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January 25, 2005

Monica T. English, Environmental Specialist
Alaska Dept. of Environmental Conservation
Division of Spill Prevention and Response CSP
43335 Kalifornsky Beach Rd, Suite 11.

Subject: **Corrective Action Plan, Spill #01-23-00-337-01**
Chinook Tesoro, Mile 136.5 Sterling Highway, Ninilchik, AK

Dear Ms. English:

At the request of Mr. Keith Presley, owner of Presley, Inc. d/b/a Chinook Tesoro, we are submitting this corrective action work plan (CAP) for review and approval as specified in the department's letter of December 22, 2004. The CAP outlines our plan to delineate the extent of soil and groundwater contamination associated with contamination encountered during assessment activities performed in 2002 and described in our report of July 2, 2002.

Background

On May 23-24, 2002, Rozak Engineering preformed a release investigation associated with fuel piping systems removed by others at this facility in September 2001. Analytical results of the samples we collected showed gasoline range (GRO) and BTEX concentrations exceeded the soil cleanup levels for this site. There were high GRO and BTEX contamination concentrations at the south end of the gasoline dispenser island and moderately elevated concentrations at the north dispenser. Only slightly elevated benzene levels were detected at the former diesel fuel dispenser and tank locations.

Our field screening and observations in May 2002 indicated there was a spill or pipe leak at the south end of the gas dispenser island since our assessment work in 1992. In 2002, very little contamination was detected in the upper 2 to 3 feet except at the south dispenser. Contamination 3 to 4 feet below ground surface (fbgs) was weathered. In 1992 it was reported a new UST system and asphalt pavement were installed in 1986. The former dispenser island (pre-1986) occupied the south half of the existing island. Records show approximately three feet of soil was excavated under the old island and backfilled with clean gravel. Test holes show three feet of gravel at the north and center and four feet at the south end.

The February 2, 1993 release investigation report concluded there had been a small gasoline release under the south end of the pump island, probably from a loose fitting, between 1974-76 and 1986. The highest contamination levels were 8 fbgs: VPH = 219 ppm and benzene = 1.7 ppm. VPH and benzene were not detected 18 fbgs. The report estimated 37 cubic yards of soil under the south dispenser might have VPH levels of 100 ppm or more, with less than 10 cubic yards having VPH levels above 200 ppm. The extent of contamination delineated in the 1993 report is shown on Figure 1 and Figure 2.

In 1993, we concluded the contamination presented no significant threat to humans, wildlife, or the environment because: contamination concentrations were relatively low, contamination was more than two feet below ground, and 18 feet of low permeability "blue clay" (17 to 35 feet) was between the contamination and the water providing the drinking water (static level = 60 feet). The direction of the shallow "perched" groundwater flow—not verified—was assumed to be from the site toward the Sterling Highway. Due to the presence of the concrete dispenser island, deep concrete foundation for the station sign, fuel dispensers, electrical conduit, and underground piping, cleaning up the discharge would be costly and not practicable.

Proposed Scope of Work

The purposes of this proposed work are: (1) investigate the source and extent of soil contamination at the dispenser island; (2) determine whether the contamination has impacted the shallow groundwater table; (3) resolve the contamination conditions at the former diesel dispenser and piping toward achieving NFRAP status for the diesel system; and (4) evaluate appropriate cleanup measures or a long-term monitoring plan. Soil borings and monitoring wells are proposed to address the first two tasks. Resampling and analytical testing are proposed to assess the benzene levels at the diesel system. Results of the field investigation and laboratory analysis will used to evaluate appropriate cleanup and/or long-term monitoring programs.

Tasks 1 and 2

Four soil borings (SB) and three monitoring wells (MW) are proposed. Borings will be placed as close as possible to the locations shown on Figure 1. After the first boring, field screen data and observations will used to guide the locations of subsequent borings.

