receive the missing lab results so that resolved the problem. Although they certainly did not take adequate samples. We have spent too much time on Curry's. Just need to keep monitoring future activities.

From: Horwath, Paul To: Hung, Eleanor

Subject: RE: Number of samples for big excavations Date: Wednesday, September 20, 1995 12:24PM

Hi Eleanor: Just got back from some annual leave. If you believe that I will be further involved in some dispute resolution related to these projects, then you could send me copies. If you think that the issues are being resolved then I probably don't need to see the letters.

PaulH

From: Hung, Eleanor To: Weimer, Robert

Cc: Balogh, Lynne; Nadem, Mehrdad; Bainbridge, Steve; Hayden, Jim; Horwath, Paul

Subject: RE: Number of samples for big excavations

Date: Friday, September 08, 1995 5:27PM

Robert,

Thank you for your expertise and time. I really appreciate it and will use it at the meeting.

At Dr. Shaw's request, we will have a meeting @ 8:00 a.m. 9/11/95. Dr. Shaw stated he wanted to meet with me alone and that Janssen won't be along. Just wanted to get things straight and begin doing as per the QAPP. He began to feel the strain after Janssen received the 3rd QAPP violation warning letter on Jack's Chevron plus the rebuttals on Curry's Corner and Healy Roadhouse. I sent them all at the same time. I think it felt like a giant snowstorm hit them. I will put the letters in the mail that I sent Janssen re-rebuttals to his justifications for QAPP violations @ Curry's Corner and @ the Healy Roadhouse. Did you want a copy too, Paul?

Z 379 663 613

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Postage Certified Fee Special Delivery:Fee Restricted Delivery:Fee Return Receipt Showing to Whom & Date Delivered Return Receipt Showing to Whom, Date, and Addressee's Address TOTAL Postage & Fees Postmark or Date	P.O. State and ZIP Code, DEL ta JUNCTION, A	K 99737
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Date, and Addressee's Address TOTAL Postage & Fees	Return Receipt Showing to Whom & Date Delivered	
& Fees	Return Receipt Showing to Whom, Date, and Addressee's Address	
Postmark or Date		\$
· ·	Postmark or Date	

SENDER: Complete items 1 and/or 2 for additional services. Complete items 3, and 4e & b. Print your name and address on the reverse of this form so that return this card to you. Attach this form to the front of the mailpiece, or on the back if does not permit. Write "Return Receipt Requested" on the mailpiece below the article the Return Receipt will show to whom the article was delivered and delivered.	space 1. Addressee's Address
3. Article Addressed to: Mr. Jack adams P.O. Box 1374 Delta Junction, AK 99737	4a. Article Number Z 379 663 613 4b. Service Type Registered Insured Certified COD Express Mail Return Receipt for Merchandise 7. Data of Delivery 2 5
5. Signature (Addressee) 6. Signature (Agent) PS Form 3811, December 191 #U.S. GPO: 1993–352	8. Addressee's Address (Only if requested and fee is paid) 120. 26.008 EH DOMESTIC RETURN RECEIPT