

1504, 38, 00)

January 26, 1998

Mr. Jan Supler
Wards Cove Packing Company
88 E. Hamlin Street
Seattle, Washington 98105

**RE: Results of Additional Soil and Groundwater Investigation, Wards Cove
Bulk Fuels Facility, Craig, Alaska.**

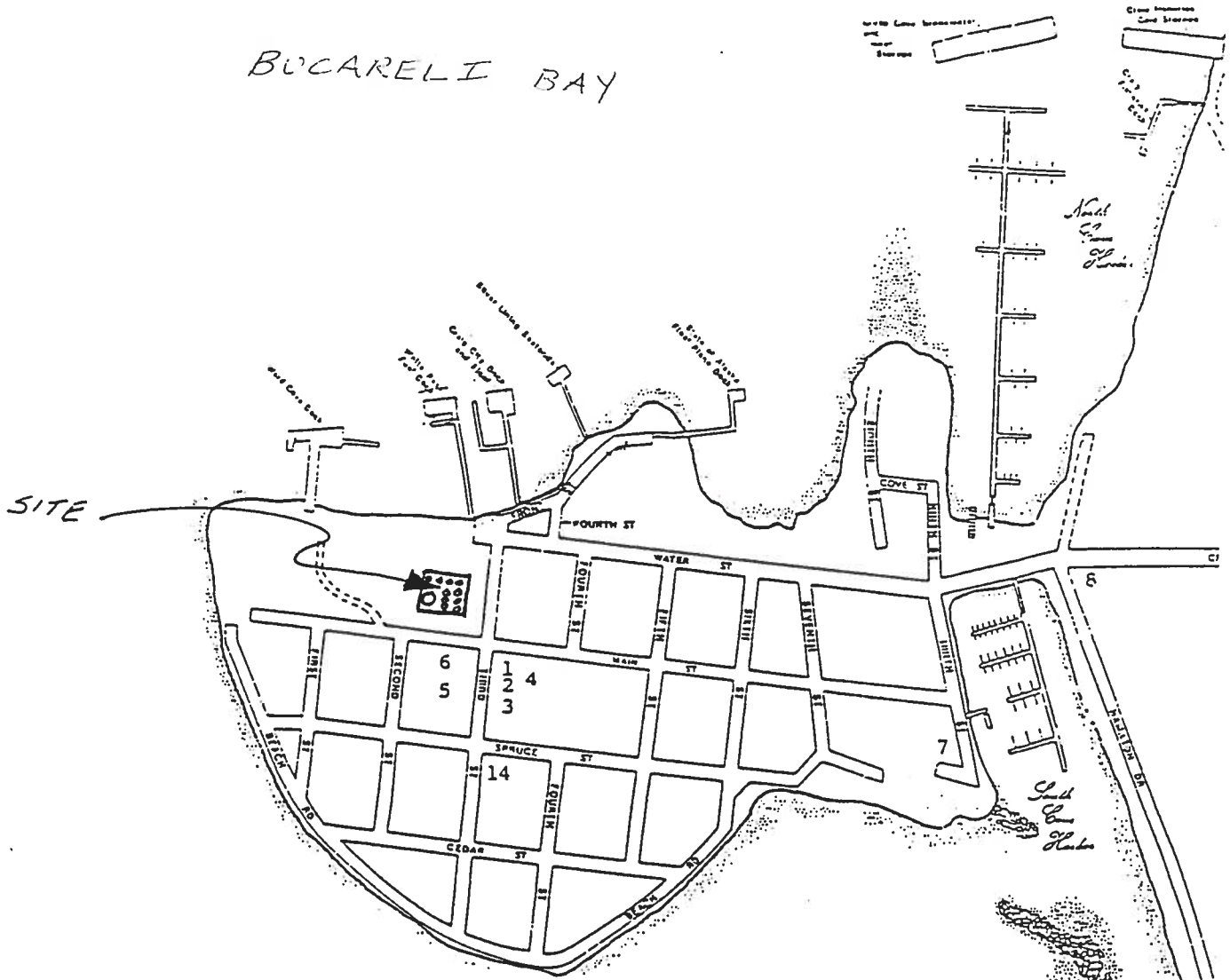
Dear Mr. Supler:

This letter presents the results of additional soil and groundwater assessment activities performed by AIG Environmental Management, Inc. (AIGEM) at the Wards Cove Packing Company (Wards Cove) facility referenced above (Figure 1). This scope of work was proposed in an AIGEM Work Plan (dated July 21, 1997) to Wards Cove (and copied to the Alaska Department of Environmental Conservation (ADEC)). The primary purpose of this work was to further characterize the extent of petroleum hydrocarbons in the soil and groundwater at the site. Background information for the site was most recently presented in the AIGEM Work Plan referenced above.

BACKGROUND

The site is located at 302 Main Street in Craig, Alaska, which is located on the western shoreline of Prince of Wales Island in the southeastern part of the state. Site photographs are presented in Attachment 1. The facility is adjacent to the commercial/retail downtown district of Craig (Figure 1). The subject property is owned by Wards Cove, leased by White Pass Alaska, and currently operated by Harbor Enterprises d.b.a. Petro Marine. Prior to Wards Cove purchasing the property, the land was previously used as a fish cannery starting in the early 1920s. The cannery was owned by Mr. Laidenberger and was subsequently purchased by Ms. Libby McNeill. Wards Cove purchased the real estate from Libby McNeill in 1959. Background documents indicate that the bulk fuel facility was constructed by Chevron U.S.A., Inc. (Chevron) in the 1930s and operated by Chevron until 1986 when Ingram Oil temporarily assumed operation of the facility for one year. In 1987,

BUCCARELI BAY



LEGEND

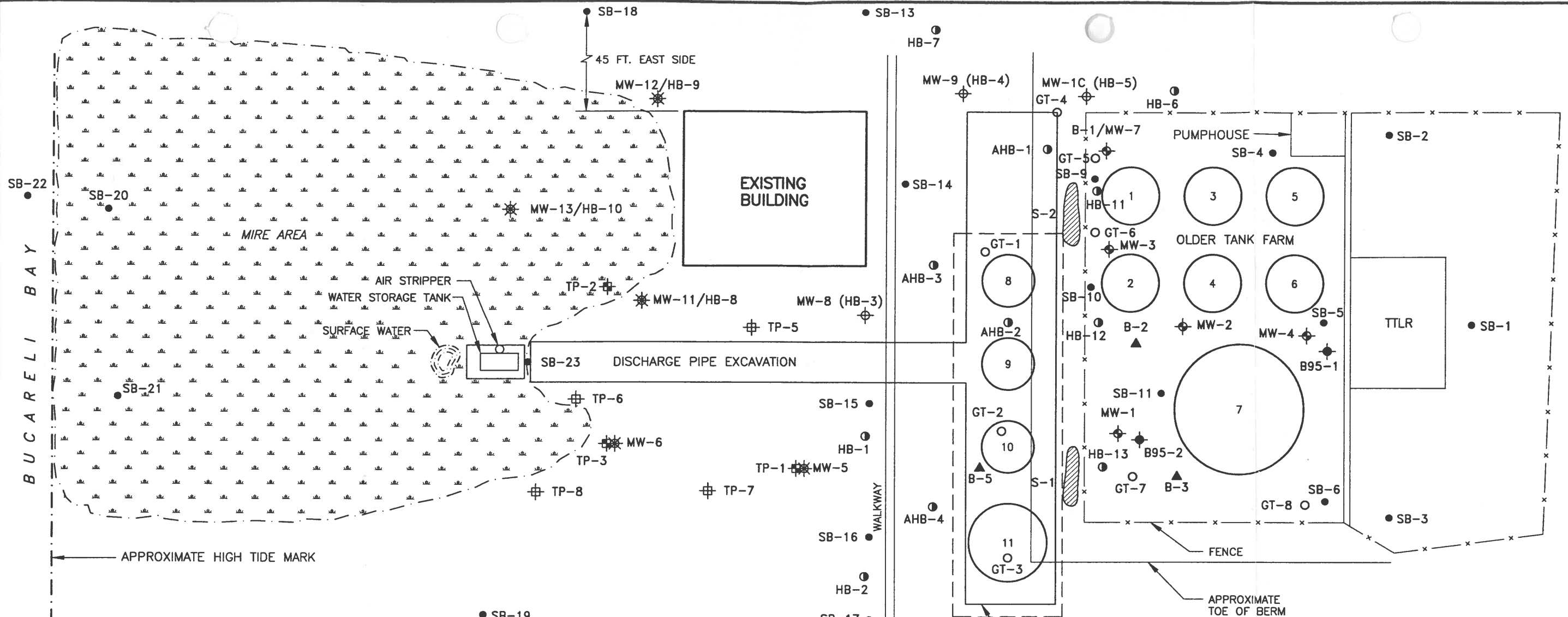
- 1 Craig City Hall
- 2 Craig Primary Health Care Facility
- 3 Craig Public Library
- 4 Fire Hall
- 5 Craig Police Department
- 6 Craig City Gym
- 7 U.S. Forest Service
- 8 Harbormaster Building
- 9 Craig District Court
- 10 U.S. Post Office
- 11 Craig High School
- 12 Craig Elementary School
- 13 City Shop/Public Works
- 14 Craig Youth Center



AIG ENVIRONMENTAL MANAGEMENT, INC.

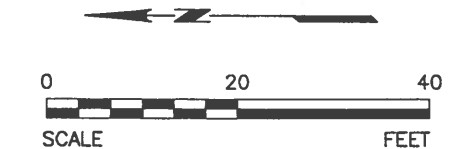
Figure 1: Site Location, Wards Cove Tank Farm Facility, Craig, Alaska

199710.141558 E:\AIG\CHEVRON\SITEPLAN



LEGEND:

- SB-1 SOIL BORINGS INSTALLED BY AIGEM (SEPTEMBER 1997)
- ⊕ MW-2 2-INCH MONITORING WELLS BY OTHERS
- ⊗ MW-6 PREVIOUS 2-INCH MONITORING WELLS BY RZA
- ⊕ TP-2 PREVIOUS TEST PITS BY RZA
- ▲ B-3 PREVIOUS BORING/SOIL SAMPLES BY RZA
- ⊕ TP-8 APPROXIMATE LOCATION OF RECENTLY COMPLETED TEST PITS BY RZA
- ⊕ MW-9 (HB-4) APPROXIMATE LOCATION OF RECENTLY COMPLETED MONITORING WELLS BY RZA
- HB-7 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA
- AHB-4 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA (APRIL 1990)
- B96-1 SOIL BORING INSTALLED BY AGRA
- GT-8 SOIL BORING INSTALLED BY ANI
- S-2 APPROXIMATE LOCATION OF COMPOSITE SAMPLE COLLECTED FROM EXCAVATED SOIL PLACED ON BERM



REFERENCE: RITTENHOUSE & ASSOCIATES, INC. (RZA), MAY 1990.

FIGURE 2
BULK FUEL FACILITY
CRAIG, ALASKA
SITE PLAN

AIG ENVIRONMENTAL MANAGEMENT, INC.

White Pass assumed operation of the facility until 1995, when Harbor Enterprises, the current operator, assumed control d.b.a. Petro Marine.

The facility is at an elevation of approximately 25 feet above sea level, and is located approximately 200 feet south of the shoreline of Bucareli Bay. The ground surface in the vicinity of the terminal consists predominantly of gravel and sand. Groundwater is generally less than 5 feet below ground surface (bgs), and the direction of groundwater flow is generally to the north toward Bucareli Bay.

The facility is directly surrounded by the Klawok Inlet to the north and west. To the east, the property borders the downtown portion of Craig's retail/business district. To the south, the property is bordered by Main Street, and across the street are a residential area, small school, and Public Works Sewer Pump Station.

The facility currently includes 11 aboveground steel storage tanks (ASTs), some of which have been in use for almost 60 years. A site plan is presented as Figure 2. The seven oldest ASTs are located within a 3-foot-high unlined earthen bermed area (older tank farm). Four additional ASTs were installed during an expansion in 1991 in a separate tank farm (newer tank farm) located north of the older earthen bermed tank farm area. ASTs in this expanded area are installed on a cement pad and surrounded by a 3-foot-high cement wall. The facility also includes a pump house, a truck trailer loading rack (TTLR), above-grade piping, and a pipeline corridor which extends to a boat fueling dock. A surface water collection system is installed in the TTLR which drains into the unlined earthen bermed area. A site plan is presented as Figure 2.

Environmental investigations at the site were conducted by Geoengineers, Inc. in 1987, Rittenhouse-Zemman and Associates, Inc. (RZA) between 1988 and 1990, America North, Inc. (ANI) in 1991, and AGRA Earth & Environmental (AGRA) in 1995. These investigations reveal that soil and groundwater at the site have been impacted with petroleum hydrocarbons.

Geoengineers observed a sheen on the marine waters in Bucareli Bay during site visits in 1986 and 1987, and observed a small crack in the foundation of Tank 1 that reportedly appeared to be leaking black oil or asphaltic emulsion during a site visit in 1987. In 1987, Geoengineers detected concentrations of gasoline-range hydrocarbons ranging from 490 to 800 parts per million (ppm) in soil samples collected from three of four monitoring wells installed in the vicinity of the older tank farm. Separate-phase hydrocarbons (SPH) were measured in one of the monitoring wells (as much as 0.69 feet in Monitor Well MW-1), and benzene concentrations were as high as 12,000 parts per billion (ppb) in groundwater samples collected and analyzed. The depth to groundwater during the 1987 assessment was approximately 1 foot bgs.

In June 1988, RZA conducted additional soil sampling and installed two additional monitoring wells. Total recoverable petroleum hydrocarbons (TRPHs)

were detected in groundwater samples from all six monitoring wells, with a maximum concentration of 35,000,000 ppb. Benzene was detected in groundwater samples from three of the wells, with a maximum concentration of 67 ppb. In September 1988, RZA installed (but did not startup until April 1989) a vapor-extraction system (VES) in the vicinity of the older tank farm.

In 1989, RZA installed two additional monitoring wells and sampled soils from 11 additional soil borings. Concentrations of total petroleum hydrocarbons (TPH) as high as 11,200 ppm were detected in soil samples. Based on these results, the VES was expanded. Additionally, a passive dewatering trench (French drain) and water treatment system were installed in July and October 1989, respectively. The 8-foot-deep French drain is located along the northern border of the older tank farm. Groundwater collected in the French drain was piped to the water treatment system consisting of an oil/water separator and an air-stripping unit. Treated water was discharged to the ground surface approximately 80 feet north of the older tank farm.

Quarterly groundwater monitoring was performed between 1989 and 1991 by RZA and ANI. Additional soil samples were collected by RZA in 1990 and by ANI in 1991. Concentrations of TPH as diesel in soil samples collected by ANI in 1991 were as high as 13,100 ppm.

AGRA performed limited assessment activities in May 1995. During site reconnaissance, AGRA observed the French drain to continue to passively drain groundwater to the non-operating air stripper and water storage tank. Because that system was not operating and the storage tank was full, excess water had leaked from a valve in the piping leading to the storage tank to the ground. Laboratory analytical results of water samples collected from the leaking valve and from water pooled on the ground below indicated the presence of gasoline range organics (as high as 130 ppb) and diesel range organics (as high as 600 ppb). Benzene was detected in the sample collected from the leaking valve at a concentration of 12 ppb. Records do not indicate the volume of water that leaked to this area (approximately 100 feet north of the older tank farm); however, this represents a route of potentially significant migration of petroleum hydrocarbons away from the source area. Further, AGRA observed distressed vegetation near the valves at the base of each AST within the older tank farm, indicating past releases. Additionally, AGRA noted that the effluent from the TTLR surface water collection system continues to be located within the bermed area of the older tank farm, presenting a potential source of ongoing contamination.

In December 1992, the Alaska Department of Environmental Conservation (ADEC) approved a request by Chevron to discontinue operation of the VES system. However, the ADEC did request that Chevron continue to operate the French drain and air stripper, gather volumetric discharge data (throughput) of the groundwater treatment system while collecting process stream samples to estimate contaminant loads, and to perform semi-annual groundwater monitoring and sampling events.

However, operation of the groundwater treatment system was discontinued in 1993 and no groundwater monitoring and sampling events have been performed since July 1993.

In June 1994, AIG Consultants (AIGC) conducted an environmental risk assessment survey to determine general environmental conditions at the facility for pollution insurance purposes. While onsite, AIGC observed significant hydrocarbon staining on the soil and surface water associated with a spring located hydraulically downgradient of the tank farm area. AIGC also observed what appeared to be petroleum hydrocarbon-affected water leaking from hoses associated with the water holding tank (associated with the air stripping unit).

PREVIOUS RELEASES

AGRA presented the results of interviews with Wards Cove personnel regarding previous on-site releases of petroleum hydrocarbons in a document dated June 1996. One interviewee witnessed a 300 gallon fuel spill when an AST in the older tank farm was overfilled by Chevron and was responded to by the United States Coast Guard. Reportedly this release occurred some time after 1959 (exact date unknown).

Another interviewee (not an eyewitness) stated that he had been informed by local sources that on several occasions the ASTs were overfilled. That interviewee stated that the likely source of the known soil and groundwater contamination was from past (AST) filling practices by Chevron. According to the interview presented in the AGRA document referenced above, released fuel from one of those overflow events completely filled the unlined secondary containment of the older tank farm.

In December 1996, Wards Cove was provided excerpts from a report entitled Yukon, B.C. and Alaska Environmental Site Assessments, Draft Summary Sheets (prepared by Golder Associates, Ltd), which contained the following information regarding previous releases:

- Spills: 1991: AST #7 overfilled. Approximately 1,136 liters diesel released into containment area. Approximately 50% recovered. 800

Approximately 1985: AST #1 overfilled. Approximately 189 liters diesel fuel released. Sorbent used to recover release. 500

Prior to 1985: Anecdotal evidence of earthen berm half-filled with gasoline from AST overflow.

