UNDERGROUND STORAGE TANK REMOVAL PROJECT ENVIRONMENTAL SITE ASSESSMENT

Event
1287
1288
1289
1290

BRISTOL BAY BOROUGH
NAKNEK, ALASKA

PREPARED FOR:

BRISTOL BAY BOROUGH
P.O.BOX 89
NAKNEK, ALASKA 99633

PREPARED BY:
PLATT ENVIRONMENTAL
P.O. BOX 542
KING SALMON, ALASKA 99613

SEPTEMBER 1996

Executive Summary

The object of this project was to remove 4 underground fuel storage tanks (UST) and identify the potential presence of hazardous substance contamination regulated by the United States Environmental Protection Agency (EPA) under the Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA), Toxic Substances Control Act (TSCA), the Clean Water Act (CWA), and of Petroleum and Hazardous substance contamination as regulated by the Alaska Department of Environmental Conservation (ADEC) under the Hazardous Substance Act.

Platt Environmentals' activities consisted of collecting soil samples as per 18 AAC.78, conducting a qualitative headspace survey of the subsurface soils, removing the tanks, and developing the environmental site assessment. On site activities were performed from August 15 th through September 6 th, 1996.

Site Investigation, Conclusion and Recommendations

Petroleum contamination was detected in subsurface areas at 3 of 10 sample locations. Diesel-range organics (DRO) were detected in concentrations above ADEC-regulated guidance level in soils at 3 locations. Gasoline-range organics (GRO) were detected in concentrations above ADEC-regulated guidance level in soils at 1 location.

The source of contamination is believed to be previous spillage from over filling of the Underground storage tanks. A qualitative, organic vapor analyzer (OVA) headspace survey of subsurface soils was performed throughout the tank excavation. The headspace survey results indicate that volatile organic vapors (which do not include DRO) are not present in most of the subsurface soils at concentrations detectable by an OVA.

The combined volume of the contaminated soils is approximately 4 cubic yards. The vertical extent of the contamination was not determined during the investigation; however volatile organic vapors and soil discoloration were absent from the soil samples collected at the bottom of the tank beds.

Platt Environmental recommends closure of facility numbers' 0-002657, 0-002658, and 0-002659. Facility 0-002660 may require on-site treatment of contaminated soils in conjunction with sampling and testing to verify attainment of cleanup levels. However, a cost/benefit analysis should be developed to determine the most beneficial method of remediation of these soils.

1.0 Introduction

This report summarizes the removal of four 1,000 gallon UST's Borough in Naknek, Alaska. This report also summarizes the performed on the soil associated with the tank removal project in Department of Environmental Conservation (ADEC) site requirem 18 AAC 78.090.

Commercial Testing and Engineering Inc., was contracted to cond services. Regina Williams was the certified UST worker (cert Williams excavated and assisted with the decommissioning of the sample collecting was conducted by Regina Williams using Plat Quality Assurance Program Plan (QAPP), on file with ADEC. Brad Quality Control. BBB elected to salvage the USTs for recycling wi conducted using ADEC's UST Guidance Manual which was amen ADEC 18 AAC 78, as amended through November 3, 1995.

2.0 Facility Locations

The BBB facilities are located in Naknek, within the area of sout the Alaskan Peninsula and the Alaskan mainland. Naknek is the mouth of the Naknek River, 15 miles down river from southwest of Anchorage. Naknek lies at approximately 58 ' Longitude. The area encompasses 72.0 square miles of land an Naknek is accessible by air and sea, and connects to King Salm road called the Alaska Peninsula Highway.