1. The first SB should be as close as possible to the south end of the dispensing island; the apparent source of the contamination encountered in 1992 and 2002. The overhead canopy and underground fuel pipe and electrical lines dictate placing this hole 3-5 feet south of the south end of the canopy. This will be 10-12 feet south of the south dispenser and 5-6 west of test hole "H". We anticipate installing a temporary piezometer, for surveying the shallow groundwater flow direction, and converting it to a permanent soil vapor extraction (SVE) well.
2. The second SB (also a MW) should be approximately 15-20 feet east of the middle dispenser.
3. The third SB (also a MW) should be along the special ditch approximately 25 feet west of the south dispenser or greatest mass of contamination.
4. The fourth SB (also a MW) should be 25-30 feet south or southwest of the first SB. This SB will not be drilled until the groundwater table has been surveyed at the first three boring locations and the direction of perched water flow has been determined.

are soils conducive to SVE remediation? Appears to be tight soils (ie silts)

Task 3

Laboratory analysis results of the samples collected at the dispenser (TH-R) and tank (TH-T) showed the diesel range concentrations (less than 50 mg/kg) met the cleanup level (200 mg/kg), however, the benzene concentrations (approximately 0.09 mg/kg) exceeded the cleanup level (0.02 mg/kg). Lab analysis also detected benzene in the trip blank, apparently due to cross-contamination from high benzene level (132 mg/kg) in one of the soil samples. We assumed cross-contamination could have contributed a significant portion of the benzene detected in the samples from TH-R and TH-T. We concluded no significant quantity of contamination was at either location. ADEC's letter of August 30, 2002 requested the CAP include the diesel piping system. To determine the current level of contamination at TH-R and TH-T, we propose to dig test holes by hand and collect samples in undisturbed soil as close as possible to the locations samples were collected in May 2002.

what concentration

Task 4

could go deeper no samples collected below 7' bgs

At TH-H, a pipe joint 13 feet south of the south dispenser, high PID readings and BTEX levels were detected in silt and gravel soils from 4 to 7 feet. If the soil borings (Task 1) confirm the source of a release is near the south dispenser, we propose installing a 2-inch diameter PVC Schedule 40 well screen in the boring through the zone having high volatile levels. The well would be built to allow vapor sampling, be used for pilot testing, and perhaps be a low-vacuum SVE well operated by a small shop air compressor or a wind-activated fan, with venting above the canopy. Excavation of contaminated soil may not be a practicable option to reducing the contamination levels at this site. If the soil and groundwater samples show there is no free product on the water table and soil conditions in the zone of contamination would allow air movement, the facility owner would like to use a low cost soil vapor extraction system to reduce contamination levels. If an SVE system is practical, additional design information will be submitted to ADEC. Will be dependent on soils type encountered during drilling operations.

TH-H was dug out ly, 7' bgs. o 7' bgs levels igh levels extent of excavation.

Detailed Work Plan

The following activities are associated with performing the above tasks:

- Provide a health and safety briefing for field personnel and subcontractors.
- Locate public utilities before boring or digging any holes.
- Verify property lines and ROW locations.
- Subcontract Hughes Drilling to advance four soil borings to depths of approximately 20 feet, or to 4 feet below groundwater. Borings will be advanced with a truck-mounted rotary drill rig.
- Obtain soil samples at 2-foot intervals from each boring with a 2-inch diameter split-spoon sampler advanced continuously to the total depth of each boring. Field screen all samples (visual, odor, sheen, and gas vapor with PID).

anticipated GW depth ? reviously drilled o 20' bgs will drill to GW er phone conversation Rozak on Ron 3-9-05

Ron will include a KPB sattelite map of surrounding area (including west side of Sterling Hwy)