- Leaks: September 1994: Minor pipeline leak into bay (under 24-hour duration).

1993: Diesel fuel pipeline “popped” from annual pressure test. Small leak. Leak located within three hours.

Spring 1993: Leak in foam injection line to AST #8 due to bad check valve along western edge of earthen berm. Line disconnected.

Approximately 1988-1989: Pipeline drip in barge connection. Repaired immediately.

- Other: Tanks #1 and #2 need new bottoms.
Sludge pits dug for tank bottom disposal prior to 1980.
Fuel odors under valves of ASTs #2, #3, #5, #6, and #7.

SEPTEMBER 1997 ASSESSMENT ACTIVITIES PERFORMED

PREFIELD ACTIVITIES

Prior to initiation of field activities, AIGEM prepared a site-specific Health and Safety Plan to address potential safety hazards and considerations. Additionally, AIGEM complied with all pre-drilling requirements of the ADEC.

INSTALLATION OF TEMPORARY SOIL BORINGS AND SOIL SAMPLE COLLECTION

On September 9 through 11, 1997, AIGEM installed 22 temporary soil borings (SB-1 through SB-7, and SB-9 through SB-23) onsite to better define the extent of petroleum hydrocarbons in the soil. The soil borings were installed at the locations presented in Figure 2. All boring and sampling equipment was decontaminated with a detergent wash and clean-water rinse prior to use. Rinsate from decontamination procedures was contained in 55-gallon drums and stored onsite pending disposal by Wards Cove.

All soil borings were installed using portable power augering equipment, with the exception of SB-1 through SB-3, SB-22, and SB-23, which were installed using a shovel. Undisturbed soil samples were collected at selected intervals using a slide hammer sampler equipped with brass sample liners. Upon sample collection, selected brass sample liners were removed from the sampler, sealed with Teflon tape and plastic end caps, properly labeled, and placed on ice. Selected soil samples were used to log each exploratory soil boring using the Unified Soil Classification System.

INSTALLATION OF TEMPORARY GROUNDWATER MONITOR WELLS AND GROUNDWATER SAMPLE COLLECTION

Soil borings in which groundwater were encountered were converted to temporary groundwater monitor wells, so that groundwater samples could be collected to better define the extent of petroleum hydrocarbons in the groundwater. The soil borings were converted to temporary groundwater monitor wells by installing 2-inch diameter Schedule 40 PVC casing with 0.01-inch slotted casing to the total depth of each boring. After casing installation, groundwater was allowed to stabilize for a minimum of 2 hours. Upon stabilization, groundwater samples were collected from selected temporary monitor wells by lowering a disposable polyethylene bailer inside the casing. Groundwater samples were collected from the following temporary monitor wells: SB-4 through SB-7, SB-9 through SB-11, SB-13, SB-15, SB-16, SB-18, and SB-21. Groundwater samples were collected from soil borings SB-22 and SB-23 by lowering a disposable bailer into the boring and transferring the samples to appropriate sample containers. In addition to the temporary groundwater monitor wells and soil borings, groundwater samples were also collected from two existing groundwater monitor wells (MW-11 and MW-13).

Prior to sampling, the wells were measured for the presence of LPH using an oil/water interface probe. Each well was developed by purging the casing of at least 3 casing volumes of groundwater. During purging, the groundwater was monitored for pH, temperature, and specific conductivity. Groundwater samples were collected from each well by lowering a disposable polyethylene bailer into each well. The groundwater samples were transferred to the appropriate containers, properly labeled, and placed on ice.

Upon completion of collection of groundwater samples, the temporary casings were removed from the temporary monitor wells and the soil borings were destroyed by backfilling each boring with its respective drill cuttings to 1 foot below ground surface, and then completing well abandonment with cement grout to ground surface.

Surface water samples were collected on September 9, 1997. One sample of surface water that was pooled approximately 5 feet north of the air stripper (Surface Water Air Stripper) was collected into sample containers. A surface water sample was also collected 5 feet south of the air stripper unit (SB-23) where groundwater was observed leaching to the ground surface (as described in the Hydrogeology section below). Soil Boring SB-23 was installed to a depth of 6 inches below grade in order to collect the leaching water so that a sample could be collected with a bailer. Additionally, a sample of water observed to be dripping from PVC piping (plumbed to the influent side of the non-operational air stripper) (Air Stripper Piping) was collected into sample containers.

LABORATORY ANALYSIS OF SOIL AND GROUNDWATER SAMPLES

All soil and groundwater samples were transported to Zymax Laboratory in San Luis Obispo, California (Zymax) for analysis, along with appropriate chain-of-custody documentation. Selected soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as diesel, TPH as gasoline, benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl-t-butyl ether (MTBE) by USEPA Method 8260 and 8270 with GC/MS combination.

REINTERPRETATION OF LABORATORY ANALYTICAL DATA

At the request of AIGEM, Zymax reviewed the laboratory analytical results for selected soil and groundwater samples and prepared a breakdown of petroleum hydrocarbon concentrations by specific carbon-chain ranges, and by aliphatic-versus-aromatic specification. This was performed to compare the laboratory analytical results to ADEC's most-recent soil and groundwater cleanup standards that are presented in its Draft Water Quality Standards and Oil and Hazardous Substances Pollution Control Regulations and Cleanup Standards dated November 12, 1997 (1997 Draft Cleanup Standards).

Zymax reviewed mass spectral data from the 8260 analysis to quantitate Carbon 6 to Carbon 10 (C6-C10) carbon-chain ranges. To quantitate Carbon 10 to Carbon 25 (C10-C25) and Carbon 25 to Carbon 36 (C25-C36) carbon-chain ranges, Zymax reviewed the mass spectral data from the 8270 analysis. Zymax also reviewed the mass spectral data from the 8270 analysis to determine polynuclear aromatic hydrocarbon concentrations.

As recommended in ADEC's Water Quality Standards and Oil and Hazardous Substances Pollution Control Regulations and Draft Cleanup Standards dated December 18, 1996 (1996 Draft Cleanup Standards), AIGEM applied default percent compositions presented as Table 10 of that document to quantify aliphatic and aromatic fractions of the specific carbon-chain ranges referenced above.

RESULTS OF SEPTEMBER 1997 ASSESSMENT

HYDROGEOLOGY

Site topography generally slopes to the north toward Bucareli Bay. Surface water runoff from the site follows the natural grade to the north into Bucareli Bay and Klawok Inlet. A mire area measuring approximately 100 feet wide and 100 feet long in surface area (Figure 1) is located between the tank farm and Bucareli Bay. Muddy surface soil and heavy vegetative growth identify the mire. On October 21, 1997, AIGEM conducted a telephone interview with Mr. Carl Asplund. Mr. Asplund worked as a temporary employee at the subject site from 1947 until 1959, and as a

full-time employee from 1959 until 1990. Mr. Asplund stated that the site surface soils from the north side of the winch house (identified in Figure 1 as Existing Building) to the beach have been naturally saturated and muddy as long as he could remember, even during the dry seasons. It is AIGEM's opinion that groundwater might leach from the sloping hillside to some degree in the area of the mire to cause these year-round muddy conditions.

During the subject assessment, it was observed that the groundwater gradient generally reflected the site's northward-sloping topography, with the exception of the area at and north of the air stripper unit. It appears that in order to install the cement pad for the air stripper, a depression was excavated in that area of the site to level the sloping ground surface. It should be noted that groundwater was observed leaching from the south wall of that depression. Additionally, surface water was pooled in a topographically-flat area to the north of the air stripper unit's cement pad. This surface water covered a surface area of approximately 100 square feet. It is assumed that downslope drainage of that surface water flows through the mire area and toward Bucareli Bay.

Sandy gravel was encountered in all soil borings from immediately below ground surface (bgs) to 6 feet bgs. Exploratory boring logs are presented as Attachment 2. The depth to stabilized groundwater ranged from approximately 2 feet bgs (SB-6) to 5 feet bgs (SB-13). Some soil borings did not yield measurable groundwater (SB-12, SB-14, and SB-17). Table 1 presents the depth-to groundwater measurements collected on September 10 and 11, 1997.

LABORATORY ANALYTICAL RESULTS

Soil

Laboratory analytical results for soil samples collected in September 1997 are summarized in Table 2 and presented graphically in Figure 3. Historical concentrations of petroleum hydrocarbons detected in soil samples are presented graphically in Figure 5. Certified laboratory analytical reports are presented as Attachment 3. Concentrations of TPH as diesel in soil samples ranged from below laboratory method detection limits (ND) to 14,000 milligrams per kilogram (mg/kg). TPH as gasoline ranged from ND to 500 mg/kg. Concentrations of benzene in soil samples ranged from ND to 0.2 mg/kg. Concentrations of toluene ranged from ND to 0.5 mg/kg. Concentrations of ethylbenzene ranged from ND to 11 mg/kg. Concentrations of xylenes ranged from ND to 11 mg/kg. MTBE was not detected in any soil samples.

A breakdown of carbon-chain ranges and aliphatic and aromatic fractions based on a review of laboratory analytical results for selected soil samples is presented in Table 4. The significance of the results is discussed below.

Groundwater

Laboratory analytical results for groundwater samples collected in September 1997 are summarized in Table 3 and presented graphically in Figure 4. Historical results of petroleum hydrocarbons detected in groundwater samples are presented graphically in Figure 6. Certified laboratory analytical reports are presented as Attachment 3. Concentrations of TPH as diesel in groundwater samples ranged from ND to 48,000 micrograms per liter ($\mu\text{g/L}$). Concentrations of TPH as gasoline in groundwater samples ranged from ND to 10,000 $\mu\text{g/L}$. Concentrations of benzene ranged from ND to 160 $\mu\text{g/L}$. Concentrations of toluene ranged from ND to 29 $\mu\text{g/L}$. Concentrations of ethylbenzene ranged from ND to 25 $\mu\text{g/L}$. Concentrations of xylenes ranged from ND to 240 $\mu\text{g/L}$. MTBE concentrations ranged from ND to 3.1 $\mu\text{g/L}$.

A breakdown of carbon-chain ranges and aliphatic and aromatic fractions based on a review of laboratory analytical results for selected groundwater samples is presented in Table 5. The significance of the results is discussed below.

Surface Water

TPH as diesel was detected in the sample that was collected from surface water pooled approximately 5 feet north of the air stripper (Surface Water Air Stripper) at a concentration of 1,100 $\mu\text{g/L}$. TPH as diesel was also detected in a surface water sample collected from Soil Boring SB-23 (at a concentration of 250 $\mu\text{g/L}$). As stated previously, groundwater was observed leaching from the south wall of the air stripper depression at this location.

Additionally, a sample of water observed to be dripping onto the ground from PVC piping (plumbed to the influent (south) side of the non-operational air stripper) was collected and analyzed. TPH as diesel, TPH as gasoline, and benzene were detected in this sample at concentrations of 910 $\mu\text{g/L}$, 210 $\mu\text{g/L}$, and 4.6 $\mu\text{g/L}$, respectively. AIGEM measured the drip rate from the piping to the ground to be 1 liter per 13 minutes.

On September 9, 10, and 11, 1997, a sheen was observed floating on Bucareli Bay adjacent to the site during high tide events (see photograph in Attachment 1). The sheen extended out from the intertidal zone to a distance of approximately 30 feet north of the beach.

SITE CLEANUP GOALS

SOIL

In a September 5 telephone conversation between Darryl Snow of AIGEM and Sally Schlichting of ADEC, Ms. Schlichting indicated that ADEC was considering requests from responsible parties that ADEC's Draft Water Quality Standards and Oil and Hazardous Substances Pollution Control Regulations and Cleanup Standards dated December 18, 1996 (1996 Draft Standards) be applied to sites upon request. On September 5 and October 28, 1997, Ms. Schlichting interpreted those 1996 Draft Standards to equate to the following cleanup goals for this site:

Soil Cleanup Goals

Contaminant	Soil < 1 Foot in Depth	Soil > 1 Foot in Depth
TPH as Diesel	1,250 mg/kg	5,000 mg/kg
TPH as Gasoline	140 mg/kg	1,400 mg/kg
Benzene	3 mg/kg	3 mg/kg

Figure 5 graphically presents the historical concentrations of petroleum hydrocarbons in soil samples collected at the site. Contaminant concentrations in soil samples exceed the above soil cleanup levels at almost all sample locations within the old tank farm, and at Soil Borings SB-14 and HB-1 which are located north of the newer tank farm.

On November 21, 1997, ADEC communicated to AIGEM (via electronic mail) that due to inherent changes in ADEC policy, it would be prudent to apply the cleanup standards listed in Table B of the 1997 Draft Cleanup Standards document (using the "migration to groundwater" and "greater than 40 inches annual rainfall" values). Those cleanup standards are presented below:

Contaminant	Soil Cleanup Standards (milligrams per kilogram)
C6-C10 Total petroleum hydrocarbons	1,500
C6-C10 Aliphatics	400
C6-C10 Aromatics	130
C10-C-25 Total petroleum hydrocarbons	12,500
C10-C25 Aliphatics	10,000
C10-C25 Aromatics	90
C25-C36 Total petroleum hydrocarbons	22,500
C25-C-36 Aliphatics	20,000
C25-C36 Aromatics	3,000

**Table 4: Breakdown of Soil Analytical Results by Carbon Chain Ranges
Wards Cove Bulk Fuel Facility, Craig, Alaska**

Sample Number	Date Collected	C6-C10	C6-C10	C6-C10	C10-C25	C10-C25	C10-C25	C25-C36	C25-C36	C25-C36	PNAs
		TPH	Aliphatic	Aromatic	TPH	Aliphatic	Aromatic	TPH	Aliphatic	Aromatic	
SB5: 2.5'-3'	10-Sep-97	ND<10	ND<10	ND<10	6,680	5,344	2,672	120	108	36	ND
SB9: 0.5'-1'	10-Sep-97	100	70	50	10,500	8,400	4,200	500	450	150	ND
SB9: 2.5'-3'	10-Sep-97	200	140	100	13,500	10,800	5,400	500	450	150	8.9 (a)
SB10: 0.5'-1'	10-Sep-97	500	350	250	13,800	11,040	5,520	200	180	60	ND
SB10: 2.5'-3'	10-Sep-97	100	70	50	7,710	6,168	3,084	90	81	27	ND
SB11: 0.5'-1'	10-Sep-97	80	56	40	2,760	2,208	1,104	40	36	12	ND
SB11: 2.5'-3'	10-Sep-97	500	350	250	4,350	3,480	1,740	50	45	15	ND
SB14: 0'-0.5'	9-Sep-97	ND<10	ND<10	ND<10	3,260	2,608	1,304	540	486	162	ND
SB15: 3.5'-4'	9-Sep-97	20	14	ND<10	1,230	984	492	70	63	21	ND

Shaded concentrations are those that exceed ADEC Soil Cleanup Standards (Table B from Draft Cleanup Standards dated 11/12/97 assuming migration to groundwater and over 40 inches annual rainfall)

All results in milligrams per kilogram

TPH = Total petroleum hydrocarbons

PNAs = Polynuclear aromatic hydrocarbons

ND = Not detected (listed with laboratory method detection limit)

Results reported by Zymax Envirotechnology in San Luis Obispo, California

(a) Naphthalene

The following percentages were used to break down the TPH into aliphatic and aromatic composition:

<u>Carbon Range</u>	<u>Percent Aliphatic</u>	<u>Percent Aromatic</u>
C6-C10	70	50
C10-C-25	80	40
C25-C36	90	30

Table 4 identifies six soil sample locations from the subject investigation where contaminant concentrations exceed cleanup standards derived from the 1997 Draft Cleanup Standards. Those sample locations are SB-6, SB-9, SB-10, SB-11, SB-15, and SB-16.

GROUNDWATER

AIGEM understands ADEC's current position to be that groundwater at this site is not considered to be a potential drinking water source at this time or in the foreseeable future, and that cleanup of groundwater at this site to drinking water standards is not currently required.

Alaska Statute 46.03.900 defines pollution as "the contamination or altering of waters, land or subsurface land of the state in a manner which creates a nuisance or makes waters, land or subsurface land unclean, or noxious, or impure, or unfit so that they are actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial, or recreational use, or to livestock, wild animals, birds, fish, or other aquatic life."

Figures 4 and 6 graphically indicate that petroleum hydrocarbons in the groundwater have migrated from the tank farm area to the intertidal zone (SB-22) of Bucareli Bay. It is AIGEM's opinion that migration of petroleum hydrocarbons in the on-site groundwater to Bucareli Bay water represents a potential nuisance and is potentially harmful or detrimental or injurious to public health, safety and welfare, to recreational use, to wild animals, and to fish and other aquatic life. If ADEC concurs with this opinion, it is expected that ADEC will require one or more of the three actions below:

1. Prevention of future migration of dissolved petroleum hydrocarbons via groundwater to Bucareli Bay,
2. Reduction of concentrations of petroleum hydrocarbons in groundwater to levels that do not adversely affect human health and the environment,
3. Preparation of an environmental risk assessment to determine concentrations of dissolved petroleum hydrocarbons in groundwater that will not adversely affect human health and the environment.

