HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

SITE ASSESSMENT REPORT

BP Oil Station No. 11117
7210 Bancroft Avenue
Oakland, California

Prepared for:

BP OIL COMPANY
295 S.W. 41st Street, Building 13, Suite N
Renton, Washington 98055

Prepared by:

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.
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HETI Job No. 9-029.1

March 9, 1995

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

1.0 INTRODUCTION

This report presents the results of field work performed by Hydro-Environmental Technologies, Inc. (HETI) at BP Oil Company (BP) service station No. 11117. The purpose of the work was to assess the lateral extent of adsorbed and dissolved hydrocarbons previously detected at the site.

The tasks performed by HETI during this phase of work included the following:

- Drilled and logged three soil borings.
- Collected soil samples from the borings for laboratory analysis.
- Installed three two-inch diameter monitoring wells.
- Surveyed the elevations of the newly installed wells.
- Developed the newly installed wells.
- Collected ground water samples from the new wells for laboratory analysis.

1.1 Site Location And Description

The site is located at 7210 Bancroft Avenue in Oakland, California (Figure 1). The site is currently an operating BP service station. Fuels stored and dispensed at the site in the past have included leaded gasoline, unleaded gasoline and diesel. Unleaded gasoline is currently dispensed from three underground storage tanks (USTs). Automotive repair is not performed at the BP station but was previously conducted at the site when it was a Mobil service station.

1.2 Background

Three monitoring wells, designated MW-1, MW-2 and MW-4, exist on-site. Two monitoring wells, designated MW-3 and MW-6, exist off-site to the west in the Eastmont Mall parking lot (Figure 2). One soil boring (B-5) was drilled to a depth of 50 feet below ground surface (bgs) in the mall parking lot northeast of the site.

Concentrations of total petroleum hydrocarbons as gasoline (TPHg) detected in soil samples collected from boring MW-4 ranged from 240 to 6,000 parts per million (ppm). Soil samples collected during the other monitoring well installations and from soil boring B-5 contained no detectable concentrations of TPHg.

Historically, the measured depth to ground water has been approximately 30 feet bgs. Ground water flow direction across the site is generally towards the west, at a gradient of approximately 0.2%. Sediments encountered during previous drilling consisted primarily of clay, silty clay and sandy clay, with an occasional thin layer of clayey sand, silty sand, or sandy gravel.

Concentrations of TPHg and benzene have been detected in ground water samples collected from all monitoring wells both on-site and off-site. More detailed information regarding previous site work and cummulative analytical data can be found in HETI's *Phase I Subsurface Investigation Report* dated August 25, 1992, and in the quarterly monitoring reports prepared by Alisto Engineering Group (Alisto).

2.0 FIELD ACTIVITIES

2.1 Soil Borehole Drilling and Soil Sampling

A safety briefing was conducted with West Hazmat Drilling Corporation (WHD) personnel prior to drilling on October 6, 1994. At the end of the briefing, all personnel reviewed and signed the Site Safety Plan prepared for this site; a copy is attached as Appendix A. Prior to drilling and well installation, permits were obtained from the City of Oakland and from the Alameda County Zone 7 Water Agency; copies are included in Appendix B.

During drilling on October 6, 1994, WHD used a hollow-stem auger drill rig to drill three eight-inch diameter soil borings, designated MW-7, MW-8 and MW-9. The locations of the borings are shown on Figure 2. Boring MW-7 was drilled to a total depths of approximately 45 feet bgs. Borings MW-8 and MW-9 were drilled to total depths of approximately 40 bgs. Ground water was initially encountered during drilling at approximately 27 to 32 feet bgs. A two-inch inside diameter split-spoon sampler, lined with brass tubes, was used to collect soil samples at five-foot intervals. The unsaturated soil sample collected from nearest the water table interface in each boring was labeled, documented on a chain-of-custody form, and placed in a cooler with ice for transport to PACE, Inc. (PACE), a state DHS-certified laboratory located in Novato, California. Soil samples were analyzed for TPHg by EPA Method 8015 (modified), and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020 (modified).

Portions of each split-spoon sample were retained for visual lithologic description by a HETI engineer using the Unified Soil Classification System, and for volatile organic headspace analysis using a Thermo-Environmental Model 580B organic vapor meter (OVM). OVM readings for specific soil samples are presented on the Soil Boring Log and Well Construction Diagrams in Appendix C. OVM readings do not necessarily correlate to actual soil concentrations, but provide an indication of relative volatile hydrocarbon concentrations in soil.

2.2 Well Installation, Development and Survey

On October 6, 1994, soil borings MW-7, MW-8 and MW-9 were converted into two-inch diameter monitoring wells with the same designations. All wells were constructed of two-inch diameter schedule 40 PVC casing. The well construction

details are presented on the Soil Boring Log and Well Construction Diagrams in Appendix C.

On October 10, 1994, wells MW-8 and MW-9 were developed by a combination of surging and bailing. Each well was purged of at least ten well volumes, while monitoring pH, temperature and conductivity for stabilization. Well MW-7 was not developed on October 10, 1994 because the well contained an insufficient water column.