The facility locations were obtained by using a hand held Geo (GPS). Lift Station one (facility number 0-002657) is located nea GPS coordinates for this facility are 58-43-31N., 157-01-44\ number 0-002658) is located along the north east side of the Parking lot, along the Alaska Peninsula Highway. The GPS c 58-43-44N., 157-00-50W. Lift Station three (facility number 0 Dock, adjacent to the dock access road. The GPS coordinates f 156-59-02W. The back up UST for the generator located ne number 0-002660) is located between the Naknek Electric Assc The GPS coordinates for this facility are 58-44-01 N., 157-00-17

2.2 Socioeconomic Information

Naknek was first settled over 6,000 years ago by Yupik Eskimos and Athabascan Indians. In 1821, the original Eskimo village was recorded as "Naugeik". In 1880, the village was called "Kinuyak". It was later called Naknek by Capt. Tebenkov of the Russian Navy. The Russians built a fort near the village and fur trappers inhabited the area for many years. In 1883, the first salmon cannery was opened in Bristol Bay, and in 1890, a cannery opened on the Naknek River. A Russian Orthodox Church was the first recorded under the Homestead Act in Naknek. The church eventually sold land to local residents, which developed as the center of Naknek. Naknek is now the seat of the Bristol Bay Borough. Bristol Bay was named by Captain Cook in honor of the Admiral Earl of Bristol, England. Russian traders maintained dominance of the area until the U.S. purchase of Alaska.

Naknek is a seasonal fishing community, with a mixed population of non-Natives, Aleuts, Eskimos and Indians. According to the 1990 U.S. Census, there are 617 people living in Naknek, 41% of the population are Natives. The population swells to almost 5,000 during the summer months with fisherman and cannery workers. There are two schools in the community which serve 300 students and are staffed by 23 certified teachers.

The economy is based on government employment, salmon fishing & processing, and transportation services. Naknek has a seasonal economy and is a huge red salmon fishery in Bristol Bay. (DCRA Research & Regional affairs Community Data Base, 1996)

3.0 Environmental Setting

3.1 Climate

Nearness to the ocean tends to provide Naknek with a climate that is predominately maritime in character, with seasonal temperature ranges normally confined to narrow limits. However, this area occasionally experiences definite continental influences that cause temperature extremes which tend to exaggerate the climatic conditions generally prevailing. Extreme temperature ranges reach from the upper 80's to readings near minus 40 degrees Fahrenheit.

Cloud coverage in the Naknek area is generally quite high, averaging about 80% of the days year round. The 1995 annual precipitation was 16.24 inches. The 1994-1995 seasonal snowfall was 52.6 inches, with the maximum snow depth averaging about ten inches. This indicates the extent of melting that takes place during the winter. December has the greatest monthly average snowfall amount.

From December through March the area experiences rather strong winds, due to the passage of eastward moving Aleutian lows. Winds of 50 mph or more have occurred in all months with extreme readings exceeding 90 mph. The average date of the last freeze is late May and the average date of the first freeze is early September. The average growing season is 100 days. (National Oceanic and Atmospheric Administration, local climatological data ,1995)

3.2 Vegetation

Vegetation surrounding the facilities are characterized by gently rolling, barren tundra. Representative shrubs include willow and alder. Representative ground cover includes bluejoint, fireweed, horse tail, parsley, lichens, mosses, and mushrooms. Numerous grasses and sedges form the marshy borders of freshwater ponds and lakes associated with the project area. Emergent marsh and aquatic bed species include milfoil and mare's tail.

3.3 Wild Life

The Alaska Peninsula provides habitat for about 200 species of resident and migratory wildlife. A variety of wildlife are known to inhabit the Naknek area. The tundra lowlands are host to caribou, moose, brown bear, wolves, arctic fox, and ground squirrels. Tundra swans, tiel and mallard ducks, and loons are bedding waterfowl in the Naknek vicinity. They are known to utilize marsh habitats surrounding the Naknek area. The marshes are particularly important areas for duck nesting and rearing, and provide known spring and fall concentration areas. Coastal areas also support moderate populations of bald eagles, hawks, falcons, ravens, owls, and peregrine falcons. The freshwater environment consists of wetlands, marshes, bogs, streams, and lakes. All five species of Pacific salmon inhabit and migrate into the streams and lakes of the Bristol Bay region. The Naknek River provides spawning habitat for coho, king, and sockeye salmon. (Dept. of Interior U.S. Fish and Wildlife Service, AK102-1-1 June 86.)