On November 21, 1997, ADEC communicated to AIGEM (via electronic mail) that where groundwater is contaminating surface water, then groundwater cleanup standards presented in Table C of the 1997 Draft Cleanup Standards document apply. Those cleanup standards are as follows:

Contaminant	Groundwater Cleanup Standards (micrograms per liter)
C6-C10 Total petroleum hydrocarbons	2,000
C6-C10 Aliphatics	2,500
C6-C10 Aromatics	1,000
C10-C-25 Total petroleum hydrocarbons	1,000
C10-C25 Aliphatics	7,000
C10-C25 Aromatics	20,000
C25-C36 Total petroleum hydrocarbons	1,000
C25-C-36 Aliphatics	Not applicable (insoluble)
C25-C36 Aromatics	1,000

As presented above, AIGEM observed a sheen floating on Bucareli Bay adjacent to the site during high tide events during the subject assessment; additionally, sheens had previously been observed and reported by others. Further, it is AIGEM's opinion that groundwater might leach from the site's sloping hillside to some degree in the area of the mire to cause the year-round muddy conditions. Given this, it is AIGEM's opinion that groundwater cleanup standards presented in Table C of the 1997 Draft Cleanup Standards should be considered for this site. Table 5 identifies six groundwater sample locations from the subject investigation where contaminant concentrations exceed cleanup standards presented in the Table C of the 1997 Draft Cleanup Standards. Those sample locations are SB-6, SB-9, SB-10, SB-11, SB-15, and SB-16.

SURFACE WATER

As stated above, a sample of water observed to be dripping onto the ground from PVC piping (plumbed to the influent (south) side of the non-operational air stripper) was collected and analyzed. TPH as diesel, TPH as gasoline, and benzene were detected in this sample at concentrations of 910 µg/L, 210 µg/L, and 4.6 µg/L, respectively. AIGEM measured the drip rate from the piping to the ground to be approximately 1 liter per 13 minutes. On September 10, 1997, Cambria Environmental Technology repaired the leaking piping; however, records indicate that this leak had been ongoing since at least May 1995. Based on laboratory analytical results of samples collected from the leaking piping on September 9, 1997, the following calculations present an estimate of the daily release of petroleum hydrocarbons at this area.

$$\begin{aligned}
 & 1 \text{ liter}/13 \text{ minutes} \times 1440 \text{ minutes}/\text{day} \times 910 \text{ } \mu\text{g TPH as diesel}/\text{liter} \times \\
 & 1 \text{ gram}/1,000,000 \text{ } \mu\text{g} \times 0.002205 \text{ pounds}/\text{gram} \\
 & = \underline{.0002 \text{ pounds TPH as diesel per day}}
 \end{aligned}$$

1 liter/13 minutes x 1440 minutes/day x 210 µg TPH as gasoline/liter x
 1 gram/1,000,000 µg x 0.002205 pounds/gram
 = .00005 pounds TPH as gasoline per day

1 liter/13 minutes x 1440 minutes/day x 4.6 µg benzene/liter x
 1 gram/1,000,000 µg x 0.002205 pounds/gram
 = .000001 pounds benzene per day

ADEC Draft Standards indicate that in addition to addressing the human health risks due to petroleum contamination and the protection of groundwater resources, several other issues arise, such as aesthetic and nuisance concerns, when considering petroleum cleanup levels.

It is possible that the natural mire area is the result of leaching groundwater that has migrated from the subsurface of the tank farm area to the mire area. It is the opinion of AIGEM that groundwater that has leached from the south wall of the depression where the air stripper is installed, coupled with the air-stripper-piping leak, have resulted in the concentrations of petroleum hydrocarbons detected in the pool of surface water located to the north of the air stripper unit, and that these are potential sources of contamination to the natural mire area. It is also AIGEM's opinion that the contaminated surface water represents a potential nuisance and is potentially harmful or detrimental or injurious to public health, safety and welfare, and to wild animals and birds. Further, surface runoff from this area to Bucareli Bay is potentially harmful to fish and other aquatic life." If ADEC concurs with this opinion, it is expected that ADEC will require one or more of the three actions below:

1. Prevention of future migration of dissolved petroleum hydrocarbons via surface runoff to Bucareli Bay,
2. Reduction of concentrations of dissolved petroleum hydrocarbons in surface water to levels that do not adversely affect human health and the environment,
3. Preparation of an environmental risk assessment to determine concentrations of dissolved petroleum hydrocarbons in surface water that will not adversely affect human health and the environment.

DISCUSSION

In January 1992 Chevron requested that the air stripping unit be removed from the groundwater treatment system. This request was supported by the following site conditions:

- White Pass would continue to operate the bulk fuels terminal as a "controlled industrial site", and the land use in the area would not change.

- The diesel-range hydrocarbons in the soil did not appear to have the chemical characteristics that represent a health threat based on toxicity or leachability.

In a letter dated April 2, 1992, ADEC acknowledged a request by Chevron to discontinue operation of the vapor extraction system that had been operating, and substitute an aeration device for treatment of discharged water, and granted that request based on the following criteria:

- The extensive remediation that had taken place
- Continued operation of the facility as a bulk fuels terminal
- Continued semi-annual groundwater sampling
- Collection of volumetric throughput data for discharged water for estimation of contaminant loads

The site is adjacent to residences and Bucareli Bay, in addition to the downtown portion of Craig's retail/business district. As presented in Figure 1, various City of Craig offices and services in the surrounding area include Craig City Hall, Craig Primary Health Care Facility, Craig Public Library, Craig Fire Hall, Craig Police Department, and Craig City Gymnasium. It is AIGEM's opinion that (based on the limited risk assessment previously performed by Chevron's consultant and levels of petroleum hydrocarbons in the subsurface and surface water) it has not been determined that existing concentrations of petroleum hydrocarbons at the site do not present a threat to human health and the environment. Further, uses other than as a bulk fuels terminal are being considered for this site. Lastly, Chevron failed to continue semi-annual groundwater sampling from 1993 to September 1998, and failed to calculate throughput data for estimation of contaminant loads. Based on this information, it is AIGEM's opinion that Chevron has been negligent in its environmental management responsibilities and has failed to provide corrective action at this site.

It is in Wards Cove's interest for this site to be restored to its full potential use and value with respect to future site development. It should be requested that future recommendations by ADEC regarding this site strongly consider the interests of Wards Cove with respect to future site development, in addition to those of ADEC, and that expeditious remedial action by Chevron be required for this site to allow for future unconditional site development.

RECOMMENDED REMEDIAL ACTION

At a minimum, AIGEM recommends that soil excavation be performed in the area of the older tank farm as a source removal effort. As presented in the Work Plan dated July 25, 1997, this is the area where previous releases occurred. Additionally, laboratory analytical results confirm that contaminant concentrations in soil samples exceed ADEC soil cleanup levels at almost all sample locations within the older tank farm. Further, source removal in this area will mitigate continued migration of

dissolved petroleum hydrocarbons in the groundwater and surface water to Bucareli Bay.

Excavation and disposal of contaminated soil in the older tank farm area could be performed concurrently with site-decommissioning activities that would precede site redevelopment. Figure 7 graphically presents the proposed lateral extent of soil excavation. Additional excavation in the areas of borings SB-14, SB-15, SB-16, and HB-1 is also proposed. It should be noted that the sample locations identified in Figure 7 as being areas where petroleum hydrocarbon concentrations exceed ADEC soil cleanup levels are based on soil cleanup standards presented in both the 1996 and 1997 Draft Cleanup Standards. Given the significant concentrations of petroleum hydrocarbons historically detected at the site, it is AIGEM's opinion that this is a reasonable approach to estimate likely dimensions of the proposed excavation. The proposed excavation dimensions would extend to a depth of approximately 3 feet below ground surface (the depth where groundwater is generally encountered). It is estimated that at least 900 cubic yards of contaminated soil would be generated during the excavation for transportation to a disposal facility. Upon completion of soil excavation and disposal activities, clean imported backfill material would be placed in the excavation and backfilled to engineered specifications.

Data and information presented in this document indicate that groundwater cleanup standards presented in Table C of the 1997 Draft Cleanup Standards have not been achieved at this site, and that groundwater is affecting surface waters as evidenced by sheening observed on Bucareli Bay. If ADEC concurs, then a remedial action plan to address groundwater should be developed.

AIGEM recommends that Wards Cove requests that ADEC prepare a formal response to this document and that the response address the following issues.

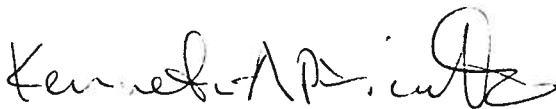
1. ADEC's response regarding the soil excavation activities proposed above,
2. ADEC's response regarding site-related surface and groundwater issues identified in this document,
3. Level of cleanup required by ADEC to allow unconditional residential development of this site, and
4. ADEC's comments regarding responsible party allocation.

AIGEM appreciates the opportunity to provide environmental services to Wards Cove. If you have any questions regarding this project, please call me at (415) 836-2623.

Best regards,
AIG Environmental Management



Darryl Snow
Environmental Consultant



Kenneth A. Pisciotto, Ph.D., R.G.
Senior Environmental Consultant

Attachments: Table 1: Groundwater Monitoring Data (September 10 and 11, 1997)
 Table 2: Soil Laboratory Analytical Results
 Table 3: Groundwater Analytical Results
 Table 4: Breakdown of Soil Analytical Results by Carbon Chain Ranges
 Table 5: Breakdown of Groundwater Analytical Results by Carbon Chain Ranges

Figure 1: Site Location
 Figure 2: Site Plan
 Figure 3: Petroleum Hydrocarbons in Soil – September 1997
 Figure 4: Petroleum Hydrocarbons in Groundwater – September 1997
 Figure 5: Historical Petroleum Hydrocarbons in Soil
 Figure 6: Historical Petroleum Hydrocarbons in Groundwater
 Figure 7: Proposed Limit of Soil Excavation

Attachment 1: Site Photographs
 Attachment 2: Exploratory Soil Boring Logs
 Attachment 3: Copies of Certified Laboratory Analytical Reports

xc: Ms. Sally Schlichting, ADEC, 410 Willoughby Avenue, Suite 105, Juneau, Alaska, 99801-1795
 Mr. Bob Gondek, Chevron Products Company, P.O. Box 6004, San Ramon, California 94583-0804

**Table 1: Groundwater Monitoring Data
Wards Cove Tank Farm Facility, Craig, Alaska**

Well	Date Monitored	Depth to Groundwater	Temperature (Fahrenheit)	Conductivity (a)	pH	Comments
SB-4	10-Sep-97	2.70	56	110	7.6	Sheen observed
SB-5	10-Sep-97	2.20	55	290	7.8	Sheen observed
SB-6	10-Sep-97	2.00	61	176	6.2	Sheen observed
SB-7	10-Sep-97	2.10	57	213	7.9	
SB-9	10-Sep-97	2.20	59	185	6.9	Sheen observed
SB-10	10-Sep-97	2.20	56	186	7.5	Sheen observed
SB-11	10-Sep-97	3.00	56	288	7.5	Sheen observed
SB-12	10-Sep-97	--	--	--	--	No groundwater yield
SB-13	10-Sep-97	5.00	55	303	8.4	
SB-14	10-Sep-97	--	--	--	--	No groundwater yield
SB-15	10-Sep-97	4.40	56	131	7.5	Sheen observed
SB-16	10-Sep-97	4.65	55	212	7.6	Sheen observed
SB-17	10-Sep-97	--	--	--	--	No groundwater yield
SB-18	10-Sep-97	1.60	58	21	6.7	
SB-19	10-Sep-97	--	--	--	--	No groundwater yield
SB-20	10-Sep-97	--	--	--	--	No groundwater yield
SB-21	10-Sep-97	--	--	--	--	No groundwater yield
MW-11	11-Sep-97	NM	NM	NM	NM	
MW-13	11-Sep-97	NM	NM	NM	NM	

(a) microsiemens per centimeter

NM Not measured

-- Well did not yield sufficient groundwater to monitor or sample

**Table 2: Soil Laboratory Analytical Results
Wards Cove Bulk Fuel Facility, Craig, Alaska**

Sample	Collected	TPH-D	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
SB1: 0'-0.5'	11-Sep-97	190	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB2: 0'-0.5'	11-Sep-97	170	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB3: 0'-0.5'	11-Sep-97	44	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB4: 0.5'-1'	10-Sep-97	590	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB4: 2.5'-3'	10-Sep-97	390	ND<10	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
SB5: 0.5'-1'	10-Sep-97	350	ND<10	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
SB5: 2.5'-3'	10-Sep-97	6,800	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB6: 0.5'-1'	10-Sep-97	630	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB6: 2.5'-3'	10-Sep-97	49	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB7: 2.5'-3'	10-Sep-97	35	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB9: 0.5'-1'	10-Sep-97	11,000	100	ND<0.1	ND<0.1	ND<0.1	2.9	ND<0.1
SB9: 2.5'-3'	10-Sep-97	14,000	200	ND<0.1	0.3	0.6	11	ND<0.1
SB10: 0.5'-1'	10-Sep-97	14,000	500	ND<0.1	0.5	0.3	2.4	ND<0.1
SB10: 2.5'-3'	10-Sep-97	7,800	100	ND<0.1	ND<0.1	0.1	0.8	ND<0.1
SB11: 0.5'-1'	10-Sep-97	2,800	80	ND<0.1	ND<0.1	0.2	1	ND<0.1
SB11: 2.5'-3'	10-Sep-97	4,400	500	0.2	ND<0.1	1.5	8.8	ND<0.1
SB12: 2.5'-3'	10-Sep-97	ND<10	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB13: 3'-3.5'	9-Sep-97	ND<10	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB14: 0'-0.5'	9-Sep-97	3,800	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB14: 4.5'-5'	10-Sep-97	110	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB15: 3.5'-4'	9-Sep-97	1,300	ND<10	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
SB16: 4'-4.5'	9-Sep-97	300	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB17: 3.5'-4'	9-Sep-97	88	ND<10	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
SB18: 2.5'-3'	10-Sep-97	320	ND<10	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
SB19: 2.5'-3'	10-Sep-97	ND<10	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB20: 2.5'-3'	10-Sep-97	55	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB21: 2.5'-3'	10-Sep-97	33	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB23: 0.5'-1'	11-Sep-97	ND<10	ND<10	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005

**Table 2: Soil Laboratory Analytical Results
Wards Cove Bulk Fuel Facility, Craig, Alaska**

TPHG = Total petroleum hydrocarbons as gasoline

TPHD = Total petroleum hydrocarbons as diesel

All results in milligrams per kilogram

NA = Not analyzed

ND = Not detected

TPHG and BTEX analysis by USEPA Method 8260 and GC/MS combination

TPHD analysis by GC/MS combination (extracted by USEPA Method 3510)

TPHD analytical range is C8-C40

Samples analyzed by Zymax Envirotechnology in San Luis Obispo, California

**Table 3: Groundwater Laboratory Analytical Results
Wards Cove Bulk Fuel Facility, Craig, Alaska**

Sample	Collected	TPHD	TPHG	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE*
SB4	10-Sep-97	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	2.8	ND<0.5
SB5	10-Sep-97	NA	ND<100	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
SB6	10-Sep-97	3,100	1,000	7.3	3.9	1.4	7.1	3.1
SB7	10-Sep-97	NA	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
SB9	10-Sep-97	NA	2,000	2.9	13	25	240	ND<2.0
SB10	10-Sep-97	NA	3,000	32	29	9.9	58	ND<2.0
SB11	10-Sep-97	10,000	5,000	160	9.3	41	210	ND<2.0
SB13	10-Sep-97	ND<100	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
SB15	10-Sep-97	48,000	ND<100	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
SB16	10-Sep-97	NA	10,000	13	2.4	4	21	ND<2.0
SB18	10-Sep-97	280	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
SB21	10-Sep-97	NA	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5	ND<0.5
SB22	11-Sep-97	150	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
SB23	11-Sep-97	250	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-11	11-Sep-97	130	ND<50	ND<0.5	1.1	ND<0.5	ND<0.5	ND<0.5
MW-13	11-Sep-97	160	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Air Stripper Piping	9-Sep-97	910	210	4.6	0.5	0.9	0.9	ND<0.5
Surface Water Air Stripper	9-Sep-97	1,100	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

TPHD = Total petroleum hydrocarbons as diesel

TPHG = Total petroleum hydrocarbons as gasoline

All results in micrograms per liter

ND = Not detected

NA = Not analyzed because sample destroyed in transit to laboratory

TPHG and BTEX analysis by USEPA Method 8260 and GC/MS combination

TPHD analysis by GC/MS combination (extracted by USEPA Method 3550)

MTBE = Methyl-t-Butyl Ether

Samples analyzed by Zymax Envirotechnology in San Luis Obispo, California

**Table 5: Breakdown of Groundwater Analytical Results by Carbon Chain Ranges
Wards Cove Bulk Fuel Facility, Craig, Alaska**

Sample Number	Date Collected	C6-C10 TPH	C6-C10 Aliphatic	C6-C10 Aromatic	C10-C25 TPH	C10-C25 Aliphatic	C10-C25 Aromatic	C25-C36 TPH	C25-C36 Aliphatic	C25-C36 Aromatic	PNA's
SB6	10-Sep-97	1,000	700	500	2,850	2,280	1,140	250	225	75	ND<2
SB9	10-Sep-97	2,000	1,400	1,000	NA	NA	NA	NA	NA	NA	NA
SB10	10-Sep-97	3,000	2,100	1,500	NA	NA	NA	NA	NA	NA	NA
SB11	10-Sep-97	5,000	3,500	2,500	9,800	7,840	3,920	200	180	60	(a)
SB15	10-Sep-97	ND<100	ND<100	ND<100	44,600	35,680	17,840	3,400	3,060	1,020	ND<20
SB16	10-Sep-97	10,000	7,000	5,000	NA	NA	NA	NA	NA	NA	ND<2.0
Air											
Stripper											
Piping	9-Sep-97	ND<50	ND<50	ND<50	810	648	324	100	90	30	ND<2
Surface											
Water Air											
Stripper	9-Sep-97	ND<50	ND<50	ND<50	590	472	236	510	459	153	ND<2

Shaded concentrations are those that exceed ADEC Groundwater Cleanup Standards (Table C from Draft Cleanup Standards dated 11/12/97).