On October 20, 1994, well MW-7 was partially developed before going dry. The development of well MW-7 was completed on October 26, 1994. Development details are presented in Appendix D. Purge water was stored on-site in labeled 55-gallon DOT drums with tight fitting lids.

2.3 Ground Water Gauging, Sampling and Analysis

On October 20, 1994, HETI personnel measured the depth to water in the newly installed wells. The new wells were also examined for the presence of separate-phase hydrocarbons (SPH). No SPH was observed in any of the new wells.

Prior to sampling, wells MW-8 and MW-9 were purged of three well volumes, while monitoring pH, temperature and conductivity for stabilization. Although all wells were scheduled to be sampled on October 20, well MW-7 could not be sampled due to extremely slow recharge. Ground water samples were collected from wells MW-8 and MW-9 using disposable bailers. Purged water was stored on-site in 55-gallon drums.

On October 27, 1994, HETI personnel returned to the site to sample well MW-7, and to measure the depth to water in all wells. Well MW-2 contained a skimmer and was not gauged. Well MW-7 was purged and sampled as described for wells MW-8 and MW-9 above.

Ground water samples were transferred to sample containers, labeled, entered on a chain of custody form and placed in a cooler on ice for transport to PACE, Inc. All samples were analyzed for TPHg using EPA Method 8015 (modified) and for BTEX using EPA Method 8020 (modified). Well purging and sampling data is presented in Appendix D.

3.0 RESULTS OF INVESTIGATION

3.1 Site Stratigraphy

Sediments encountered during drilling consisted primarily of interbedded clay, silty sandy to gravely clay, clayey sand and sandy gravel to approximately 45 feet bgs, the total depth explored. Complete soil sample descriptions are presented on the Soil Boring Log and Well Construction Diagrams in Appendix C.

4.0 SUMMARY

Sediments encountered during drilling wells MW-7, MW-8 and MW-9 consisted primarily of interbedded clay, silty, sandy to gravely clay, clayey sand and sandy gravel to approximately 45 feet bgs. Ground water was measured to stabilize in the wells between approximately 28 and 29 feet bgs. The ground water flow direction is towards the northwest, at an approximate gradient of 0.002 (0.2%).

Neither TPHg nor benzene were detected in the soil or groundwater samples collected from borings MW-7, MW-8 and MW-9.

The lateral extent of hydrocarbons in the soil and ground water has been delineated upgradient to the east with the results from well MW-9, cross-gradient to the north with the results from well MW-8, and to the west with the results from well MW-7.

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5.0 CERTIFICATION

This report was prepared under the supervision of a registered professional geologist. All statements, conclusions and recommendations are based solely upon field observations and analytical analyses performed by a state-certified laboratory related to the work performed by Hydro-Environmental Technologies, Inc.

It is possible that variations in the soil or ground water conditions exist beyond the points explored in this investigation. Also, site conditions are subject to change at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors.

The service performed by Hydro-Environmental Technologies, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Hydro-Environmental Technologies, Inc. includes in this report chemical analytical data from a state-certified laboratory. These analyses are performed according to procedures suggested by the U.S. EPA and the State of California. Hydro-Environmental Technologies, Inc. is not responsible for laboratory errors in procedure or result reporting.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

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Operations Manager

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Senior Geologist

REGISTERED GEOLOGIST
GARY PISCHKE
No. 1501
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BP STATION No. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

Sample No.	Date	TPHg (ppm)	B (ppm)	T (ppm)	E (ppm)	X (ppm)
MW-7-25' (1)	10/6/94	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-8-25'	10/6/94	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-9-25'	10/6/94	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005

Notes:

Sample No. :	Soil boring designation and sample collection depth.
Date :	Sample collection date.
TPHg :	Total petroleum hydrocarbons as gasoline by EPA Method 8015 (modified).
BTEX :	Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020 (modified).
ppm :	Parts per million (mg/kg).
ND :	Not detected in concentrations exceeding the indicated laboratory method detection limit (MDL).
(1):	Rock and gravel encountered at 25 ft bgs. Sample collected at 26.5 bgs.