3.4 Regional Hydrology

The source of surface water, in Naknek, is from rainfall and a mixture of rain and snow in the winter. The surface water runoff flows south west, down gradient towards the Naknek River . Three aquifers in sand and gravel deposits are found in the Naknek area. T hey consist of well -to poorly-sorted gravelly sands separated by aquitared units consisting of silty and clay gravels, silty sands, and clays. The uppermost aquifer (A) is unconfined, and extends 20 to 40 feet below the surface. The B aquifer is confined and underlies the A aquifer. The B aquifer is encountered between 50 and 90 feet below the ground surface(BGS). The C aquifer is about 200 feet below ground surface, USACE/USAF, 611th Civil Engineer Squadron, KS Database. The majority of the Naknek residents have individual wells.

3.5 Regional Contamination Issues

The areas around the BBB facilities support light to heavy industries, including the Delta Western Bulk Fuel Supply Dock, Peter Pan Cannery, Naknek Electric Association,various retail general stores, and the BBB city dock. The soil, ground water, and surface water in the vicinity of the facilities show no evidence of being impacted by petroleum, oil or lubricants (POLs) released from either leaking USTs or surface spills.

3.6 Project History

The BBB sewer system was constructed in 1984. The USTs were used to store diesel for the waste water sewer system's back up electric generator . Frank Kalucheo Construction Company installed the Lift Station tanks in 1984. The tank at the Camai Clinic was placed in service in 1986 and was installed through the Naknek Electric Association. The tanks have been tested as per ADEC regulations throughout their service life. The test results showed that the tanks met the federal performance standards established by the U.S. Environmental Protection Agency. The registered tanks were placed out of service in August 1996, at the time of closure.

4.0 UST Removal

Decommissioning of the BBB USTs was conducted in two parts. Facility numbers 0-002658 and 0-002659, began August 8, 1996 and ended August 9, 1996. Facility numbers 0-002657 and 0-002660 began September 3, 1996 and continued through September 4, 1996. The on-site fuel storage facilities consisted of four (4) USTs, all with 1,000 gallon capacities. Most of the product was removed from tanks before Platt Environmental's removal team entered the site. The remaining fuel was removed manually using a hand pump.

4.1 Purging the Tank

Purging of the tanks was conducted by using an air blower set at a low PSI. The tanks were purged continuously until they were removed from the ground. Tank purging was done to reduce the concentration of flammable vapors to zero or as close to zero as possible. Air was pumped in the tanks through the fill pipe and was directed out through the vent pipe. Exhaust fumes from purging were vented at 12 feet above grade. The atmosphere at ground level was tested periodically to insure the vapors were being vented effectively into the upper atmosphere, and were not collecting at ground level.

After the tanks had been purged for several hours, the vapor space was tested using an Industrial Scientific ISC MX 251 Lower Explosive Limit/ Oxygen monitor. Readings were

taken at the upper, middle and lower portion of the tanks until the reading was 21% oxygen and less than 10% of the lower explosive limit (LEL).

4.2 Associated Piping

All tanks had the same piping configuration with the exception of facility #0-002660. The fuel delivery piping was made of copper and was connected from the end opposite the fill and ran approximately 9 feet to the generator. The tank at facility #0-002660 had a wooden valve box resting on the western end of the tank, which housed a pump. The pump was used to deliver the fuel to a day tank, located inside the generator building. The existing fuel lines were drained, cut, removed, and disposed of at the BBB landfill. There were no manholes in the tanks.

4.3 Excavation

The associated piping was hand excavated. Excavation, using a John Deer 410 backhoe, took place on August 9 th and September 3,rd 1996. All excavated soils were temporarily stock piled in accordance with ADEC's UST contaminated stock pile guidelines.

Excavation began with the UST at facility # 0-002658, at lift station two. The excavation was limited to 2.5 ft. around the tank. The tank dimensions were 5 ft. by 6 ft, thus only 63.75 square feet of surface material was disturbed. There was approximately 18" of cover material on the associated piping and approximately 2.5 ft. of cover material on the tank.

The second tank excavated was located at facility #0-002659, at lift station three. The tanks dimensions were 5 ft. by 6 ft, thus only 63.75 square feet of surface material was disturbed. Due to underground electric lines, excavation did not occur along the south side of the tank. There was approximately 18" of cover material on the associated piping and approximately 2.5 ft. of cover material on the tank.