All results in micrograms per liter

TPH = Total petroleum hydrocarbons

PNA's = Polynuclear aromatic hydrocarbons

ND = Not detected (listed with laboratory method detection limit)

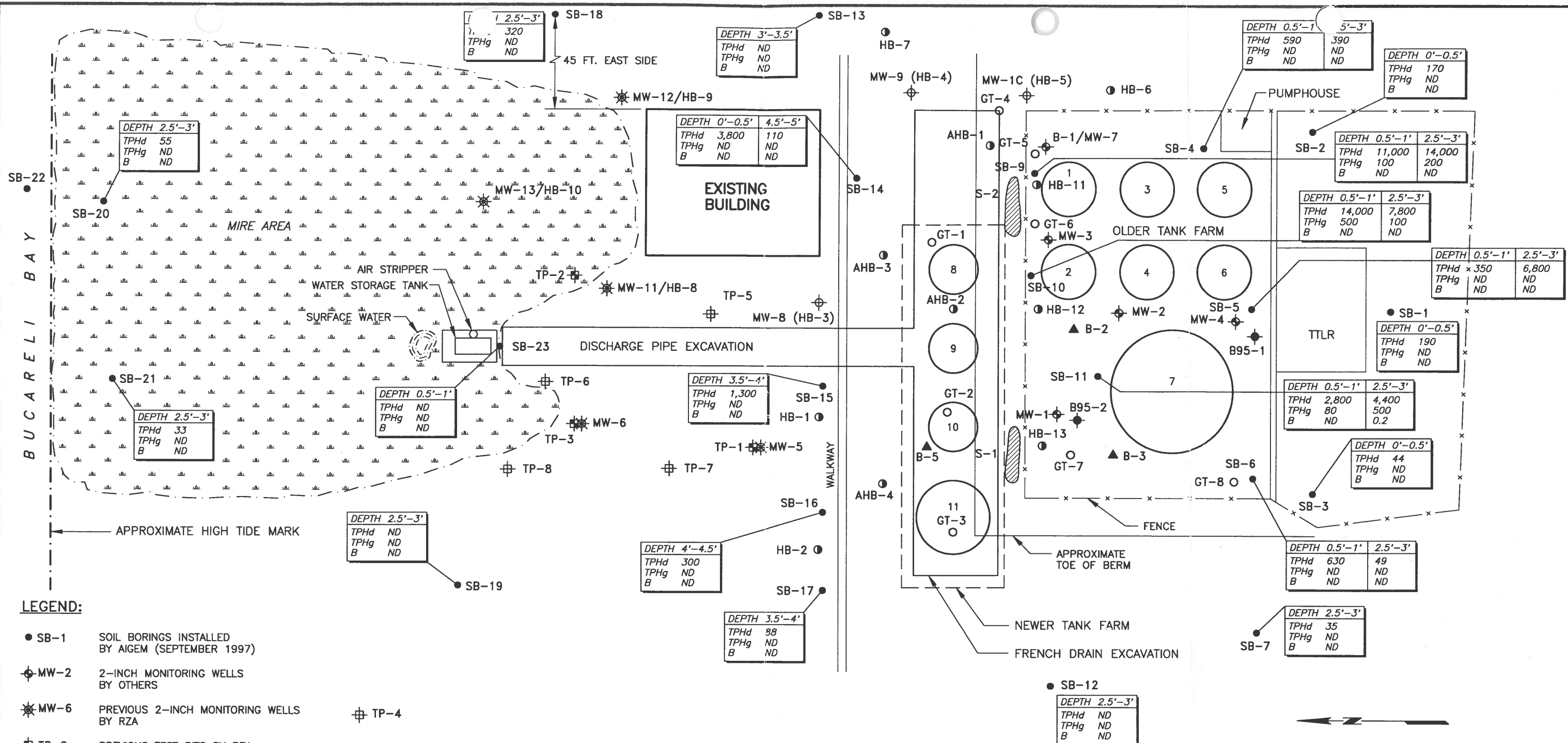
NA = Not analyzed (sample destroyed in transit to laboratory)

Results reported by Zymax Envirotechnology in San Luis Obispo, California

(a) Concentrations of fluorene, naphthalene, and phenanthrene detected at 2.5, 12, and 5 micrograms per liter, respectively

Carbon Range	Percent Aliphatic	Percent Aromatic
C6-C10	70	50
C10-C-25	80	40
C25-C36	90	30

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LEGEND:

- SB-1 SOIL BORINGS INSTALLED BY AIGEM (SEPTEMBER 1997)
- ⊕ MW-2 2-INCH MONITORING WELLS BY OTHERS
- ⊗ MW-6 PREVIOUS 2-INCH MONITORING WELLS BY RZA
- ⊕ TP-2 PREVIOUS TEST PITS BY RZA
- ▲ B-3 PREVIOUS BORING/SOIL SAMPLES BY RZA
- ⊕ TP-8 APPROXIMATE LOCATION OF RECENTLY COMPLETED TEST PITS BY RZA
- ⊕ MW-9 (HB-4) APPROXIMATE LOCATION OF RECENTLY COMPLETED MONITORING WELLS BY RZA
- HB-7 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA
- AHB-4 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA (APRIL 1990)
- B96-1 SOIL BORING INSTALLED BY AGRA
- GT-8 SOIL BORING INSTALLED BY ANI
- S-2 APPROXIMATE LOCATION OF COMPOSITE SAMPLE COLLECTED FROM EXCAVATED SOIL PLACED ON BERM

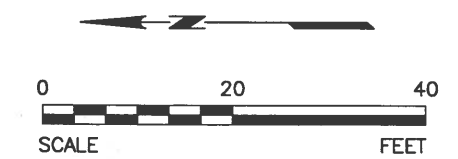
CHEMICAL ANALYTICAL RESULTS:

DEPTH 4'-4.5'	TPHd 300	CONCENTRATION IN PARTS PER MILLION (ppm)
	TPHg ND	
	B ND	

NA — NOT ANALYZED
ND — NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT

ANALYTES:

- TPHd — TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- TPH — TOTAL PETROLEUM HYDROCARBONS
- TPHg — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- B — BENZENE

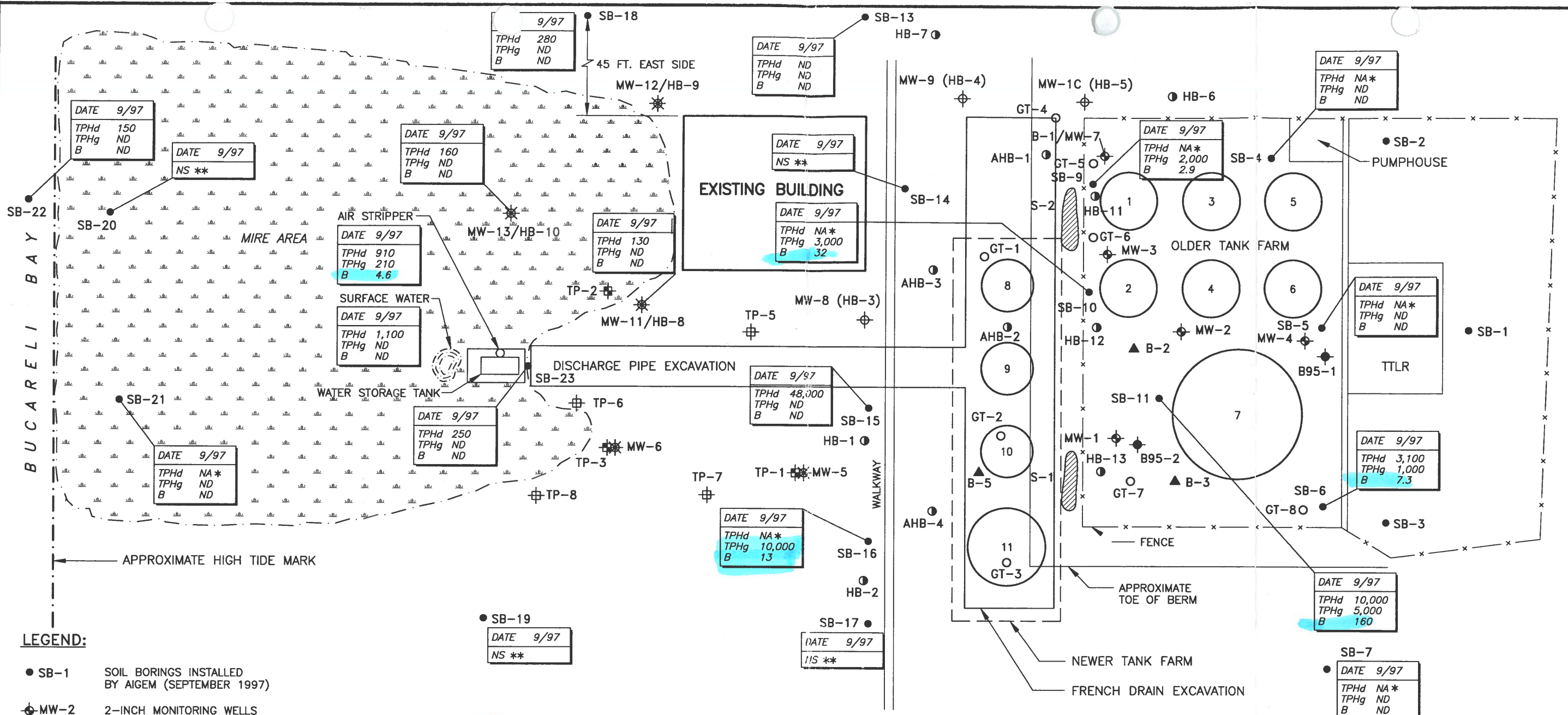


REFERENCE: RITTENHOUSE & ASSOCIATES, INC. (RZA), MAY 1990.

FIGURE 3
BULK FUEL FACILITY
CRAIG, ALASKA
PETROLEUM HYDROCARBONS IN SOIL
SEPTEMBER 1997

AIG ENVIRONMENTAL MANAGEMENT, INC.

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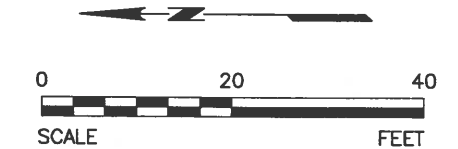
LEGEND:

- SB-1 SOIL BORINGS INSTALLED BY AIGEM (SEPTEMBER 1997)
- ⊕ MW-2 2-INCH MONITORING WELLS BY OTHERS
- ⊗ MW-6 PREVIOUS 2-INCH MONITORING WELLS BY RZA
- ⊕ TP-2 PREVIOUS TEST PITS BY RZA
- ▲ B-3 PREVIOUS BORING/SOIL SAMPLES BY RZA
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- AHB-4 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA (APRIL 1990)
- B96-1 SOIL BORING INSTALLED BY AGRA
- GT-8 SOIL BORING INSTALLED BY ANI
- S-2 APPROXIMATE LOCATION OF COMPOSITE SAMPLE COLLECTED FROM EXCAVATED SOIL PLACED ON BERM

CHEMICAL ANALYTICAL RESULTS:

DATE 9/97	—	DATE SAMPLED
TPHd NA*	}	CONCENTRATION IN PARTS PER BILLION (ppb)
TPHg 10,000		
B 13		
NA	—	NOT ANALYZED
ND	—	NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
NS	—	NOT SAMPLED
*	—	SAMPLE DESTROYED IN TRANSIT TO LAB
**	—	WELL DID NOT YIELD SUFFICIENT GROUNDWATER TO SAMPLE
ANALYTES:		
TPHd	—	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPHg	—	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	—	BENZENE

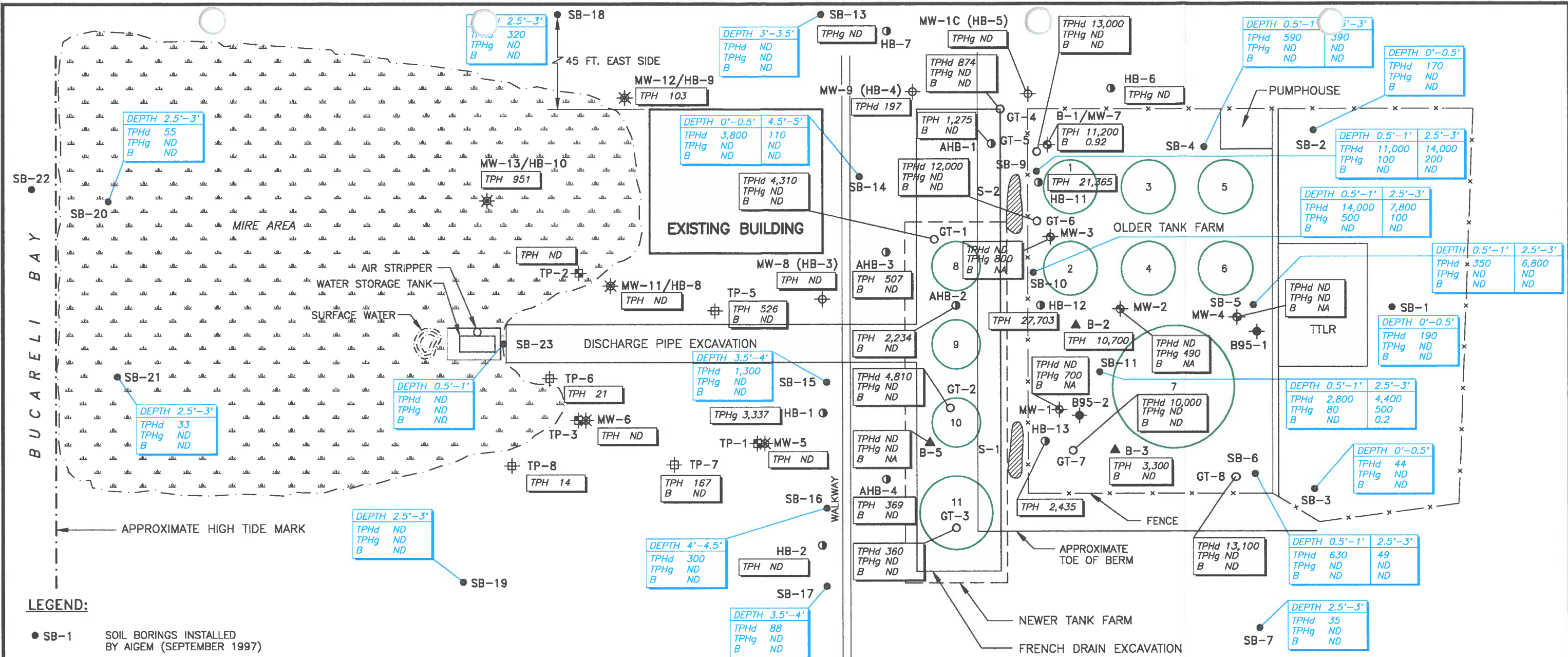
ABOVE DRAFT CLEANUP S.F.D.S.



REFERENCE: RITTENHOUSE & ASSOCIATES, INC. (RZA), MAY 1990.

FIGURE 4
 BULK FUEL FACILITY
 CRAIG, ALASKA
**PETROLEUM HYDROCARBONS IN
 GROUNDWATER - SEPTEMBER 1997**
**AIG ENVIRONMENTAL
 MANAGEMENT, INC.**

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- LEGEND:**
- SB-1 SOIL BORINGS INSTALLED BY AIGEM (SEPTEMBER 1997)
 - ⊕ MW-2 2-INCH MONITORING WELLS BY OTHERS
 - ⊗ MW-6 PREVIOUS 2-INCH MONITORING WELLS BY RZA
 - ⊕ TP-2 PREVIOUS TEST PITS BY RZA
 - ▲ B-3 PREVIOUS BORING/SOIL SAMPLES BY RZA
 - ⊕ TP-8 APPROXIMATE LOCATION OF RECENTLY COMPLETED TEST PITS BY RZA
 - ⊕ MW-9 (HB-4) APPROXIMATE LOCATION OF RECENTLY COMPLETED MONITORING WELLS BY RZA
 - HB-7 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA
 - AHB-4 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA (APRIL 1990)
 - B96-1 SOIL BORING INSTALLED BY AGRA
 - GT-8 SOIL BORING INSTALLED BY ANI
 - S-2 APPROXIMATE LOCATION OF COMPOSITE SAMPLE COLLECTED FROM EXCAVATED SOIL PLACED ON BERM

TP-4
TPH 250

CHEMICAL ANALYTICAL RESULTS:

DEPTH 4'-4.5'
TPHd 300
TPHg ND
B ND

INDICATES SOIL SAMPLES ANALYZED IN SEPTEMBER 1997

TPHd 360
TPHg ND
B ND

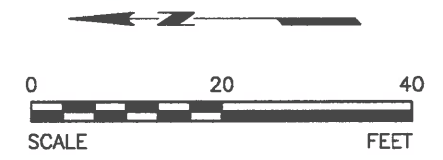
INDICATES SOIL SAMPLES ANALYZED PRIOR TO SEPTEMBER 1997

NA — NOT ANALYZED
ND — NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT

NOTE: ALL CONCENTRATION IN PARTS PER MILLION (ppm)

ANALYTES:

TPHd — TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH — TOTAL PETROLEUM HYDROCARBONS
TPHg — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B — BENZENE