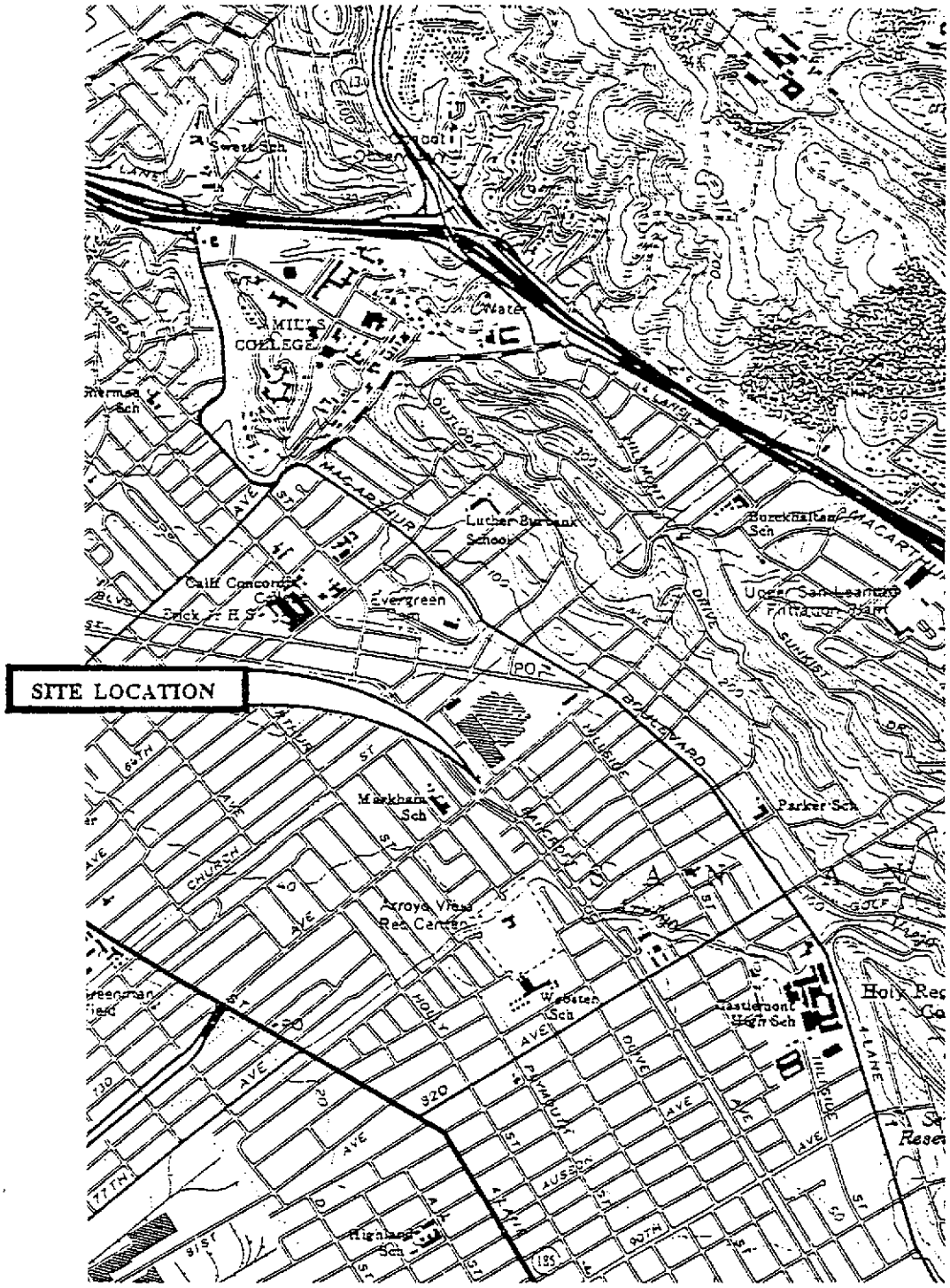
TABLE 2
GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
BP STATION No. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

MW No.	Date	TOC (feet)	DTW(3) (feet)	GW Elev. (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
MW-1	7/22/94 (1)	49.80	27.83	21.97	1,700	220	2.3	2.0	3.4
MW-2	7/22/94 (1)	51.07	NM	NM	SPH	SPH	SPH	SPH	SPH
MW-3	7/22/94 (1)	49.95	28.22	21.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-4	7/22/94 (1)	50.76	28.61	22.15	85,000	10,000	20,000	3,200	13,000
MW-6	7/22/94 (1)	50.32	28.65	21.67	350	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-7	10/27/94	51.41	42.62	8.79(2)	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-8	10/20/94	50.89	29.02	21.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-9	10/20/94	51.05	28.73	22.32	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5

TABLE 2
GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
BP STATION No. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

Notes:

MW No. :	Monitoring well designation and sample collection point.
Date :	Sample collection date.
TOC :	Elevation at the north side of the top of the well casing referenced to a benchmark.
DTW :	Depth to water.
GW Elev. :	Ground water elevation.
TPHg :	Total petroleum hydrocarbons as gasoline by EPA Method 8015 (modified).
BTEX :	Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020 (modified).
ppb :	Parts per billion (µg/L).
ND :	Not detected in concentrations exceeding the indicated laboratory method detection limit (MDL).
NM :	Depth to ground water not measured due to passive separate phase hydrocarbon skimmer in well.
SPH :	Not sampled due to separate phase hydrocarbons in well.
(1) :	Analytical sample results (TPHg/BTEX) are latest available data from Alisto Engineering Group. Historical results are listed in Appendix E, (Alisto) Table 1.
(2) :	Ground water elevation data not used for Ground Water Contour Map. See report text.
(3) :	Depth to water data collected 10/27/94.