The third tank excavated was facility #0-002657, at lift station one. The tanks dimensions were 5 ft. by 6 ft, thus only 63.75 square feet of surface material was disturbed. Due to underground phone lines, excavation did not occur along the southwest side of the tank. There was approximately 18" of cover material on the associated piping and approximately 2.5 ft. of cover material on the tank.

The final excavation occurred at facility #0-002660, the back up generator supporting the Camai Clinic. The excavation was limited to 2.5 ft on two ends , and each side of the tank.
The tanks dimensions were 9.5 ft by 3.0 ft. Approximately 66 square feet of surface soil was

disrupted during excavation. There was approximately 12" to 18" of cover material on the associated piping and approximately 2.5 ft. of cover material on the tank.

4.4 Salvaging the Tanks

The BBB choose to remain the owners of the tanks and took responsibility of transporting the tanks to the BBB salvage yard in accordance with DOT regulations 13 AAC 04.250.

5.0 Site Soil and Geology

Area soils consist primarily of glacially deposited gravelly sands with little or no fines (unified classification SW) to 6 ft, overlaying inorganic clays of low plasticity (unified classification CL) from 6 ft. down, to the limit of vertical excavation at 9 feet. Soil cohesiveness along the excavation wall varied. The tank pit itself was fill material composed of fine grain sands.

5.1 Site Hydrology

There was no surface water at the facilities. If there were surface water, its source would be from precipitation. The surface water runoff flows southwest, down gradient towards the Naknek River, which is located to the southwest of each facility. The water table was not encountered during the excavations. The static water line was not observed during removal, thus indicating that the water table does not reach the bottom of the tanks.

6.0 State Clean Up Levels

The soil samples collected from this UST excavation have been collected as required by 18 AAC 78.320, analyzed, and reported as required by 18 AAC 78.335 - 18 AAC 78.340. The following table provides a summary of the site criteria used for establishing soil cleanup levels for the subject property. The clean up levels are based on the cleanup matrix reference in Table E found under 18 AAC 78.315, pg.63, Nov. 3, 1995, Revision. The total matrix score for this property, as indicated in Table 2, is 27 points. This score places the soil cleanup levels in a level B category. The cleanup levels for a LEVEL B site are summarized in Table 2 for the petroleum hydrocarbon contaminants of concern.

TABLE 1
CLEAN UP MATRIX
FOR THE BRISTOL BAY BOROUGH

MATRIX CATEGORY	SITE CONDITION	POINT RANGE
1. Depth to subsurface water	16 to 25 feet	6
2. Mean Annual Precipitation	20 inches	3
3. Soil Type (USC)	Fine soils (low organics)	3
4. Potential Receptors	Public water system within 500 ft.	15
5. Volume of contaminated soils	Less than 10 cubic yards	0
MATRIX SCORE:		**27**

TABLE 2
SOIL CLEANUP REQUIREMENTS FOR CATEGORY B CLEANUP LEVEL

Contaminant Parameter	Maximum Contaminant Conc. mg/Kg*
Gasoline Range Organics	100 ppm
Diesel Range Organics	200 ppm
Residual Range Organics	2000 ppm
Benzene	0.5 ppm
Total BTEX	15 ppm

* Based on analytical results.

7.0 Field Screening

Field screening was performed throughout the entire excavation activity. The ambient temperature ranged from 40 to 58 degrees Fahrenheit. Wind speeds ranged from 3 to 15 mph. Ambient and subsurface soil temperatures allowed the field screening soil samples to be conducted outdoors and heated between 55 and 60 degrees Fahrenheit prior to obtaining a reading. The samples were heated to allow the volatile organic compounds to be released into the head space of the sample container, thus giving a more accurate reading.

There were no obvious surface stains before excavation began. There were no obvious signs of leakage from associated pipes or the tank seams themselves. The small amount of contaminated soils were found at Facility #0-002660, along the sides of the tank where the fill piping and fuel pump existed. The contaminated soils were visually different from the non-contaminated soils in that they emitted a slight hydrocarbon odor and were darker gray in color.