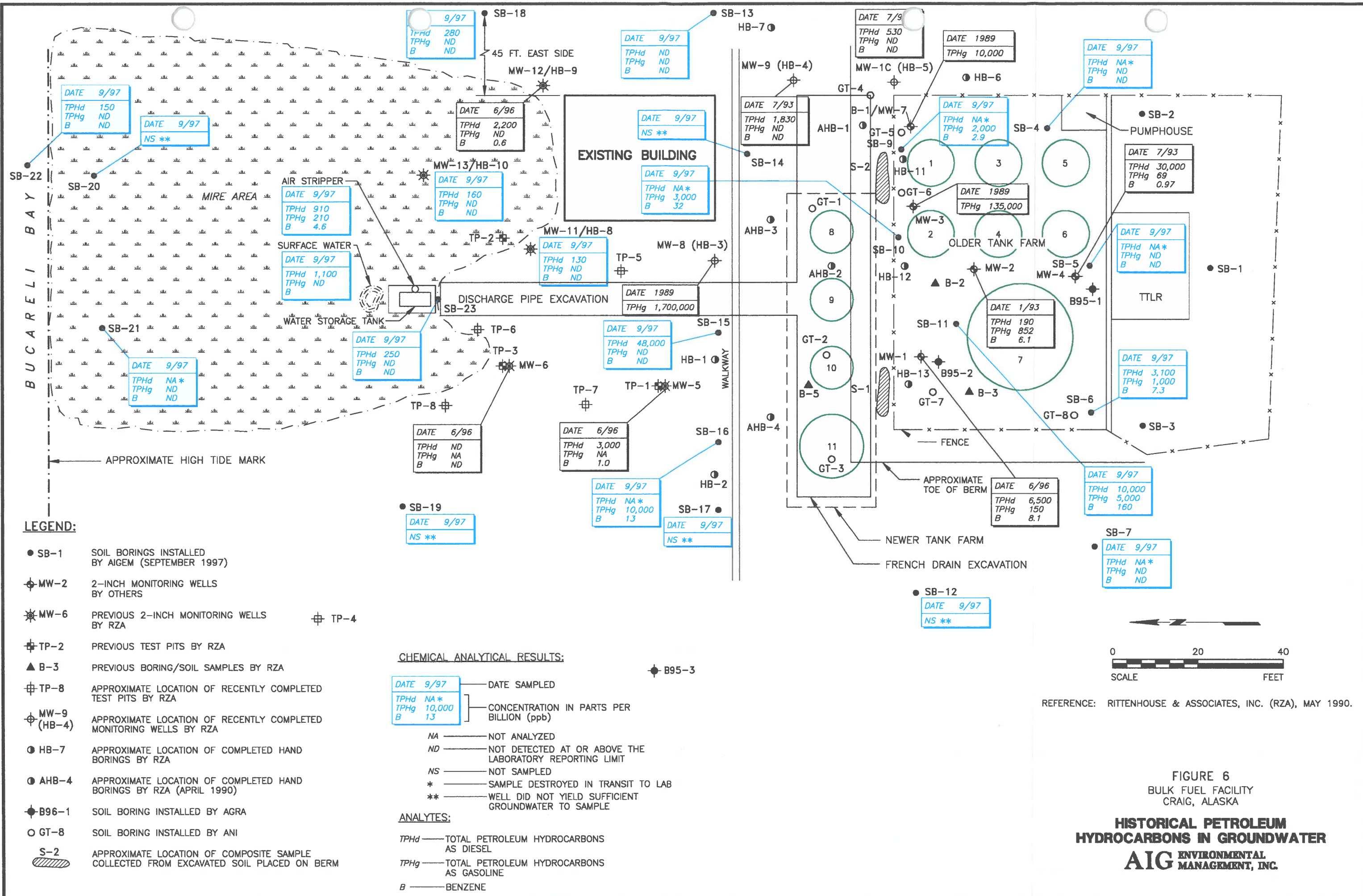


REFERENCE: RITTENHOUSE & ASSOCIATES, INC. (RZA), MAY 1990.

FIGURE 5
BULK FUEL FACILITY
CRAIG, ALASKA
HISTORICAL PETROLEUM HYDROCARBONS IN SOIL

AIG ENVIRONMENTAL MANAGEMENT, INC.

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- LEGEND:**
- SB-1 SOIL BORINGS INSTALLED BY AIGEM (SEPTEMBER 1997)
 - ⊕ MW-2 2-INCH MONITORING WELLS BY OTHERS
 - ⊗ MW-6 PREVIOUS 2-INCH MONITORING WELLS BY RZA
 - ⊕ TP-2 PREVIOUS TEST PITS BY RZA
 - ▲ B-3 PREVIOUS BORING/SOIL SAMPLES BY RZA
 - ⊕ TP-8 APPROXIMATE LOCATION OF RECENTLY COMPLETED TEST PITS BY RZA
 - ⊕ MW-9 (HB-4) APPROXIMATE LOCATION OF RECENTLY COMPLETED MONITORING WELLS BY RZA
 - HB-7 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA
 - AHB-4 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA (APRIL 1990)
 - B96-1 SOIL BORING INSTALLED BY AGRA
 - GT-8 SOIL BORING INSTALLED BY ANI
 - S-2 APPROXIMATE LOCATION OF COMPOSITE SAMPLE COLLECTED FROM EXCAVATED SOIL PLACED ON BERM

CHEMICAL ANALYTICAL RESULTS:

DATE 9/97	DATE SAMPLED
TPHd NA*	CONCENTRATION IN PARTS PER BILLION (ppb)
TPHg 10,000	
B 13	

NA — NOT ANALYZED
 ND — NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
 NS — NOT SAMPLED
 * — SAMPLE DESTROYED IN TRANSIT TO LAB
 ** — WELL DID NOT YIELD SUFFICIENT GROUNDWATER TO SAMPLE

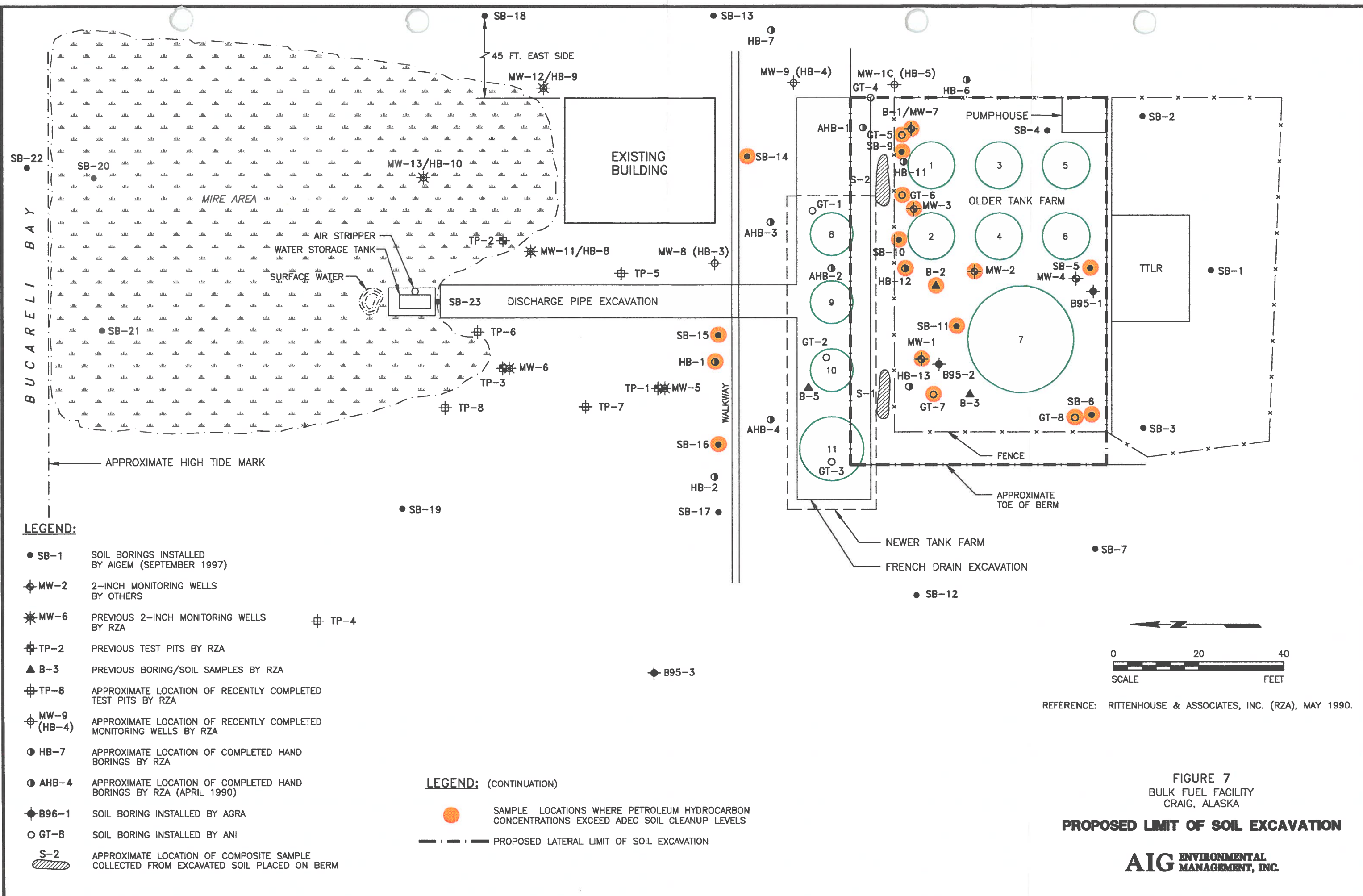
ANALYTES:

TPHd — TOTAL PETROLEUM HYDROCARBONS AS DIESEL
 TPHg — TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
 B — BENZENE

REFERENCE: RITTENHOUSE & ASSOCIATES, INC. (RZA), MAY 1990.

FIGURE 6
 BULK FUEL FACILITY
 CRAIG, ALASKA
**HISTORICAL PETROLEUM
 HYDROCARBONS IN GROUNDWATER**
**AIG ENVIRONMENTAL
 MANAGEMENT, INC.**

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- LEGEND:**
- SB-1 SOIL BORINGS INSTALLED BY AIGEM (SEPTEMBER 1997)
 - ⊕ MW-2 2-INCH MONITORING WELLS BY OTHERS
 - ⊗ MW-6 PREVIOUS 2-INCH MONITORING WELLS BY RZA
 - ⊕ TP-2 PREVIOUS TEST PITS BY RZA
 - ▲ B-3 PREVIOUS BORING/SOIL SAMPLES BY RZA
 - ⊕ TP-8 APPROXIMATE LOCATION OF RECENTLY COMPLETED TEST PITS BY RZA
 - ⊕ MW-9 (HB-4) APPROXIMATE LOCATION OF RECENTLY COMPLETED MONITORING WELLS BY RZA
 - HB-7 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA
 - AHB-4 APPROXIMATE LOCATION OF COMPLETED HAND BORINGS BY RZA (APRIL 1990)
 - B96-1 SOIL BORING INSTALLED BY AGRA
 - GT-8 SOIL BORING INSTALLED BY ANI
 - S-2 APPROXIMATE LOCATION OF COMPOSITE SAMPLE COLLECTED FROM EXCAVATED SOIL PLACED ON BERM

- LEGEND: (CONTINUATION)**
- SAMPLE LOCATIONS WHERE PETROLEUM HYDROCARBON CONCENTRATIONS EXCEED ADEC SOIL CLEANUP LEVELS
 - - - - - PROPOSED LATERAL LIMIT OF SOIL EXCAVATION

REFERENCE: RITTENHOUSE & ASSOCIATES, INC. (RZA), MAY 1990.

FIGURE 7
 BULK FUEL FACILITY
 CRAIG, ALASKA
PROPOSED LIMIT OF SOIL EXCAVATION

AIG ENVIRONMENTAL MANAGEMENT, INC.

ATTACHMENT 1:
SITE PHOTOGRAPHS

Photo 3.
View from middle (North edge) of Fuel Facility facing north toward Buchareli Bay.
Note air stripper in center and thick vegetation associated with mire area.

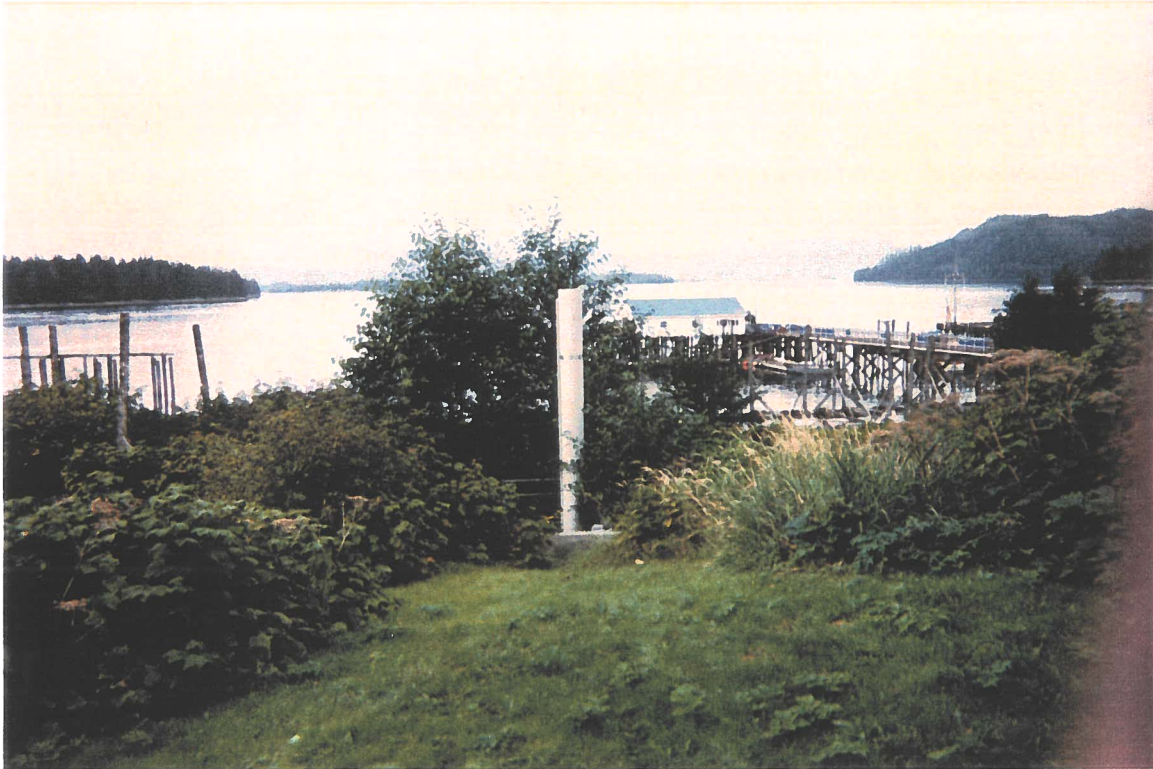


Photo 4
Photo of sheen observed on Buchareli Bay in front of Fuels Facility during high tide events.
Sheen extended approximately 30 feet out from beach.

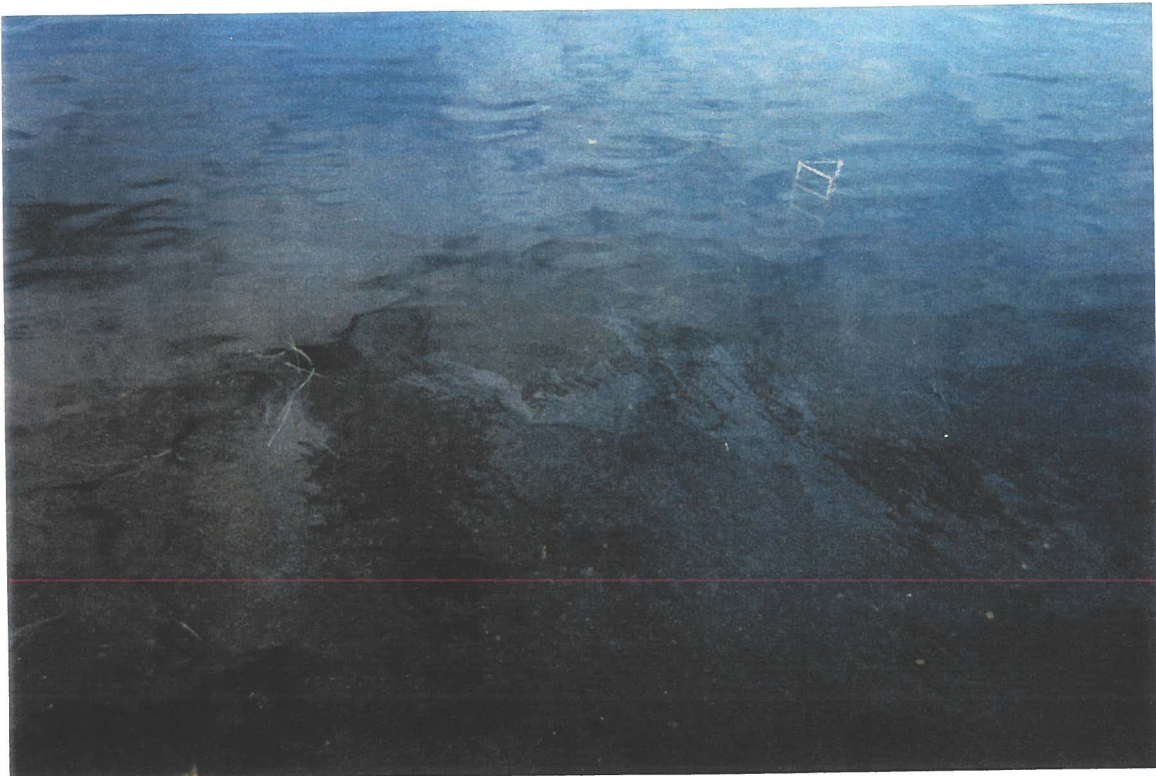


Photo 1.
View of Fuels Facility from boardwalk (facing southeast)
Note residence on right and mire area on left.



Photo 2
View from Fuels Facility facing northeast.
Note business and public pier on right and mire area on left.



Photo 5.
Close up of brown biomass growing under leak in air stripper piping.
Note water dripping to ground.



Photo 6.
View of leaking air stripper influent piping and valve.
Note brown biomass growing under leaking area.