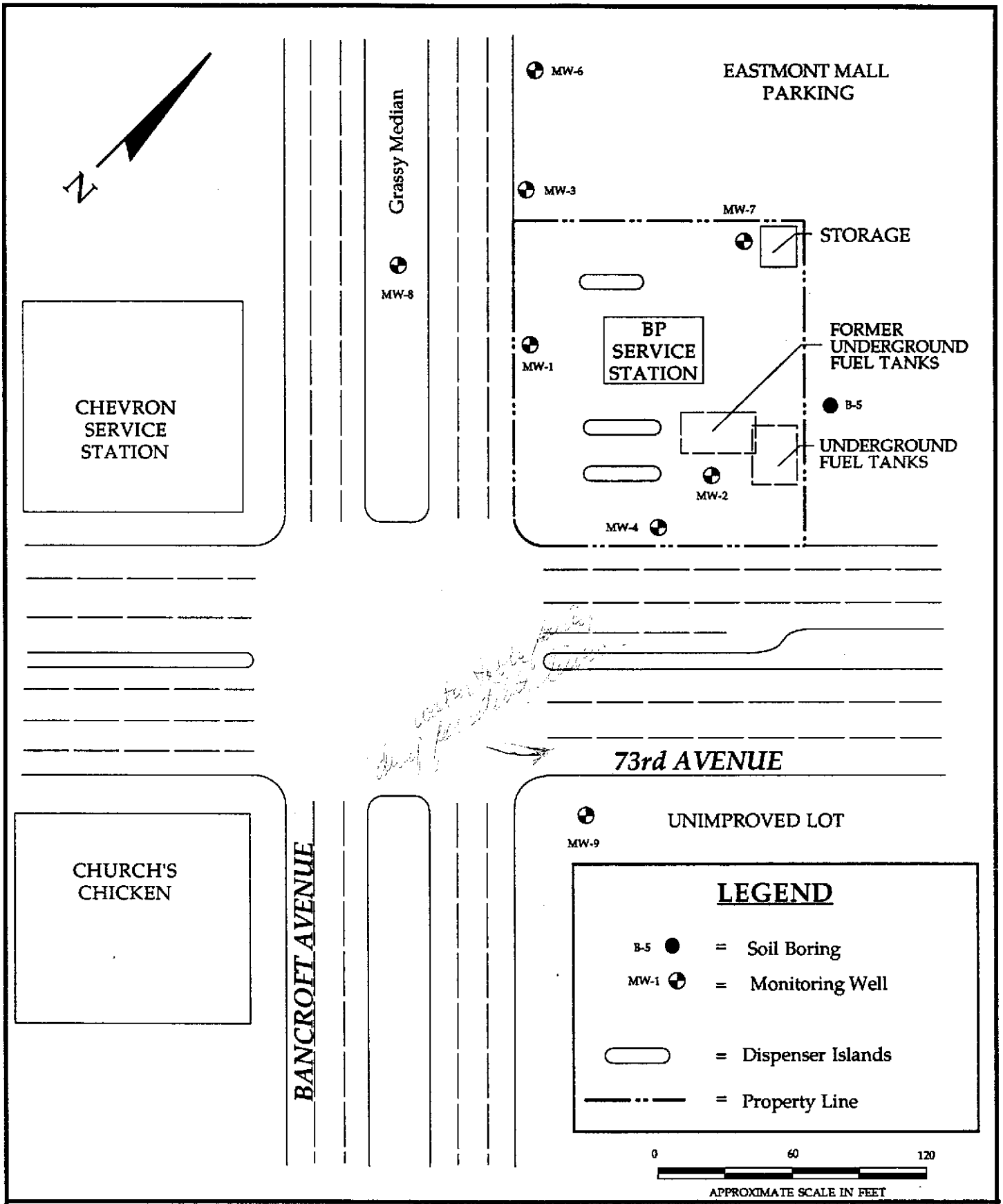
Source: U.S.Geological Survey
7.5 Minute Topographic Map of the
"Oakland East, California" Quadrangle
1959 - Photorevised 1980

0 2000 4000 6000
FEET

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE LOCATION MAP
BP OIL COMPANY
SERVICE STATION Nº 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