- Collect one soil sample for laboratory analysis from the groundwater interface and up to one additional sample if another depth has the greatest potential for contamination based on field screening.
- Segregate and store all contaminated soil cuttings onsite in drums or lined totes for subsequent approval of treatment and/or disposal by ADEC.
- Install three groundwater monitoring wells and one piezometer. Wells will be constructed of 2-inch diameter flush-threaded schedule 40 PVC. Ten-foot long well screens with 0.020-inch slots will be installed for each monitoring well with four feet placed below the water table. Flush mount security casings will be installed for MWs. Above grade casing will be provided for the SVE well south of the dispenser island.
- Develop the monitoring wells until relatively free of sediment. Store the contaminated development water in drums or lined totes on site pending results of subsequent treatment or disposal by the department.
- Survey the locations and top of monitoring well and piezometer casings relative to a fixed reference. Measure the distance from top of casing to static water level using a tape with an electronic water interface probe. Elevation measurement shall be accurate to 0.01 foot. Horizontal measurements shall be accurate to 1.0 foot.
- Collect one water sample from each monitoring well.
- Submit samples to SGS Environmental Services for analytical testing. Request analysis for BTEX (8021b) and GRO (AK101) for all soil and water samples. Highly contaminated samples will be placed in Ziploc bags and/or be stored and shipped in a separate cooler. A laboratory furnished trip blank will accompany each sample shipment throughout the field sampling activity and transport to the lab. Chain of custody procedures will be followed during shipment of the samples.
- Evaluate field and laboratory data. Prepare a written report with SB/MW logs, sample records, lab reports, site plan with groundwater contours, conclusions and recommendations.

Rozak Engineering will mark the soil boring/monitor well locations, oversee the soil boring and installing of monitor wells, collect and field screen soil samples, survey the wells and water table, collect water samples, submit samples to the analytical laboratory, sample and oversee the disposal of soil cuttings and purge water, and prepare reports as needed. Drilling and installing of monitor wells will be subcontracted to Hughes Drilling Company. Analytical testing of soil and groundwater samples will be subcontracted to SGS Environmental Services in Anchorage.

Work Schedule

We propose to perform borehole and monitoring well work during April-May 2005, pending ADEC approval of this CAP. The owner wants these corrective action and site restoration activities completed by May 19, 2005 so it does not interfere with facility operations during the tourist season. We anticipate soil boring and monitor well installation will take two days.

Developing and surveying the wells will take one day. Analytical testing and written results will take three weeks. We will submit a written summary report four weeks after receipt of final laboratory results.

Cleanup Levels

Previously, Category B soil cleanup levels for this site were developed using Method One, Table A1. In the future we proposed to use soil cleanup levels listed in the "Under 40-inch Zone" in Table B1 and Table B2 for Method Two, and cleanup levels for water as listed in Table C of 18AAC78.345.

Please address questions or comments directly to Ron Rozak at 283-5640.