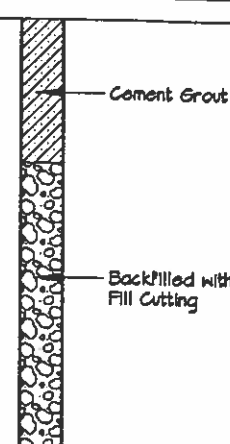




ATTACHMENT 2:

EXPLORATORY SOIL BORING LOGS

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-4 (SEE FIG. 2)		SB-4	
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW		
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:	
Start Date: 9/10/97	Finish Date: 9/10/97		
First Water (bgs): NA	Stabilized Water Level (bgs): 2.70 FT.		

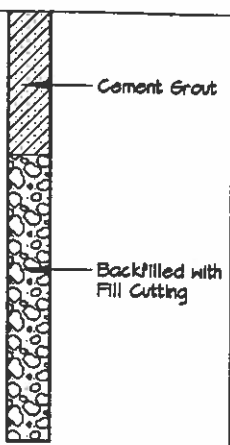

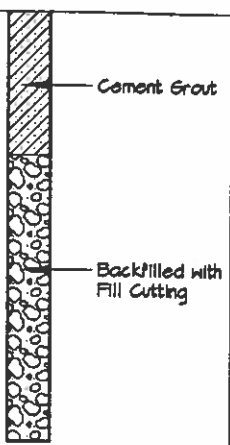
Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-4 0.5-1.0		0						 <p>Cement Grout</p> <p>Backfilled with Fill Cutting</p>
		1						
SB-4 2.5-3.0		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		10						

DARK BROWN SANDY GRAVEL (GP)
 80-90% subrounded gravel, 10-20% fine to coarse sand, moist

Bottom of boring at 3.00 ft.

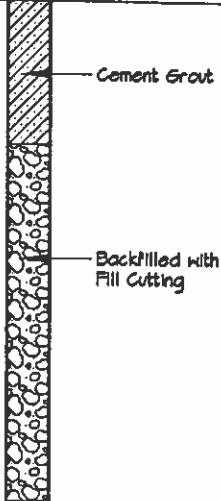
199710.061459 E:\LOGS\WARDS\SB-04

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-5
Boring Location: SB-5 (SEE FIGURE 1)		
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	Comments:
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 2.20 FT.	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)	
SB-5-05-1.0		0					
		1					
SB-5-25-3.0		2					
		3			Bottom of boring at 3.00 ft.		
		4					
		5					
		6					
		7					
		8					
		9					
		10					

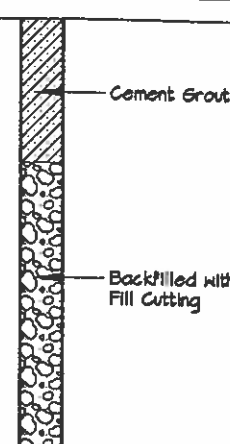
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Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-6
Boring Location: SB-6 (SEE FIG. 2)		
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	Comments:
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 2.00 FT.	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-6-05-1.0		0						 <p>Cement Grout</p> <p>Backfilled with Fill Cutting</p>
		1				DARK BLACK SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
SB-6-25-3.0		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		10						
						Bottom of boring at 350 ft.		

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Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-7
Boring Location: SB-7 (SEE FIGURE 2)		
Subcontractor and Equipment: AIGEM		Logged By: D. SNOW
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 2.10 FT.	
Comments:		

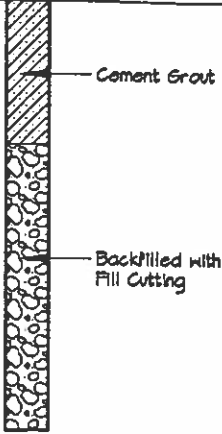
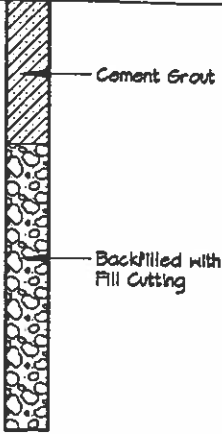
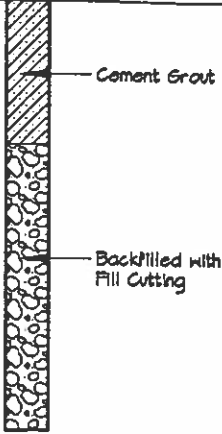
Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-7- 2.5-3.0		0						
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
	10							

DARK BROWN SANDY GRAVEL (GP)
 80-90% subrounded gravel, 10-20% fine to coarse sand, moist

Bottom of boring at 3.00 ft.

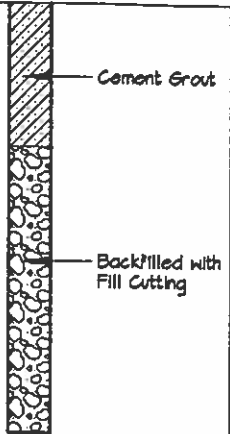
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Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:
Boring Location: SB-9 (SEE FIGURE 1)		SB-9
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 2.20 FT.	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-4-05-1.0		0						
		1				DARK BROWN SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
SB-4-25-3.0		2						
		3				Bottom of boring at 3.00 ft.		
		4						
		5						
		6						
		7						
		8						
		9						
		10						

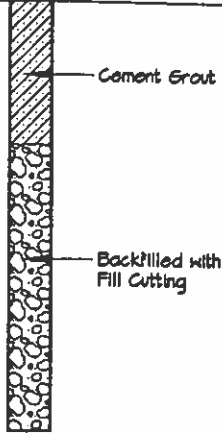
199710.061632 E:\LOGS\WARDS\SB-09

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-10 (SEE FIG 2)		SB-10	
Subcontractor and Equipment: AIGEM			
Sampling Method: 4" AUGER		Monitoring Device: -	
Start Date: 9/10/97		Finish Date: 9/10/97	
First Water (bgs): NA		Stabilized Water Level (bgs): 2.20 FT.	
Comments:			

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-10-05-1.0		0				DARK BROWN SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		1						
SB-10-25-3.0		2				Bottom of boring at 3.00 ft.		
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		10						

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Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:
Boring Location: SB-11 (SEE FIGURE 2)		SB-11
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 3.00 FT.	

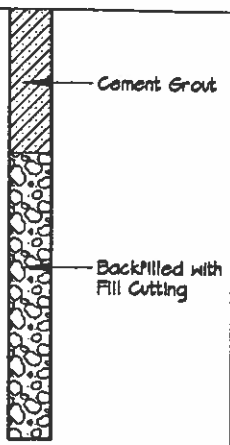
Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-11-05-1.0		0						 <p>Cement Grout</p> <p>Backfilled with Fill Cutting</p>
		1						
SB-11-25-3.0		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		10						

DARK BROWN SANDY GRAVEL (SP)
 80-90% subrounded gravel, 10-20% fine to coarse sand, moist

Bottom of boring at 3.00 ft.

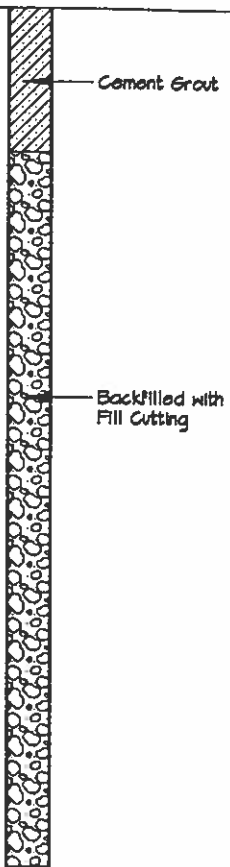
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Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-12
Boring Location: SB-12 (SEE FIG 2)		
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	Comments:
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): NA	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-12-25-3.0		0						
		1				DARK BROWN SANDY GRAVEL (SP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		2						
		3				Bottom of boring at 3.00 ft.		
		4						
		5						
		6						
		7						
		8						
		9						
	10							

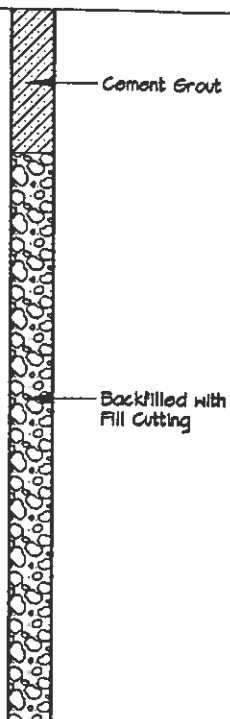
199710.061639 E:\LOGS\WARDS\SB-12

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-13 (SEE FIG. 2)		SB-13	
Subcontractor and Equipment: AIGEM		Logged By: D. SNOW	
Sampling Method: 4" AUGER		Monitoring Device: -	
Start Date: 9/9/97		Finish Date: 9/9/97	
First Water (bgs): NA		Stabilized Water Level (bgs): NA	
Comments:			

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-13- 3.0-3.5		0				DARK BROWN SANDY GRAVEL (SP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
	10				Bottom of boring at 6.00 ft.			

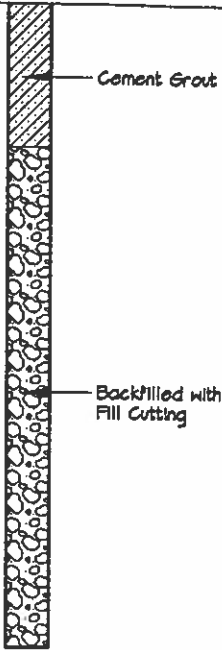
199710.061715 E:\LOGS\WARDS\SB-13

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-14 (SEE FIGURE 2)		SB-14	
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW		
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:	
Start Date: 9/9/97	Finish Date: 9/9/97		
First Water (bgs): NA	Stabilized Water Level (bgs): NA		

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-14 0-0.5		0				TOP SOIL: SILTY PEAT		
		1				DARK BROWN SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		2						
		3						
		4						
SB-14 4.5-5.0		5				Bottom of boring at 5.00 ft.		
		6						
		7						
		8						
		9						
		10						

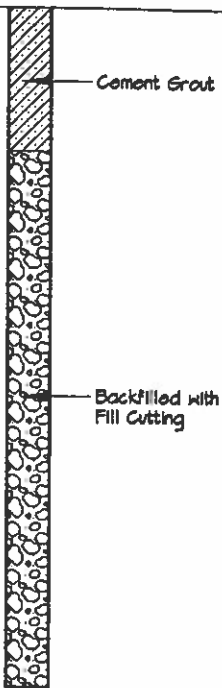
199710 061706 E:\LOCALS\WARDS\SB-14

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-15 (SEE FIGURE 2)		SB-15	
Subcontractor and Equipment: AIGEM			
Sampling Method: 4" AUGER		Monitoring Device: -	
Start Date: 9/10/97		Finish Date: 9/10/97	
First Water (bgs): NA		Stabilized Water Level (bgs): 4.40 FT.	
Comments:			

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
		0						 <p>Cement Grout</p> <p>Backfilled with Fill Cutting</p>
		1				DARK BROWN SANDY GRAVEL (SP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
		10						
						Bottom of boring at 4.50 ft.		

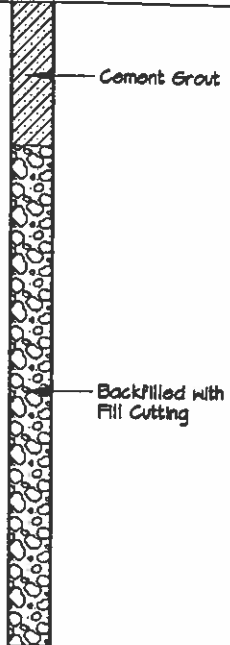
199710.061658 E:\LOGS\WARDS\SB-15

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:
Boring Location: SB-16 (SEE FIG 2)		SB-16
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:
Start Date: 9/9/97	Finish Date: 9/9/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 4.65 FT.	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-16- 4.0-4.5		0				DARK BROWN SANDY GRAVEL (SP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		1						
		2						
		3						
		4						
		4.75				Bottom of boring at 4.75 ft.		
		5						
		6						
		7						
		8						
	9							
	10							

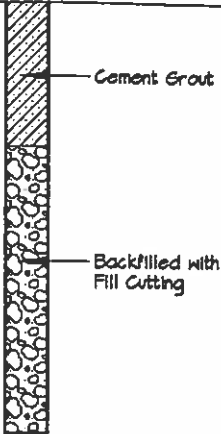
E:\LOGS\WARDS\SB-16

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-17 (SEE FIG. 2)		SB-17	
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW		
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:	
Start Date: 9/6/97	Finish Date: 9/6/97		
First Water (bgs): NA	Stabilized Water Level (bgs): NA		

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-17- 35-40		0				DARK BROWN SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
	10							
						Bottom of boring at 4.50 ft.		

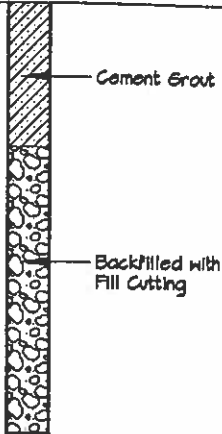
199710.061653 E:\LOGS\WARDS\SB-17

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-18
Boring Location: SB-18 (SEE FIG. 2)		
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	Comments:
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): 1.60 FT.	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-18- 25-3.0		0				DARK BROWN SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		1						
		2						
		3				Bottom of boring at 3.00 ft.		
		4						
		5						
		6						
		7						
		8						
		9						
	10							

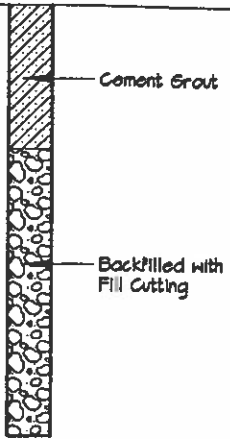
199710.061642 E:\LOGS\WARDS\SB-18

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-19
Boring Location: SB-19 (SEE FIG. 2)		
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	Comments:
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): NA	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-19-25-3.0		0				DARK BROWN SANDY GRAVEL (GP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist		
		1						
		2						
		3				Bottom of boring at 3.00 ft.		
		4						
		5						
		6						
		7						
		8						
		9						
	10							

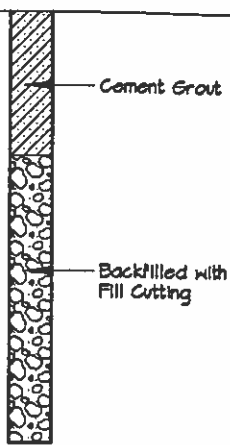
199710.061644 E:\LOGS\WARDS\SB-19

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well: SB-20
Boring Location: SB-20 (SEE FIG. 2)		
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW	Comments:
Sampling Method: 4" AUGER	Monitoring Device: -	
Start Date: 9/10/97	Finish Date: 9/10/97	
First Water (bgs): NA	Stabilized Water Level (bgs): NA	

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details	
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)			
SB-20-25-3.0		0							
		1				DARK BROWN SANDY GRAVEL (SP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist			
		2							
		3					Bottom of boring at 3.00 ft.		
		4							
		5							
		6							
		7							
		8							
		9							
	10								

199710.061646 E:\LOGS\WARDS\SB-20

Project: BULK FUEL FACILITY - CRAIG, ALASKA		Log of Boring/Monitoring Well:	
Boring Location: SB-21 (SEE FIG. 2)		SB-21	
Subcontractor and Equipment: AIGEM	Logged By: D. SNOW		
Sampling Method: 4" AUGER	Monitoring Device: -	Comments:	
Start Date: 9/10/97	Finish Date: 9/10/97		
First Water (bgs): NA	Stabilized Water Level (bgs): NA		

Sample Number	Blows/foot	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
						LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
SB-21-25-3.0		0				DARK BROWN SANDY GRAVEL (SP) 80-90% subrounded gravel, 10-20% fine to coarse sand, moist Bottom of boring at 3.00 ft.		
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						
	10							

199710.061647 E:\LOCALS\WARDS\SB-21

ATTACHMENT 3:

**COPIES OF CERTIFIED LABORATORY ANALYTICAL
REPORTS**

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-1
Collected: 09/09/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 Bay Water
Analyzed: 09/22/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		100

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

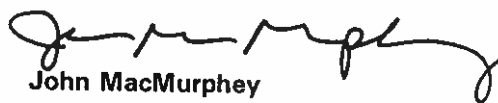
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-1.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-2
Collected: 09/09/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: Air Stripper Piping
Analyzed: 09/23/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	4.6
Toluene	0.5	0.5
Ethylbenzene	0.5	0.9
Xylenes	0.5	0.9
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		94

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	210.
BTX as a Percent of Fuel		3

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717


*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-2.xls
 JMM/jgt/mh

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-3
Collected: 09/09/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: Surface Water Air Stripper
Analyzed: 09/23/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		103

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-3.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-4
Collected: 09/11/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB1: 0'-0.5'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		100

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-4.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-5
Collected: 09/11/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB2: 0'-0.5'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		99

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

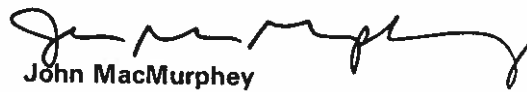
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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-5.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-6
Collected: 09/11/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB3: 0'-0.5'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		99

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

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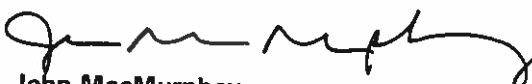
*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-6.xls
 JMM/jgt/mh/kh

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-7
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB4: 0.5'-1'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		112

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

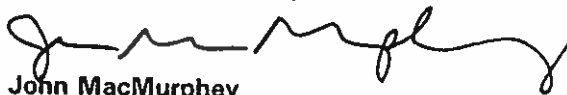
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-7.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-8
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB4: 2.5'-3'
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Xylenes	0.1	ND
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		97

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

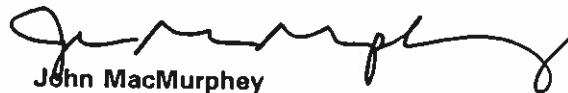
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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-8.xls
 JMM/jgt/mh/ds