Job No.
9-029
Figure
1



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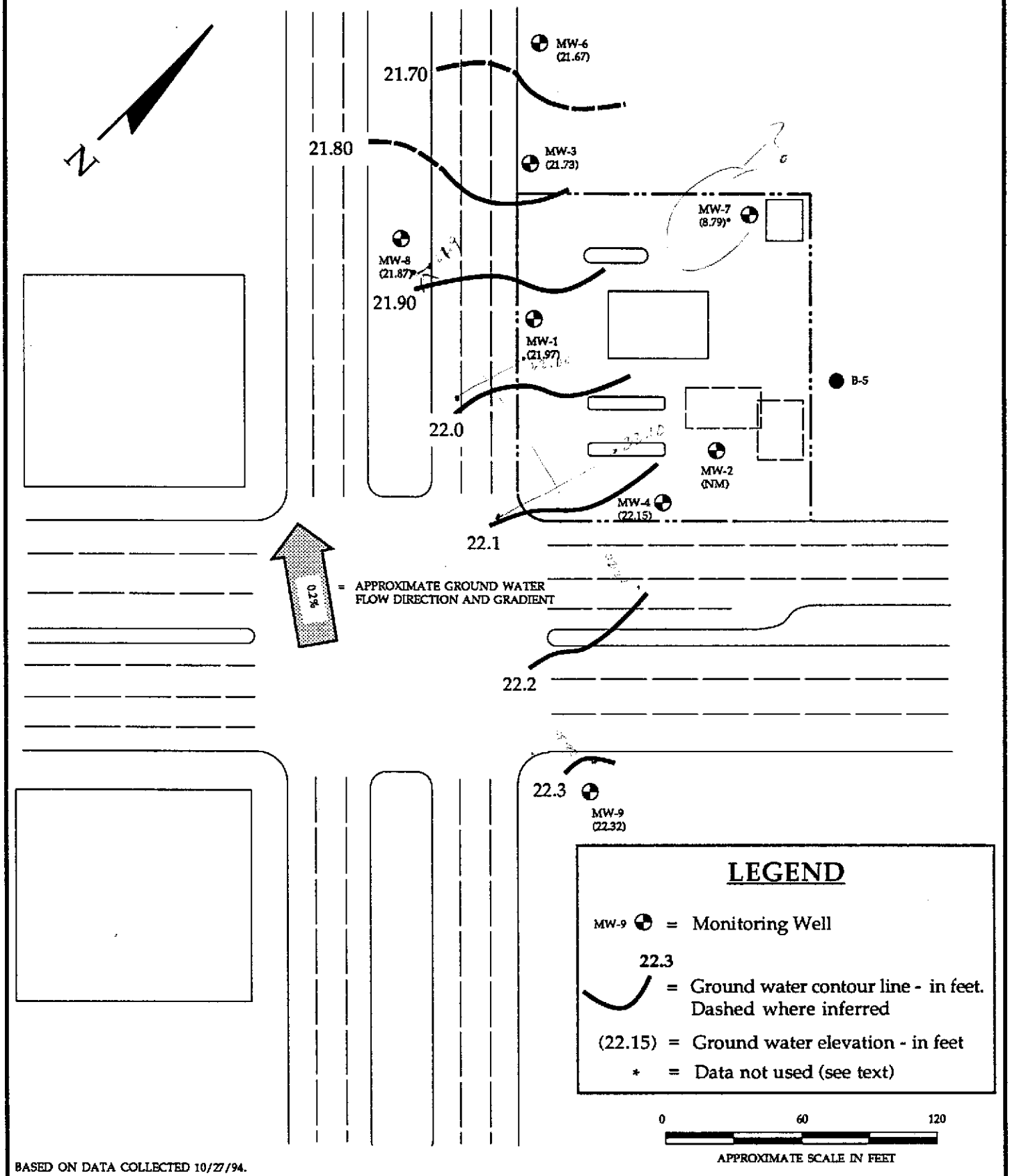
SITE PLAN

BP Station No. 11117
7210 Bancroft Avenue
Oakland, California

Figure 2

9-029 10/94



BASED ON DATA COLLECTED 10/27/94.

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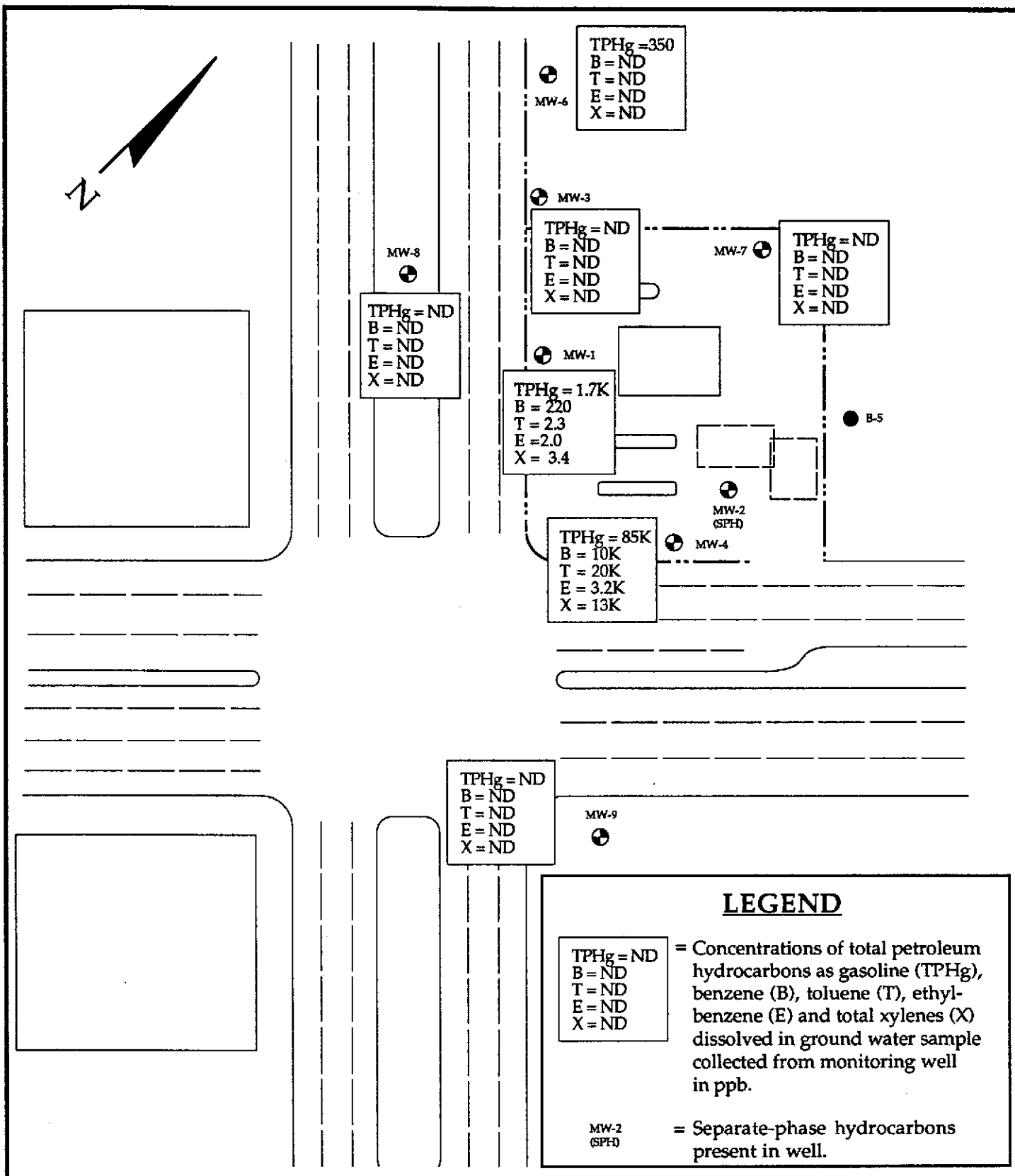
GROUND WATER CONTOUR MAP