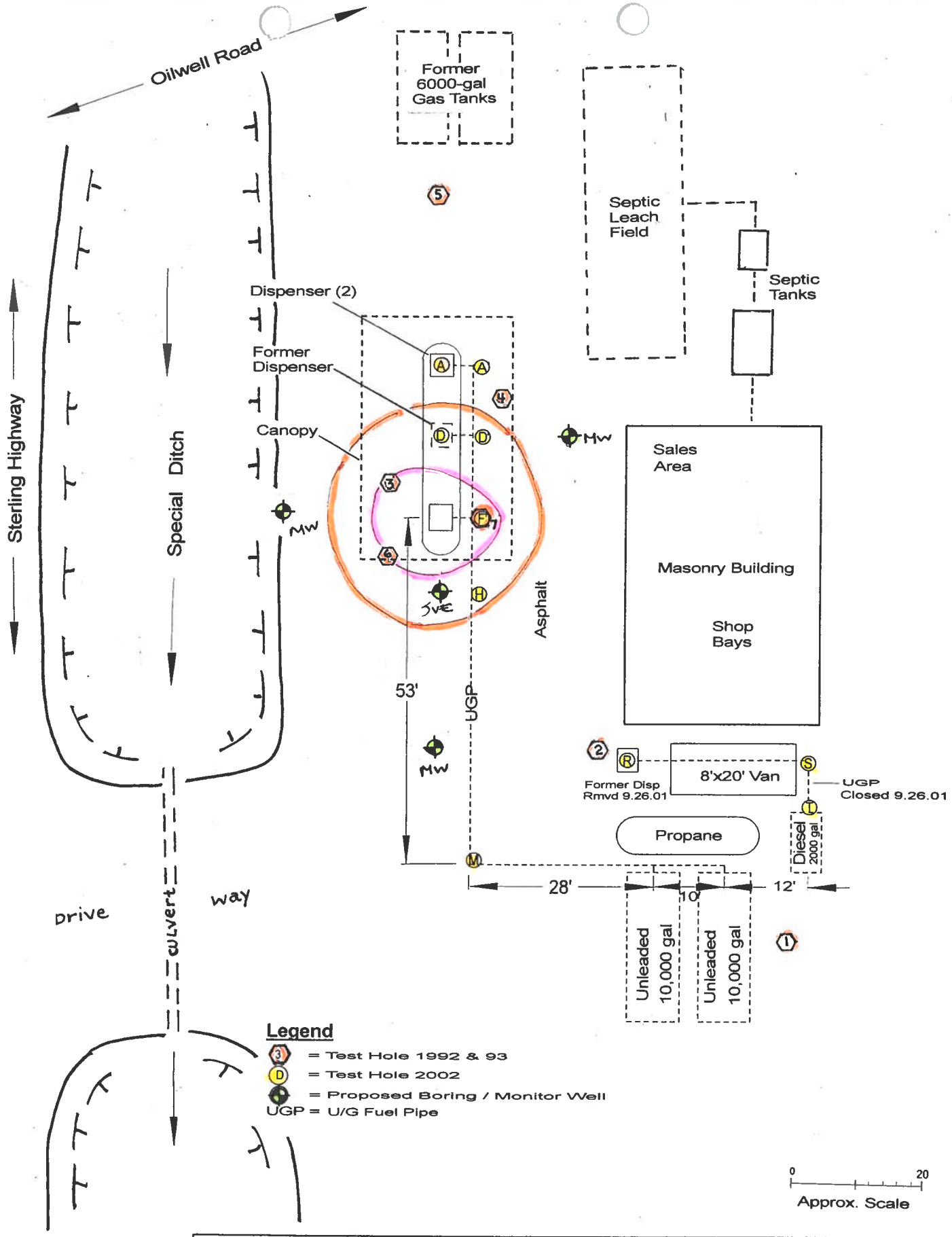
Sincerely,

Ronald T. Rozak, PE
Environmental Consultant

cc: Keith Presley, Chinook Tesoro

Attachments

Figure 1 – Proposed Corrective Action Plan, 2005
Figure 2 – Release Investigation Test Results, May 23 & 24, 2002