The soil was field screened using a Mini - Rae Photo Ionization Detector (PID). The PID was calibrated on site using 100% isobutylene as the span gas and natural air with a carbon filter for the zero air. Field screening was conducted following an approved sampling and analysis plan and an ADEC approved QAPP. See Appendix B for a detailed location of sample collection points.

8.0 Summary of Findings

Samples were collected and analyzed in accordance with ADEC approved plans. Laboratory analytical methods include the following; AK102, EPA's approved method for DRO (Diesel Range Organics), AK 101, EPA's approved method for GRO (Gasoline Range Organics) combined with EPA's approved method for BTEX (Benzene, Toluene, Ethylbenzene, Xylene). EPA approved method 8015 for GRO was substituted for Method AK101 for the analytical samples collected at Lift Station 3, Facility 0-002659, due to methanol leakage during sample shipment.

8.1 Lift Station #1

Field screening sampling results indicate that there is no tank pit contamination. The highest Total Organic Vapor (TOV) reading of 5.2 ppm was found @ 18 inches below grade under the elbow of the distributing piping. Analytical sample number **081296-42** was collected along the bottom of the tank pit at 9 feet from below grade, directly below the dispensing piping on the east end under the tanks seam, and had a TOV head space reading of 0.0 ppm, a DRO result of 7.63 ppm, GRO result of < 5.0 ppm, a non detect result for benzene and total BTEX . Sample **081296-43** was collected along the west end under the tanks seam and had a TOV head space reading of 0.0 ppm, a DRO result of 5.94 ppm, GRO result of 5.0 ppm, and a non detect result for benzene and total BTEX .

8.2 Lift Station #2

Field screening sample results indicate that there is no tank pit contamination . The highest Total Organic Vapor (TOV) reading of 3.1 ppm was found @ 18 inches below grade under the elbow of the distributing piping.

Analytical sample number **081296-51** was collected along the bottom of the tank pit at 9 feet below grade, directly below the dispensing piping on the south end under the tanks seam and had a TOV head space reading of 0.0 ppm, a DRO result of 43.6 ppm, GRO result of < 5.0 ppm, and a non detect result for benzene and total BTEX . Sample #**081296-49** is a duplicate sample of **081296-51**. The analytical result for sample #**081296-49** is 43.6 ppm for DRO,<5.0 ppm for GRO, Benzene and a total BTEX were non detect.

Sample #**081296-48** was collected at 8 feet below grade at the north end of the bottom of the pit and had a head space reading of 2.1 ppm. The analytical result for DRO was 239 ppm, GRO was <5.0 ppm, benzene and total BTEX were non detect.

200 cy B

8.3 Lift Station #3

Field screening results indicate that there is no tank pit contamination . The highest Total Organic Vapor (TOV) reading of 7.0 ppm was found @ 18 inches below grade under the vent piping. Sample number **081296-47** was collected along the bottom of the tank pit at 9 feet below grade, directly below the dispensing piping on the west end under the tanks seam and the sample had a TOV head space reading of 0.0 ppm, a DRO result of 10.1 ppm, GRO result of <5.0 ppm, a non detect result for benzene and total BTEX . Sample **081296-53** was collected along the east end under the tanks seam and had a TOV head space reading of 0.0 ppm, a DRO result of 5.4 ppm, GRO result of <5.0 ppm,and a non detect result for benzene and total BTEX .

8.4 Camai Clinic UST

Field screening sample results indicate that there is no tank pit contamination . The highest Total Organic Vapor (TOV) reading of 3.0 ppm was found @ 18 inches below grade under a wooden pump vault. Analytical sample number **081296-44** was collected along the bottom of the delivery piping trench, 2' below ground surface and had a TOV head space reading of 25.0 ppm, a DRO result of 1760 ppm, a GRO result of 609 ppm, and <0.05 ppm result for benzene and 15.8 ppm for total BTEX. Analytical sample **081296-45** was collected directly below the fill piping on the northeast end under the tanks seam and had a TOV head space reading of 8.0

ppm, a DRO result of 125 ppm, GRO result of <5.00 ppm, a non detect result for benzene and total BTEX . Sample **081296-46** was collected along the southwest end under the tanks seam and had a TOV head space reading of 30.0 ppm, a DRO result of 1150 ppm, a GRO result of <5.0 ppm, a non detect result for benzene and total BTEX.