BP Station No. 11117
7210 Bancroft Avenue
Oakland, California

Figure 3

9-029 10/94



Ground water samples collected 10/10/94 from wells MW-8 and MW-9 and 10/26/94 from well MW-7 by HETI.
Ground water samples collected 7/22/94 from wells MW-1, MW-3, MW-4 and MW-6 by ALISTO.

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HYDROCARBON CONCENTRATION MAP

BP Service Station No. 11117
7210 Bancroft Avenue
Oakland, California

Figure 4

9-029 10/94

SITE SAFETY PLAN

FOR

CLIENT: BP OIL CO.

SITE: 7210 BANCROFT AVE / 73RD AVE Job No: 9-029

ADDRESS: OAKLAND, CA

SCOPE OF WORK (Check all that apply):

Soil Excavation.....	☐	Soil Stockpile Sampling.....	☐
Drilling.....	☒	Monitoring Well Sampling.....	☐
Testing		System Installation	
Aquifer.....	☐	Ground Water.....	☐
Vapor Extraction.....	☐	Vapor Extraction.....	☐
Air Sparging.....	☐	Air Sparging.....	☐

System Operation and Maintenance... ☐

PURPOSE AND SCOPE

This Site Safety Plan (SSP) establishes the basic safety guidelines and requirements for the above scope(s) of work at the above site (see Site Location Map - Figure 1). This SSP addresses the expected potential hazards that may be encountered during this project.

The provisions set-forth in this SSP will apply to Hydro-Environmental Technologies, Inc. (HETI) employees and any subcontractors working for HETI at the job site. All personnel working for HETI, including subcontractors, at the job site must read this SSP, and sign the attached Compliance Agreement (Appendix A) before entering the work area.

I. FACILITY BACKGROUND / WORKPLAN

SITE BACKGROUND AND HISTORY:

The site is located at 7210 Bancroft Avenue in Oakland, California (Figure 1) and is currently operated by BP Oil Company (BP). Fuels stored and dispensed at the site have included leaded gasoline, unleaded gasoline and diesel. Unleaded gasoline is currently dispensed from three dispenser islands. Automotive repair is not currently performed at the BP station but was previously conducted at the site when it was a Mobil service station.

Three monitoring wells (MW-1, MW-2 and MW-4) exist on-site, and two monitoring wells (MW-3 and MW-6) exist off-site to the northwest in the adjacent Eastmont Mall

parking lot (Figure 2). Well MW-3 was not installed by HETI. A soil boring (B-5) was drilled to a depth of 50 feet below grade in the mall parking lot northeast of the station. Ground water was not encountered in this boring. Gauging data from the existing wells indicate ground water is present approximately 30 feet below grade, and flows in a generally westerly direction at a gradient of 0.005 ft/ft across the site. Subsurface lithology is characterized primarily by clay, silty clay and sandy clay, with occasional thin layers of clayey sand, silty sand, or sandy gravel.

Total low to medium boiling point petroleum hydrocarbons (TPHg) concentrations detected in soil samples collected during the drilling of MW-4 ranged from 240 to 6,000 parts per million (ppm). TPHg was not detected in concentrations exceeding the analytical method detection limit in soil samples collected and analyzed during the drilling of the other monitoring wells/soil borings.

WORK ACTIVITIES:

Monitoring well MW-6 is considered to delineate the downgradient extent of the dissolved hydrocarbon plume, as hydrocarbons were not detected in the soil sample collected from nearest the water table, TPHg was not detected in a ground water sample collected from the well, and benzene was detected at a concentration of only 1.6 ppb. Therefore, HETI is not proposing to drill in any off-site, downgradient locations. HETI proposes instead to drill in the locations shown on Figure 3, the Proposed Well Locations Map. One well (PMW-7) is proposed to be installed in the center median of Bancroft Avenue, one well (PMW-8) is proposed to be installed in the north corner of the site, and the third well (PMW-9) is proposed to be installed off-site to the southeast, across 73rd Avenue in the empty lot. As drilling in this location requires obtaining an access agreement from the property owner and specifying a specific well location prior to field work, the location of PMW-9 is not subject to modification.