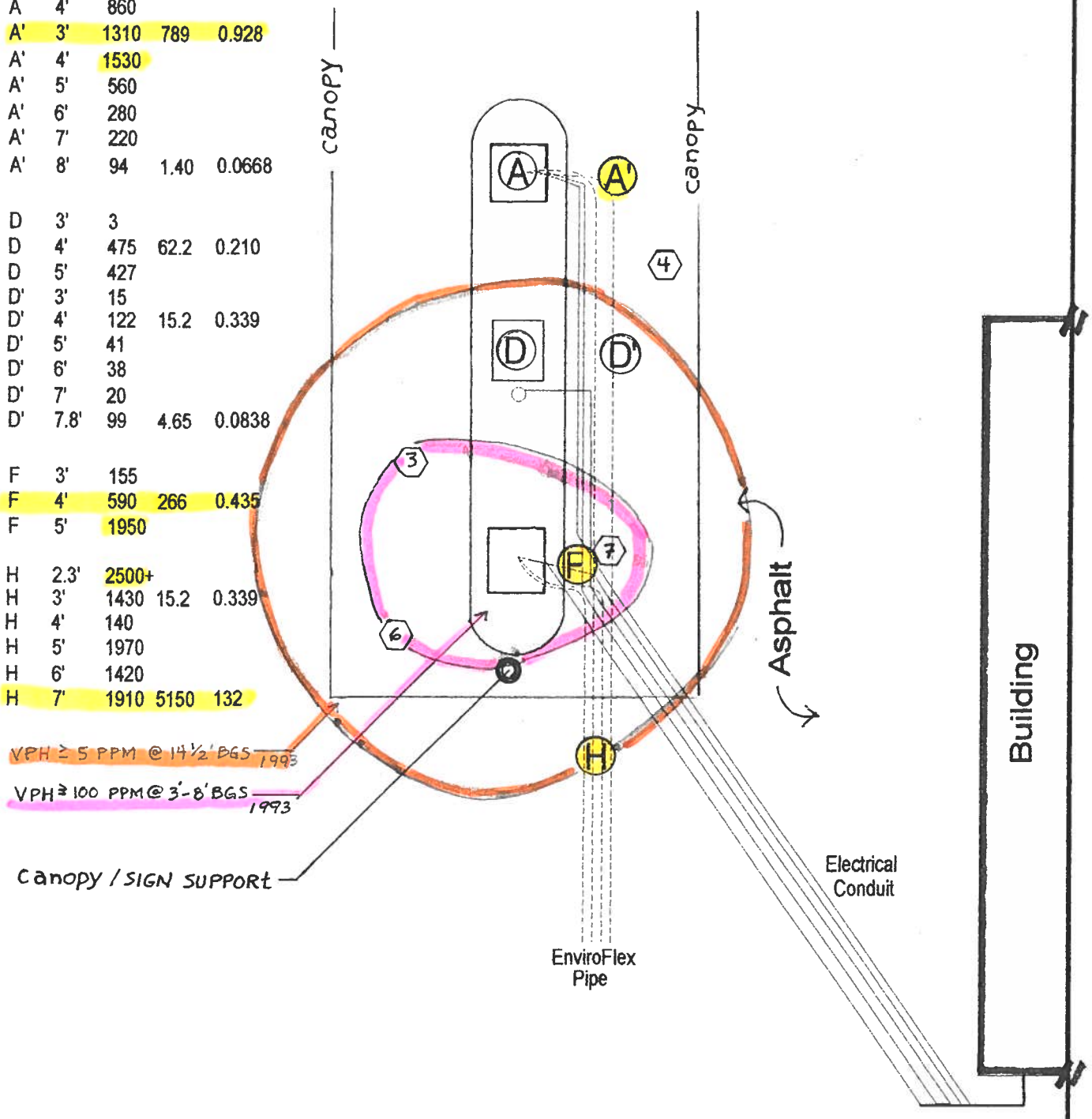


ROZAK ENGINEERING PO BOX 350 KENAI, AK Drawn by: EH 06.17.02 Rev. by: RTR 1.24.05	**Proposed Corrective Action Plan** **Chinook Tesoro** **Ninilchik, Alaska**

Figure 1

Sample Properties - 2002

TH	Depth	PID ppm	GRO mg/Kg	Benz mg/Kg
A	3'	210	220	0.112
A	4'	860		
A'	3'	1310	789	0.928
A'	4'	1530		
A'	5'	560		
A'	6'	280		
A'	7'	220		
A'	8'	94	1.40	0.0668
D	3'	3		
D	4'	475	62.2	0.210
D	5'	427		
D'	3'	15		
D'	4'	122	15.2	0.339
D'	5'	41		
D'	6'	38		
D'	7'	20		
D'	7.8'	99	4.65	0.0838
F	3'	155		
F	4'	590	266	0.435
F	5'	1950		
H	2.3'	2500+		
H	3'	1430	15.2	0.339
H	4'	140		
H	5'	1970		
H	6'	1420		
H	7'	1910	5150	132



1" = 10'

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ROZAK ENGINEERING
PO BOX 350 KENAI, AK

Drawn by: EH 06.17.02
Rev. by: R.T.R. 7-2-02

Release Investigation Test Results
Chinook Tesoro
Ninilchik, Alaska
May 23 + 24, 2002

Figure 2

Revised: RTR 1-24-05