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-9
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB4
Analyzed: 09/23/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	2.8
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		105

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

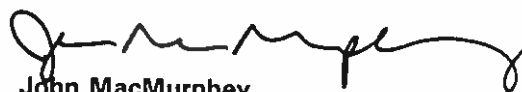
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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-9.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-10
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB5: 0.5'-1'
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Xylenes	0.1	ND
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		98

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-10.xls
 JMM/jgt/mh/ds

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-11
 Collected: 09/10/97
 Received: 09/17/97
 Matrix: Soil

Project: Wards Cove / Craig
 Project Number:
 Collected by: D. Snow/D. Imperato

Sample Description:
 SB5: 2.5'-3'
 Analyzed: 09/21/97
 Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		97

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

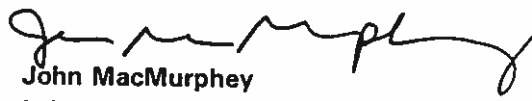
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-11.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-12
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB5
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	1.0	ND
Toluene	1.0	ND
Ethylbenzene	1.0	ND
Xylenes	1.0	ND
Methyl-t-Butyl Ether (MTBE)	1.0	ND
Percent Surrogate Recovery		107

TOTAL PETROLEUM HYDROCARBONS

Gasoline	100.	ND
BTX as a Percent of Fuel		N/A

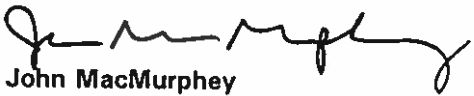
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-12.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-13
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB6: 0.5'-1'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		113

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-13.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-14
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB6: 2.5'-3'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		91

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-14.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-15
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB6
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	1.0	7.3
Toluene	1.0	3.9
Ethylbenzene	1.0	1.4
Xylenes	1.0	7.1
Methyl-t-Butyl Ether (MTBE)	1.0	3.1
Percent Surrogate Recovery		108

TOTAL PETROLEUM HYDROCARBONS

Gasoline	100.	1000.
BTX as a Percent of Fuel		2

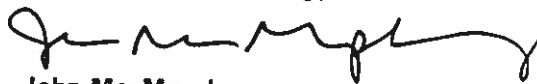
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-15.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-16
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB7: 2.5'-3'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		101

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

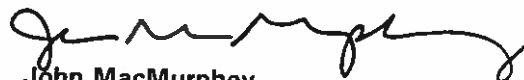
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-16.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-17
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
SB7
Analyzed: 09/23/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		105

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

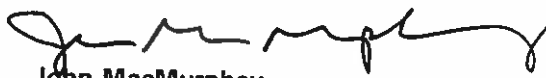
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-17.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-18
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB9: 0.5'-1'
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Xylenes	0.1	2.9
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		93

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	100.
BTX as a Percent of Fuel		3


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-18.xls
 JMM/jgt/mh/ds

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-19
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB9: 2.5'-3'
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	0.3
Ethylbenzene	0.1	0.6
Xylenes	0.1	11.
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		98

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	200.
BTX as a Percent of Fuel		6

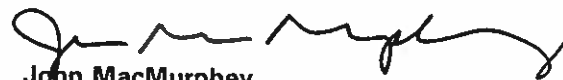
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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-19.xls
 JMM/jgt/mh/ds

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-20
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB9
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	2.0	2.9
Toluene	2.0	13.
Ethylbenzene	2.0	25.
Xylenes	2.0	240.
Methyl-t-Butyl Ether (MTBE)	2.0	ND
Percent Surrogate Recovery		102

TOTAL PETROLEUM HYDROCARBONS

Gasoline	200.	2000.
BTX as a Percent of Fuel		13


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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-20.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-21
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB10: 0.5'-1'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	0.5
Ethylbenzene	0.1	0.3
Xylenes	0.1	2.4
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		93

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	500.
BTX as a Percent of Fuel		<1


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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-21.xls
 JMM/jgt/mh/ds

Submitted by,
 ZymaX envirotechnology, inc.

 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-22
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB10: 2.5'-3'
Analyzed: 09/26/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	0.1
Xylenes	0.1	0.8
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		97

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	100.
BTX as a Percent of Fuel		<1


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-22.xls
 JMM/jgt/mh/mh

Submitted by,
 ZymaX envirotechnology, inc.

 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-23
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB10
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	2.0	32.
Toluene	2.0	29.
Ethylbenzene	2.0	9.9
Xylenes	2.0	58.
Methyl-t-Butyl Ether (MTBE)	2.0	ND
Percent Surrogate Recovery		111

TOTAL PETROLEUM HYDROCARBONS

Gasoline	200.	3000.
BTX as a Percent of Fuel		4


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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-23.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-24
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB11: 0.5'-1'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	0.2
Xylenes	0.1	1.0
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		97

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	80.
BTX as a Percent of Fuel		1

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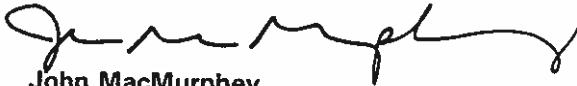
*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-24.xls
 JMM/jgt/mh/ds

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-25
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB11: 2.5'-3'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	0.2
Toluene	0.1	ND
Ethylbenzene	0.1	1.5
Xylenes	0.1	8.8
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		107

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	500.
BTX as a Percent of Fuel		2

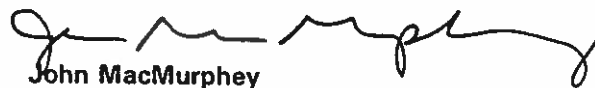
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*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-25.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-26
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB11
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	2.0	160.
Toluene	2.0	9.3
Ethylbenzene	2.0	41.
Xylenes	2.0	210.
Methyl-t-Butyl Ether (MTBE)	2.0	ND
Percent Surrogate Recovery		108

TOTAL PETROLEUM HYDROCARBONS

Gasoline	200.	5000.
BTX as a Percent of Fuel		8


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-26.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-27
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB12: 2.5'-3'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		99

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

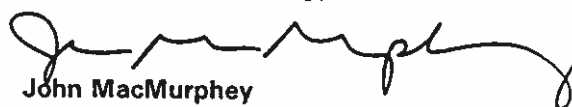
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-27.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-28
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB13: 3'-3.5'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		101

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-28.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-29
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB13
Analyzed: 09/23/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		105

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717


*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-29.xls
 JMM/jgt/mh

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-30
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB14: 0'-0.5'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		95

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-30.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-31
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB14: 4.5'-5'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		102

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-31.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-32
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB15: 3.5'-4'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Xylenes	0.1	ND
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		96

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	20.
BTX as a Percent of Fuel		N/A

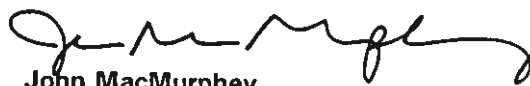
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-32.xls
 JMM/jgt/mh/ds

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-33
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB15
Analyzed: 09/23/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	1.0	ND
Toluene	1.0	ND
Ethylbenzene	1.0	ND
Xylenes	1.0	ND
Methyl-t-Butyl Ether (MTBE)	1.0	ND
Percent Surrogate Recovery		96

TOTAL PETROLEUM HYDROCARBONS

Gasoline	100.	ND
BTX as a Percent of Fuel		N/A


ZyMAX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-33.xls
 JMM/jgt/mh

Submitted by,
 ZyMAX envirotechnology, inc.

 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-34
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB16: 4'-4.5'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		101

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-34.xls
 JMM/jgt/mh/kh

Submitted by,
 ZymaX envirotechnology, inc.

 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-35
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB16
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	2.0	13.
Toluene	2.0	2.4
Ethylbenzene	2.0	4.0
Xylenes	2.0	21.
Methyl-t-Butyl Ether (MTBE)	2.0	ND
Percent Surrogate Recovery		105

TOTAL PETROLEUM HYDROCARBONS

Gasoline	200.	10000.
BTX as a Percent of Fuel		<1

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717


*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-35.xls
 JMM/jgt/mh/wj

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-36
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB17: 3.5'-4'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Xylenes	0.1	ND
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		99

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-36.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-37
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB18: 2.5'-3'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.1	ND
Toluene	0.1	ND
Ethylbenzene	0.1	ND
Xylenes	0.1	ND
Methyl-t-Butyl Ether (MTBE)	0.1	ND
Percent Surrogate Recovery		100

TOTAL PETROLEUM HYDROCARBONS		
Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

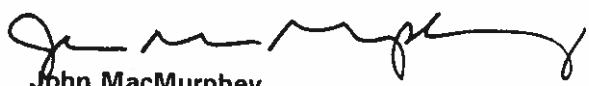
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-37.xls
 JMM/jgt/mh/ds

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-38
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB18
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		110

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-38.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-39
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB19: 2.5'-3'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		100

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-39.xls
 JMM/jgt/mh/kh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-40
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB20: 2.5'-3'
Analyzed: 09/21/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		84

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A


ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-40.xls
 JMM/jgt/mh/kh

Submitted by,
 ZymaX envirotechnology, inc.

 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-41
Collected: 09/10/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB21
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	0.7
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		104

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-41.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-42
Collected: 09/11/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB22
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		105

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
 12211-42.xls
 JMM/jgt/mh/wj

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-43
Collected: 09/11/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB23
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		102

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

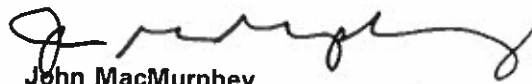
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-43.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-44
Collected: 09/11/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB23: 0.5'-1'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		98

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-44.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-45
Collected: 09/11/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 MW-11
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	1.1
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		105

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-45.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-46
Collected: 09/11/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 MW-13
Analyzed: 09/24/97
Method: See Below

CONSTITUENT	PQL* ug/L	RESULT** ug/L
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Xylenes	0.5	ND
Methyl-t-Butyl Ether (MTBE)	0.5	ND
Percent Surrogate Recovery		107

TOTAL PETROLEUM HYDROCARBONS

Gasoline	50.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #1
 12211-46.xls
 JMM/jgt/mh/wj

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-47
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB21: 2.5'-3'
Analyzed: 09/25/97
Method: See Below

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
Benzene	0.005	ND
Toluene	0.005	ND
Ethylbenzene	0.005	ND
Xylenes	0.005	ND
Methyl-t-Butyl Ether (MTBE)	0.005	ND
Percent Surrogate Recovery		99

TOTAL PETROLEUM HYDROCARBONS

Gasoline	10.	ND
BTX as a Percent of Fuel		N/A

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #1
 12211-47.xls
 JMM/jgt/mh

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: See Below
Collected: 09/09/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 See Below
Analyzed: 09/19/97
Method: See Below

TOTAL PETROLEUM HYDROCARBONS - DIESEL

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	RESULT** ug/L	SURROGATE RECOVERY
12211-2	Air Stripper Piping	100.	910.	78
12211-3	Surface Water Air Stripper	100.	1100.	17

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by GC/MS Combination.

Note: Extracted by EPA 3510 on 09/16/97.

Note: Analytical range is C8-C40.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #5
 12211ta.xls
 JMM/jgt/dz/jc/ps

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: See Below
Collected: 09/09/97 - 09/11/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: See Below
Analyzed: 09/24/97 - 09/26/97
Method: See Below

TOTAL PETROLEUM HYDROCARBONS - DIESEL

LAB NUMBER	SAMPLE DESCRIPTION	PQL* mg/kg	RESULT** mg/kg	SURROGATE RECOVERY
12211-4	SB1: 0'-0.5'	10.	190.	80
12211-5	SB2: 0'-0.5'	10.	170.	84
12211-6	SB3: 0'-0.5'	10.	44.	78
12211-7	SB4: 0.5'-1'	100.	590.	***
12211-8	SB4: 2.5'-3'	10.	390.	77
12211-10	SB5: 0.5'-1'	10.	350.	66
12211-11	SB5: 2.5'-3'	500.	6800.	***
12211-13	SB6: 0.5'-1'	100.	630.	***
12211-14	SB6: 2.5'-3'	10.	49.	74
12211-16	SB7: 2.5'-3'	10.	35.	81
12211-18	SB9: 0.5'-1'	500.	11000.	***
12211-19	SB9: 2.5'-3'	500.	14000.	***
12211-21	SB10: 0.5'-1'	500.	14000.	***
12211-22	SB10: 2.5'-3'	500.	7800.	***
12211-24	SB11: 0.5'-1'	200.	2800.	***
12211-25	SB11: 2.5'-3'	500.	4400.	***
12211-27	SB12: 2.5'-3'	10.	ND	85
12211-28	SB13: 3'-3.5'	10.	ND	90
12211-30	SB14: 0'-0.5'	200.	3800.	***
12211-31	SB14: 4.5'-5'	10.	110.	81
12211-32	SB15: 3.5'-4'	200.	1300.	***
12211-34	SB16: 4'-4.5'	10.	300.	80
12211-36	SB17: 3.5'-4'	10.	88.	90
12211-37	SB18: 2.5'-3'	10.	320.	61
12211-39	SB19: 2.5'-3'	10.	ND	76
12211-40	SB20: 2.5'-3'	10.	55.	79
12211-44	SB23: 0.5'-1'	10.	ND	67
12211-47	SB21: 2.5'-3'	10.	33.	77

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

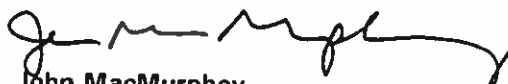
***Surrogate not detected due to dilution.

Note: Analyzed by GC/MS Combination.

Note: Extracted by EPA 3550 on 09/23/97.

Note: Analytical range is C8-C40.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #4
 12211tc.xls
 JMM/jgt/dz/jc/sk

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: See Below
Collected: 09/10/97 - 09/11/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 See Below
Analyzed: 09/18/97 - 09/19/97
Method: See Below

TOTAL PETROLEUM HYDROCARBONS - DIESEL

LAB NUMBER	SAMPLE DESCRIPTION	PQL* ug/L	RESULT** ug/L	SURROGATE RECOVERY
12211-15	SB6	1000.	3100.	100
12211-26	SB11	1000.	10000.	80
12211-29	SB13	100.	ND	84
12211-33	SB15	5000.	48000.	***
12211-38	SB18	100.	280.	86
12211-42	SB22	100.	150.	68
12211-43	SB23	100.	250.	63
12211-45	MW-11	100.	130.	78
12211-46	MW-13	100.	160.	79

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.


***Surrogate not detected due to dilution.

Note: Analyzed by GC/MS Combination.

Note: Extracted by EPA 3510 on 09/17/97.

Note: Analytical range is C8-C40.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #5
 12211tb.xls
 JMM/jgt/dz/jc/ps

Project Manager: <u>DAVE GEM</u>		Phone: <u>(714) 805-3111</u>		Fax: <u>805-544-2167</u>	
Company: <u>1 - GEM</u>		Project Number: <u>41800 JANS</u>		Analysis Requested: <u>TPH-DICHL</u>	
Address: <u>2 RINCON CENTER</u> <u>121 SPAR STREET, BERKELEY</u> <u>SAN FRANCISCO, CA 94105</u>		Project Name: <u>WINDS COVE / CRAIG</u>		8260 LITER BROKEN	
Sampler: <u>D. SAUB / D. IMPARATO</u>		Date Sampled		Matrix	
Sample Description		Time Sampled		Preserve	
<u>BAY WATER</u>	<u>9-9-97</u>	<u>1645</u>	<u>W</u>	<u>12311-1</u>	<u>X</u>
<u>AIR STRIPPER PIPING</u>	<u>9-9-97</u>	<u>1500</u>	<u>W</u>	<u>-2</u>	<u>X</u>
<u>SURFACE WATER</u>	<u>9-9-97</u>	<u>1600</u>	<u>W</u>	<u>-3</u>	<u>X</u>
<u>AIR STRIPPER</u>	<u>9-11-97</u>	<u>1100</u>	<u>S</u>	<u>-4</u>	<u>X</u>
<u>SB1: 0'-0.5'</u>	<u>9-11-97</u>	<u>1115</u>	<u>S</u>	<u>-5</u>	<u>X</u>
<u>SB2: 0'-0.5'</u>	<u>9-11-97</u>	<u>1130</u>	<u>S</u>	<u>-6</u>	<u>X</u>
<u>SB3: 0'-0.5'</u>	<u>9-10-97</u>	<u>1300</u>	<u>S</u>	<u>-7</u>	<u>X</u>
<u>SB4: 0.5'-1'</u>	<u>9-10-97</u>	<u>1305</u>	<u>S</u>	<u>-8</u>	<u>X</u>
<u>SB4'</u>	<u>9-10-97</u>	<u>1430</u>	<u>W</u>	<u>-9</u>	<u>X</u>
<u>SB5: 0.5'-1'</u>	<u>9-10-97</u>	<u>1400</u>	<u>S</u>	<u>-10</u>	<u>X</u>
<u>SB5: 0.5'-3'</u>	<u>9-10-97</u>	<u>1410</u>	<u>S</u>	<u>-11</u>	<u>X</u>
Remarks: <u>LITER BROKEN</u>					
LITER BROKEN					

Special Billing/Comments:

Relinquished by: D. Gem
Signature: _____
Print: DAVE GEM
Company: ALGEM
Date: 9-11-97 Time: _____

Received by: _____
Signature: _____
Print: _____
Company: _____
Date: _____ Time: _____

Sample Integrity upon receipt:

Samples received intact
Samples received cold
Custody seals
Correct container types

Relinquished by: _____
Signature: _____
Print: _____
Company: _____
Date: _____ Time: _____

Received for ZymaX by: _____
Signature: Lori Taylor
Print: LORI TAYLOR
Company: ZYMAX
Date: 9-17-97 Time: 12:15 pm