The tank was in "like-new" condition, still having legible manufactures labels and delivery tags. Fuel was found in the vent piping elbow, which is normally free of liquid, thus indicating that the tank had been overfilled. Contaminated soil was found near the fuel pump, which indicates a leak in the pump seal or delivery piping connections. The delivery piping, composed of flexible copper, seemed to be in good condition. Contaminated soil was found along the delivery piping, indicating that the piping or connections may have been leaking.

This back up tank was not used to fuel the generator as the main source of electricity. The tank was "topped off" approximately once a year, therefore fuel was not flowing through the pipes. The samples were collected in locations that were most likely to be contaminated due to the piping configuration.

Analytical results are at appendix D.

Table 3 Laboratory Sample Summary

Sample #	Results /ppm TOV	DRO	GRO	BENZENE	Total BTEX
ADEC Maximum		**200**	**100.0**	**0.5**	**15.0**
081296-51 #2	0.0	43.6	<5.0	nondetect	nondetect
081296-47 #3	0.0	10.1	<5.0	nondetect	nondetect
081296-49 #1	0.0	28.6	<5.0	non detect	nondetect
081296-48 #2	0.0	239	<5.0	nondetect	nondetect
081296-53 #3	0.0	5.4	<5.0	nondetect	nondetect
Trip Blank #1	NA	nondetect	<5.0	nondetect	nondetect
081296-42 #1	0.0	7.63	<5.0	nondetect	nondetect
081296-43 #1	0.0	5.94	<5.0	nondetect	nondetect
081296-44 Comp	25.0	1760	609.0	<0.050	15.8
081296-45 Comp	8.0	125.0	<5.0	nondetect	nondetect
081296-46 Comp	30.0	1150	20.8	nondetect	nondetect
Trip Blank #2	NA	nondetect	<5.0	nondetect	nondetect

9.0 Data Validation

This section and the referenced Appendices represent our validation of the field and laboratory quality control procedures. ADEC sample collection techniques were in accordance with an approved QAPP. The field work was conducted by Regina Platt of Platt Environmental.

Field quality control samples were collected under this project to assess the quality of the sampling effort and analytical data. QA/QC samples applied under this project consist of one blind duplicate and two trip blanks.

A decontamination blank is a sample of analyte free media used to rinse sampling equipment. A decontamination blank was not required for this project because the sampling equipment used was disposable.

A trip blank is a sample of analyte-free media taken from the laboratory to the sampling site along with each batch of samples returned to the laboratory. The trip blank is used to document contamination attributed to shipping and field handling procedures. Two sample shipments were sent to the laboratory, thus two trip blanks were analyzed, both f which were free of contaminates.

Field duplicate samples are independent samples collected as close as possible to the same point in space and time. They are two separate samples taken from the same source, stored in separate containers, and analyzed independently. These duplicates are useful in documenting the precision (variability) of the sampling process. One duplicate sample was collected and met the minimum frequency requirement of 10% per matrix. Sample number **081296-47** was the blind duplicate of sample **081296-51**. Although results for duplicate samples differ, the relative percent differences are within EPA, ADEC and Laboratory established limits and the data are there fore comparable and acceptable.

Laboratory sample analyses were conducted by Commercial Testing and Engineering Inc. located in Anchorage, Alaska. The complete laboratory data deliverables for this site are included in Appendix D under CT&E reference numbers 96.3923 and #96.4358. Field precision values were all within the data quality objectives for this project.

Due to the high concentration of sample #081296-46 , the result was reported at a 10:1 dilution.

Corrective action was taken when the laboratory notified Platt Environmental that sample #081296-53 and sample #081296-47 had leaked methanol from the AK101 jars during shipment. There was sufficient sample volume collected for the DRO sample to allow EPA method 8015 for GRO to be performed in place of AK101.
Data for this site met quality assurance and quality control objectives. The data is considered valid for 100% completeness.