All drilling, well construction and borehole grouting procedures will be conducted in accordance with HETI's standard protocols which are consistent with guidelines established by the Regional Water Quality Control Board (RWQCB) and the Alameda County Department of Environmental Health (ACDEH).

HETI will drill soil borings in the locations shown on Figure 3. Prior to drilling, HETI will obtain well installation permits from the local regulatory agency, an Encroachment Permit from the City of Oakland for the work in Bancroft Avenue, and an Access Agreement from the upgradient property owner. Underground Service Alert will be notified prior to drilling.

A drill rig equipped with 8-3/4 inch outside-diameter hollow-stem augers will be used to drill the soil borings. Soil samples will be collected at approximate five-foot intervals during drilling using a California modified split-spoon sampler lined with brass tubes. A Thermo-Environmental Model 580B Organic Vapor Meter (OVM) will be used to screen each soil sample for the presence of hydrocarbons, and the results will be used to select soil samples for laboratory analysis. Portions of each soil sample will also be retained for visual classification using the Unified Soil Classification System (USCS).

Each soil boring will be advanced approximately fifteen feet into the water table, then pulled up slightly to allow ground water to flow into the boring. After a sufficient water column has formed in the borehole, a clean, disposable bailer will be lowered through the augers and a ground water sample will be collected. Once the proposed soil and water samples have been collected from a borehole, the boring will be grouted to the surface with neat cement containing 5% bentonite.

All soil and water samples will be analyzed for TPHg using EPA Method 8015 (DHS-modified) and benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8020. Sample analysis will be performed by PACE Incorporated, a DHS-certified laboratory located in Novato, California.

All drilling equipment will be steam cleaned prior to drilling each soil boring, and steam cleaner rinseate will be contained in 55-gallon drums. Soil cuttings generated during drilling will be placed on a plastic tarp, until transported off-site by a licensed waste hauler.

All monitoring wells will be constructed using schedule 40, flush joint threaded, 2-inch diameter PVC well materials. Machine-slotted well screen will be extended from the bottom of each borehole to approximately five feet above stabilized ground water level, and blank well casing will be coupled to the screen and extended to the surface. The annular space around the well screen will be filled with a clean, uniform sandpack to approximately 2 feet above the the screened interval. A 1-foot thick seal of hydrated bentonite will be placed above the sandpack, and the remaining annular space around the blank casing will be grouted to the surface. The top of the well casings will be capped and locked with an expansion plug, and traffic rated road boxes will be concreted in place over each well. The details of well construction described above are only approximations and may vary based on field conditions and observations made during drilling.

After well installation and water column stabilization, the depth to water and total depth will be measured in each well using an interface probe accurate to 0.01 feet. Each well will also be checked for the presence of separate-phase petroleum using a clear bailer. The wells will then be developed by surging with a mechanical block and bailing until pH, temperature and conductivity have stabilized, or the development water is relatively free of turbidity. Water generated during well development will be stored on-site in labelled 55-gallon drums until transported off-site by a licensed waste hauler.

II. KEY SAFETY PERSONNEL AND RESPONSIBILITIES

All personnel working for HETI at the job site are responsible for project safety. Specific individual responsibilities are listed below:

Project Manager: SCOTT VELLISTENT

The Project Manager is responsible for preparation of this SSP. He/she has the authority to provide for the auditing of compliance with the provisions of this SSP, suspend or modify work practices, and to report to the Regional Manager any individuals whose conduct does not meet the provisions presented in this SSP. The Project Manager can be reached at (510) 521-2684.

Site Safety Officer: FRANCES MARCUS

The Site Safety Officer (SSO) is responsible for the dissemination of the information contained in this SSP to all HETI personnel working at the job site, and to the responsible representative(s) of each subcontractor firm working for HETI at the job site.

The SSO is responsible for ensuring the following items are adequately addressed:

- Inspection of tools, drilling equipment and safety equipment
- Safety supplies & equipment inventory
- Site-specific training/hazard communication
- Accident/incident reporting
- Decontamination/contamination reduction procedures

The Site Safety Officer shall be responsible to take necessary steps to ensure that employees are protected from physical hazards, which could include;

- Falling objects such as tools or equipment
- Falls from elevations
- Tripping over hoses, pipes, tools, or equipment
- Slipping on wet or oily surfaces
- Insufficient or faulty protective equipment
- Insufficient or faulty operations, equipment, or tools
- Noise

The SSO has the authority to suspend work anytime he/she determines the safety provisions set-forth in this SSP are inadequate to ensure worker safety. The SSO or Project Manager must be present during all phases of the site work.

SSO Pager Number: (800) 908-3158

III. JOB HAZARD ANALYSIS / SITE CHARACTERIZATION

CHEMICAL HAZARDS:

The hazardous chemicals which may be encountered at the site are petroleum hydrocarbons, including benzene, toluene, ethylbenzene, and xylene. A summary of relevant chemical, physical and toxicological properties for each chemical hazard is discussed below:

Benzene: Colorless liquid with an aromatic odor.