Project Manager: D. Snow Phone: _____ Fax: _____

Company: _____ Project Number: _____

Address: _____ Project Name: WARDS COVE/CRAIG

Sample Description	Date Sampled	Time Sampled	Matrix	Preserve	Analysis Requested		Remarks
					GC	MS	
SB 10	9-10-97	1200	W	12311-23	X	X	LITER BROKEN
SB 11: 0.5'-1'	9-10-97	1145	S	-24	X	X	
SB 11: 2.5'-3'	9-10-97	1150	S	-25	X	X	
SB 11	9-10-97	1215	W	-26	X	X	
SB 12: 2.5'-3'	9-10-97	1400	S	-27	X	X	
SB 13: 3'-3.5'	9-9-97	1300	S	-28	X	X	
SB 13	9-10-97	0900	W	-29	X	X	
SB 14: 0'-0.5'	9-9-97	1030	S	-30	X	X	
SB 14: 4.5'-5'	9-10-97	1330	S	-31	X	X	
SB 15: 3.5'-4'	9-9-97	1400	S	-32	X	X	
SB 15	9-10-97	1000	W	-33	X	X	

GC MS
TPH-Diesel

Special Billing/Comments:

Relinquished by:

Signature _____
Print _____
Company _____
Date _____

Received by:

Signature _____
Print _____
Company _____
Date _____

Sample Integrity upon receipt:

- Samples received intact
- Samples received cold
- Custody seals
- Correct container types

Relinquished by:

Signature _____
Print _____
Company _____
Date _____

Received for Zymax by:

Signature Steve Taylor
Print STEVE TAYLOR
Company ZYMAX
Date 9-17-97 Time 1215



Sample Description	Date Sampled	Time Sampled	Matrix	Preserve	Analysis Requested		Remarks
					TPH (ppm)	Other	
SB 16: 1'-4.5'	9-9-97	1600	S	12211-34	X		
SB 16	9-10-97	1030	W	-35	X		
SB 17: 3.5'-4'	9-9-97	1630	S	-36	X		BROKEN LITER
SB 18: 2.5'-3'	9-10-97	1600	S	-37	X		
SB 18	9-10-97	1630	W	-38	X		
SB 19: 2.5'-3'	9-10-97	1700	S	-39	X		
SB 20: 2.5'-3'	9-10-97	1730	S	-40	X		
SB 21'	9-10-97	1800	W	-41	X		
SB 22	9-11-97	0915	W	-42	X		
SB 23	9-11-97	0930	W	-43	X		
SB 23: 0.5'-1'	9-11-97	1045	S	-44	X		

Special Billing/Comments:

Relinquished by:
 Signature _____
 Print _____
 Company _____
 Date _____ Time _____

Received by:
 Signature _____
 Print _____
 Company _____
 Date _____ Time _____

Received for Zymax by:
 Signature Debra Jayla
 Print DEBRA JAYLA
 Company ZYMAX
 Date 9-17-97 Time 1215pm

Sample Integrity upon receipt:
 Samples received intact _____
 Samples received cold _____
 Custody seals _____
 Correct container types _____



TPH

LAB NUMBER	SAMPLE DESCRIPTION	C6-C10 ug/L	C10-C25 ug/L	C25-C36 ug/L
12211-2	Air Stripper Piping	< 50.	810.	100.
12211-3	Surface Water Air Stripper	< 50.	590.	510.
12211-15	SB6	1000.	2850.	250.
12211-20	SB9	2000.		
12211-23	SB10	3000.		
12211-26	SB11	5000.	9800.	200.
12211-33	SB15	< 100.	44600.	3400.
12211-35	SB16	10000.		

ALIPHATIC

LAB NUMBER	SAMPLE DESCRIPTION	C6-C10 ug/L	C10-C25 ug/L	C25-C36 ug/L
12211-2	Air Stripper Piping	< 50.	648.	90.
12211-3	Surface Water Air Stripper	< 50.	472.	459.
12211-15	SB6	700.	2280.	225.
12211-20	SB9	1400.		
12211-23	SB10	2100.		
12211-26	SB11	3500.	7840.	180.
12211-33	SB15	< 100.	35680.	3060.
12211-35	SB16	7000.		

AROMATIC

LAB NUMBER	SAMPLE DESCRIPTION	C6-C10 ug/L	C10-C25 ug/L	C25-C36 ug/L
12211-2	Air Stripper Piping	< 50.	324.	30.
12211-3	Surface Water Air Stripper	< 50.	236.	153.
12211-15	SB6	500.	1140.	75.
12211-20	SB9	1000.		
12211-23	SB10	1500.		
12211-26	SB11	2500.	3920.	60.
12211-33	SB15	< 100.	17840.	1020.
12211-35	SB16	5000.		

The following percentages were used to break down the TPH into aliphatic and aromatic composition:

CARBON RANGE	PERCENT ALIPHATIC	PERCENT AROMATIC
C6-C10	70	50
C10-C25	80	40
C25-C36	90	30



REPORT OF ANALYTICAL RESULTS

Client: Darryl Snow
AIG Environmental Management
2 Rincon Ctr., 121 Spear St., 3rd Floor
San Francisco, CA 94105

Lab Number: 12211-2
Collected: 09/09/97
Received: 09/17/97
Matrix: Aqueous

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
Air Stripper Piping
Analyzed: 09/19/97
Method: EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 09/16/97.

Submitted by,
ZymaX envirotechnology, inc.

John MacMurphey
Laboratory Director

MSD #5
12211-2n.xls
JMM/jgt/dz/jc/ps



REPORT OF ANALYTICAL RESULTS

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-3
 Collected: 09/09/97
 Received: 09/17/97
 Matrix: Aqueous

Project: Wards Cove / Craig
 Project Number:
 Collected by: D. Snow/D. Imperato

Sample Description:
 Surface Water Air Stripper
 Analyzed: 09/19/97
 Method: EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

Zymax envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 09/16/97.

Submitted by,
 Zymax envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #5
 12211-3n.xls
 JMM/jgt/dz/jc/ps



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PORT OF ANALYTICAL RESULTS

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-15
 Collected: 09/10/97
 Received: 09/17/97
 Matrix: Aqueous

Project: Wards Cove / Craig
 Project Number:
 Collected by: D. Snow/D. Imperato

Sample Description:
 SB 6
 Analyzed: 09/19/97
 Method: EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 09/17/97.

Submitted by.
 ZymaX envirotechnology, inc.

John MacMurphey
 Laboratory Director

MSD #5
 1221115n.xls
 JMM/jgt/dz/jc/ps



REPORT OF ANALYTICAL RESULTS

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-26
 Collected: 09/10/97
 Received: 09/17/97
 Matrix: Aqueous

Project: Wards Cove / Craig
 Project Number:
 Collected by: D. Snow/D. Imperato

Sample Description:
 SB 11
 Analyzed: 09/19/97
 Method: EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	2.5
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	12.
Phenanthrene	2.0	5.0
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 09/17/97.

Submitted by,
 ZymaX envirotechnology, inc.

John MacMurphey
 Laboratory Director

MSD #5
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 JMM/jgt/dz/jc/ps



REPORT OF ANALYTICAL RESULTS

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-33
 Collected: 09/10/97
 Received: 09/17/97
 Matrix: Aqueous

Project: Wards Cove / Craig
 Project Number:
 Collected by: D. Snow/D. Imperato

Sample Description:
 SB 15
 Analyzed: 09/19/97
 Method: EPA 8270

CONSTITUENT	PQL* ug/L	RESULT** ug/L
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	20.	ND
Acenaphthylene	20.	ND
Anthracene	20.	ND
Benz (a) anthracene	20.	ND
Benzo (b) fluoranthene	20.	ND
Benzo (k) fluoranthene	20.	ND
Benzo (a) pyrene	20.	ND
Benzo (ghi) perylene	20.	ND
Chrysene	20.	ND
Dibenzo (a,h) anthracene	20.	ND
Fluoranthene	20.	ND
Fluorene	20.	ND
Indeno (1,2,3-cd) pyrene	20.	ND
Naphthalene	20.	ND
Phenanthrene	20.	ND
Pyrene	20.	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3510 on 09/17/97.

Submitted by,
 ZymaX envirotechnology, inc.

John MacMurphey
 Laboratory Director

MSD #5
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 JMM/jgt/dz/jc/ps

TPH

LAB NUMBER	SAMPLE DESCRIPTION	C6-C10 mg/kg	C10-C25 mg/kg	C25-C36 mg/kg
12211-11	SB5: 2.5'-3'	<10.	6680.	120.
12211-18	SB9: 0.5'-1'	100.	10500.	500.
12211-19	SB9: 2.5'-3'	200.	13500.	500.
12211-21	SB10: 0.5'-1'	500.	13800.	200.
12211-22	SB10: 2.5'-3'	100.	7710.	90.
12211-24	SB11: 0.5'-1'	80.	2760.	40.
12211-25	SB11: 2.5'-3'	500.	4350.	50.
12211-30	SB14: 0'-0.5'	<10.	3260.	540.
12211-32	SB15: 3.5'-4'	20.	1230.	70.

ALIPHATIC

LAB NUMBER	SAMPLE DESCRIPTION	C6-C10 mg/kg	C10-C25 mg/kg	C25-C36 mg/kg
12211-11	SB5: 2.5'-3'	<10.	5344.	108.
12211-18	SB9: 0.5'-1'	70.	8400.	450.
12211-19	SB9: 2.5'-3'	140.	10800.	450.
12211-21	SB10: 0.5'-1'	350.	11040.	180.
12211-22	SB10: 2.5'-3'	70.	6168.	81.
12211-24	SB11: 0.5'-1'	56.	2208.	36.
12211-25	SB11: 2.5'-3'	350.	3480.	45.
12211-30	SB14: 0'-0.5'	<10.	2608.	486.
12211-32	SB15: 3.5'-4'	14.	984.	63.

AROMATIC

LAB NUMBER	SAMPLE DESCRIPTION	C6-C10 mg/kg	C10-C25 mg/kg	C25-C36 mg/kg
12211-11	SB5: 2.5'-3'	<10.	2672.	36.
12211-18	SB9: 0.5'-1'	50.	4200.	150.
12211-19	SB9: 2.5'-3'	100.	5400.	150.
12211-21	SB10: 0.5'-1'	250.	5520.	60.
12211-22	SB10: 2.5'-3'	50.	3084.	27.
12211-24	SB11: 0.5'-1'	40.	1104.	12.
12211-25	SB11: 2.5'-3'	250.	1740.	15.
12211-30	SB14: 0'-0.5'	<10.	1304.	162.
12211-32	SB15: 3.5'-4'	10.	492.	21.

The following percentages were used to break down the TPH into aliphatic and aromatic composition:

CARBON RANGE	PERCENT ALIPHATIC	PERCENT AROMATIC
C6-C10	70	50
C10-C25	80	40
C25-C36	90	30

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-11
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB5: 2.5'-3'
Analyzed: 09/25/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	5.0	ND
Acenaphthylene	5.0	ND
Anthracene	5.0	ND
Benz (a) anthracene	5.0	ND
Benzo (b) fluoranthene	5.0	ND
Benzo (k) fluoranthene	5.0	ND
Benzo (a) pyrene	5.0	ND
Benzo (ghi) perylene	5.0	ND
Chrysene	5.0	ND
Dibenzo (a,h) anthracene	5.0	ND
Fluoranthene	5.0	ND
Fluorene	5.0	ND
Indeno (1,2,3-cd) pyrene	5.0	ND
Naphthalene	5.0	ND
Phenanthrene	5.0	ND
Pyrene	5.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

MSD #5
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 JMM/lp/dz/rb

Submitted by.
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-18
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB9: 0.5'-1'
Analyzed: 09/26/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	5.0	ND
Acenaphthylene	5.0	ND
Anthracene	5.0	ND
Benzo (a) anthracene	5.0	ND
Benzo (b) fluoranthene	5.0	ND
Benzo (k) fluoranthene	5.0	ND
Benzo (a) pyrene	5.0	ND
Benzo (ghi) perylene	5.0	ND
Chrysene	5.0	ND
Dibenzo (a,h) anthracene	5.0	ND
Fluoranthene	5.0	ND
Fluorene	5.0	ND
Indeno (1,2,3-cd) pyrene	5.0	ND
Naphthalene	5.0	ND
Phenanthrene	5.0	ND
Pyrene	5.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #5
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 JMM/lp/dz/rb

Client: Darryl Snow
AIG Environmental Management
2 Rincon Ctr., 121 Spear St., 3rd Floor
San Francisco, CA 94105

Lab Number: 12211-19
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
SB9: 2.5'-3'
Analyzed: 09/26/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	5.0	ND
Acenaphthylene	5.0	ND
Anthracene	5.0	ND
Benz (a) anthracene	5.0	ND
Benzo (b) fluoranthene	5.0	ND
Benzo (k) fluoranthene	5.0	ND
Benzo (a) pyrene	5.0	ND
Benzo (ghi) perylene	5.0	ND
Chrysene	5.0	ND
Dibenzo (a,h) anthracene	5.0	ND
Fluoranthene	5.0	ND
Fluorene	5.0	ND
Indeno (1,2,3-cd) pyrene	5.0	ND
Naphthalene	5.0	8.9
Phenanthrene	5.0	ND
Pyrene	5.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by:
ZymaX envirotechnology, inc.


John MacMurphey
Laboratory Director

MSD #5
1221119n.xls
JMM/lp/dz/rb

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-21
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB10: 0.5'-1'
Analyzed: 09/24/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	5.0	ND
Acenaphthylene	5.0	ND
Anthracene	5.0	ND
Benz (a) anthracene	5.0	ND
Benzo (b) fluoranthene	5.0	ND
Benzo (k) fluoranthene	5.0	ND
Benzo (a) pyrene	5.0	ND
Benzo (ghi) perylene	5.0	ND
Chrysene	5.0	ND
Dibenzo (a,h) anthracene	5.0	ND
Fluoranthene	5.0	ND
Fluorene	5.0	ND
Indeno (1,2,3-cd) pyrene	5.0	ND
Naphthalene	5.0	ND
Phenanthrene	5.0	ND
Pyrene	5.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #5
 1221121n.xls
 JMM/lp/dz/jc/sk

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-22
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB10: 2.5'-3'
Analyzed: 09/24/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	5.0	ND
Acenaphthylene	5.0	ND
Anthracene	5.0	ND
Benz (a) anthracene	5.0	ND
Benzo (b) fluoranthene	5.0	ND
Benzo (k) fluoranthene	5.0	ND
Benzo (a) pyrene	5.0	ND
Benzo (ghi) perylene	5.0	ND
Chrysene	5.0	ND
Dibenzo (a,h) anthracene	5.0	ND
Fluoranthene	5.0	ND
Fluorene	5.0	ND
Indeno (1,2,3-cd) pyrene	5.0	ND
Naphthalene	5.0	ND
Phenanthrene	5.0	ND
Pyrene	5.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #5
 1221122n.xls
 JMM/lp/dz/jc/sk

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-24
Collected: 09/10/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 SB11: 0.5'-1'
Analyzed: 09/24/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by,
 ZymaX envirotechnology, inc.



John MacMurphey
 Laboratory Director

MSD #5
 1221124n.xls
 JMM/lp/dz/jc/sk

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-25
 Collected: 09/10/97
 Received: 09/17/97
 Matrix: Soil

Project: Wards Cove / Craig
 Project Number:
 Collected by: D. Snow/D. Imperato

Sample Description:
 SB11: 2.5'-3'
 Analyzed: 09/24/97
 Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	5.0	ND
Acenaphthylene	5.0	ND
Anthracene	5.0	ND
Benz (a) anthracene	5.0	ND
Benzo (b) fluoranthene	5.0	ND
Benzo (k) fluoranthene	5.0	ND
Benzo (a) pyrene	5.0	ND
Benzo (ghi) perylene	5.0	ND
Chrysene	5.0	ND
Dibenzo (a,h) anthracene	5.0	ND
Fluoranthene	5.0	ND
Fluorene	5.0	ND
Indeno (1,2,3-cd) pyrene	5.0	ND
Naphthalene	5.0	ND
Phenanthrene	5.0	ND
Pyrene	5.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #5
 1221125n.xls
 JMM/lp/dz/jc/sk

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-30
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description:
 S814: 0'-0.5'
Analyzed: 09/26/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

MSD #5
 1221130n.xls
 JMM/lp/dz/dz/rb

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

Client: Darryl Snow
 AIG Environmental Management
 2 Rincon Ctr., 121 Spear St., 3rd Floor
 San Francisco, CA 94105

Lab Number: 12211-32
Collected: 09/09/97
Received: 09/17/97
Matrix: Soil

Project: Wards Cove / Craig
Project Number:
Collected by: D. Snow/D. Imperato

Sample Description: SB15: 3.5'-4.0'
Analyzed: 09/25/97
Method: EPA 8270

CONSTITUENT	PQL* mg/kg	RESULT** mg/kg
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POLYNUCLEAR AROMATIC HYDROCARBONS

Acenaphthene	2.0	ND
Acenaphthylene	2.0	ND
Anthracene	2.0	ND
Benz (a) anthracene	2.0	ND
Benzo (b) fluoranthene	2.0	ND
Benzo (k) fluoranthene	2.0	ND
Benzo (a) pyrene	2.0	ND
Benzo (ghi) perylene	2.0	ND
Chrysene	2.0	ND
Dibenzo (a,h) anthracene	2.0	ND
Fluoranthene	2.0	ND
Fluorene	2.0	ND
Indeno (1,2,3-cd) pyrene	2.0	ND
Naphthalene	2.0	ND
Phenanthrene	2.0	ND
Pyrene	2.0	ND

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Extracted by EPA 3550 on 09/23/97.

Submitted by,
 ZymaX envirotechnology, inc.


 John MacMurphey
 Laboratory Director

MSD #5
 1221132n.xls
 JMM/lp/dz/dz/rb