10.0 Contaminated Soils Management

Approximately 6 cubic yards of contaminated soil was encountered during excavation at facility #0-00266. The PID TOV readings were <30 ppm, therefore once the tanks and associated piping were removed, the contaminated soils were backfilled into the pit. Potassium Phosphate and Potassium Nitrate were added to the soils to aid in the natural biodegradation process. The low levels of DRO and GRO hydrocarbons will biodegrade through time.

Biodegradation is a natural process in which microorganisms use organic compounds (petroleum hydrocarbons) in the soil as a source of energy. Under aerobic conditions, the microorganisms consume the hydrocarbons and produce carbon dioxide and water as the end products. The rate of biodegradation is severely limited by low concentrations of inorganic nutrients and oxygen in the soil environment. Adding nutrients and oxygen to the soil will enhance the rate of microbial growth and accelerate the degradation of hydrocarbons. This process is known as "enhanced bioremediation".

This option was chosen over the temporary stock piling option due to the small quantity of contaminated soils, the low concentration of contamination, high winds, heavy rain and snow fall, and the high traffic location of the excavation sites.

11.0 Limits of Work

The excavation did not go beyond tank removal limits. BBB salvaged the tanks themselves therefore, demolition and disposal of the tanks was not performed as part of the removal project.

12.0 Recommendations

The laboratory results verified that a minuscule amount of DRO contamination was present at Lift Station Two. Lift Station One and Lift Station Three are free of contamination. Analytical results from the tank at the Camai Clinic revealed Diesel Range Organic and Gasoline Range Organics levels over the ADEC clean-up levels. Since fertilizer was added during the backfilling process , BBB can request closure of Facility numbers 0-002657, 0-002658, and 0-002659 from ADEC. Due to the small amount of contamination found at facility #00-002660, a preliminary risk evaluation form was completed and included in Appendix A of this report. The form, which is based on the"Alaska Hazard Ranking Model ",is used to collect preliminary information on the relative risk a contaminated site may pose to human health and the environment. Facility had a low ranking score of (0.1). Platt Environmental recommends BBB continue to perform insitu bioremediation at this site until ADEC clean up levels have been achieved.

13.0 Closure and Limitations

This report was prepared for the exclusive use of the Bristol Bay Borough, and their representatives in the evaluation of this site. The findings presented in this report are based on field screening and sampling analysis that were conducted at this site. The analysis and sampling performed provide professional judgment as to the physical and analytical characteristics of the site.

The data in this report should be considered representative at the time of the investigation. Changes in the conditions of this site can occur with the passage of time, whether they be due to natural processes or from human impact.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NOTIFICATION OF CLOSURE
UNDERGROUND STORAGE TANKS

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

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

Name Bristol Bay Borough
Address mile 7, Peninsula Hwy
City Naknek
State/Zip Alaska
Phone/Fax 246-6605

Tank Owner

Name Bristol Bay Borough
Address P.O. Box
City Naknek
State/Zip Alaska
Phone/Fax 246-6605

Facility ID Number: 264 ← Please supply
Scheduled Date for Closure: 8-19-96

This form MUST be completed and sent to ADEC at the address listed below at least 15 and no more than 60 days prior to closure.

Alaska Statute 46.03.375 requires those who supervise an UST closure be certified by the State of Alaska for Decommissioning.

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

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

Person to Perform Closure Regina Williams UST Worker License # 414

Person and Company to Perform Site Assessment or Release Investigation: Brad Platt / Regina Williams Platt Environmental

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

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

Is there a leak/spill at this site? NO (if so, please notify the closest ADEC office)

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

Where are the tank, piping, equipment, and sludge to be disposed? BBB land Fill

Closure for (please check): [X] Tanks and Piping [ ] Tanks only [ ] Piping only

Tank Number	Tank Age	Tank Size	Last Product Stored	Date Last Used
1	6	1,000	Diesel	Present
2	10	1,000	Diesel	"
3	6	1,000	Diesel	"
4	10	1,000	Diesel	"

Closure Notice Submitted By: [ ] Owner [ ] Operator [X] Other UST Worker

Regina Williams — UST Worker
(Please print name) *(Title)*

Regina Williams — 8-5-96
(Signature) *(Date)*

Return Completed Form to: ADEC, Storage Tank Program
555 Cordova Street