Vapor pressure	75 mm Hg @ 68 °F
Flash point	12 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	none

Benzene is recognized by the National Institute of Occupational Safety and Health (NIOSH) as a potential human carcinogen.

Benzene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the blood, central nervous system, skin, bone marrow, eyes, and respiratory system. Acute exposure effects include irritation of the eyes, nose, and respiratory system as well as headache, nausea, staggered gait, depression, and abdominal pain. The chronic effect of over-exposure is the potential for cancer.

Toluene: Colorless liquid with an aromatic odor.

Vapor pressure	22 mm Hg @ 68 °F
Flash point	40 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Toluene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, liver, kidneys, and skin. Acute exposure effects include fatigue, dizziness, headache, euphoria, dilated pupils, paralysis.

Ethylbenzene: Colorless liquid with an aromatic odor.

Vapor pressure	7.1 mm Hg @ 68 °F
Flash point	55 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Ethylbenzene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the eyes, upper respiratory system, skin and central nervous system. Acute exposure effects include

irritation of the eyes and mucous membranes, nose, and respiratory system as well as headache, nausea, staggered gait, headache, dermatitis, narcosis and coma.

Xylenes: Colorless liquid with an aromatic odor.

Vapor pressure	8 mm Hg @ 68 °F
Flash point	63° F to 81 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Xylenes can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, eyes, gastrointestinal tract, blood, liver, kidneys and skin. Acute exposure effects include dizziness, excitement, drowsiness, incoordination, abdmominal pain, vomiting, and irritation of the eyes, nose and throat.

Other Potentially Hazardous Chemicals:

_____ N/A.

Vapor pressure	____ mm Hg @ 68 °F
Flash point	____ °F
Hazard classification	_____.
Permissable exposure limit (PEL)	_____ ppm
Potential carcinogen	☐

Potential exposure routes:

inhalation ☐ adsorption ☐ ingestion ☐ injection ☐

Exposure effects include: _____

_____

_____

_____

The controls to limit potential for exposure to the above chemical hazards is addressed below:

o Inhalation of contaminants will be controlled by SEE SECTION V

_____

_____

_____

- o Ingestion of contaminants will be controlled by prohibiting eating, drinking, smoking, and chewing in the work area. In addition, workers shall wash their hands and face before engaging in any of the above activities.

- o Absorption of contaminants will be controlled by SEE SECTION VI

- o Injection of contaminants will be controlled by wearing work gloves in the work area.

FIRE HAZARDS:

The potential for fire or explosion exists whenever flammable liquids or vapors are present above lower explosions limit (LEL) concentrations and sufficient oxygen is present to support combustion. These potential fire hazards are addressed below:

- o The potential exists for petroleum hydrocarbon vapors to exceed LEL concentrations within the wells. However, well-gas generally does not contain sufficient oxygen to support combustion.

- o Other potential fire hazards associated with the scope of work have been mitigated by: N/A

- o In addition to the above, the HETI truck shall have an operative fire extinguisher on board. All personnel shall be familiar with its location and use.

ELECTRICAL HAZARDS:

The potential electrical hazards expected on the job site are addressed below:

- o Expected voltages: N/A
- o No electrical enclosures will be opened unless power is disconnected. Power will be verified disconnected with a meter prior to working on any circuits.

PHYSICAL HAZARDS:

The potential physical hazards expected at the job site are addressed below:

- The potential for physical injury exists from the operation of moving equipment such as drill rigs, forklifts and trucks. Use of steel toe boots, hard hats, and safety glasses will be required when in the work area. Backup alarms are required on all trucks and forklifts.
- The potential for physical injury exists from public traffic on the site. The site is ☒ is not ☐ open to public vehicles. Work will ☒ will not ☐ be performed in the public right-of-way. If work is performed in the public right-of-way, orange vests shall be worn, a traffic control plan is attached and an encroachment permit from the appropriate government agency shall be obtained.
- The potential for burns from hot surfaces exist from the operation of an internal combustion engine ☐, an air compressor ☐. Compressed air piping is hot. All hot surfaces shall be allowed to cool and/or be handled with thick cloth work gloves.
- The potential for noise hazards exist at the site from the operation of _____ _____.
  It is not expected that noise levels will exceed the acceptable CAL-OSHA permissible exposure level of 90 dB. However, workers should be aware of the presence of these hazards and take steps to avoid them. Ear / noise protection, though not required, shall be available to all personnel within the job site in the event noise levels exceed worker comfort or protection levels.
- Personnel should be cognizant of the fact that when protective equipment such as respirators, gloves, and/or protective clothing are worn, visibility, hearing, and manual dexterity are impaired.

HEAT STRESS:

The anticipated weather conditions will be: SUNNY, 70'S F _____.

The potential for heat stress is present if the temperature exceeds 80°F. Some signs and symptoms of heat stress are presented below:

- Heat rash may result from continuous exposure to heat or humid air.
- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms, heavy sweating, dizziness, nausea and fainting.
- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea and fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occurs. Competent medical help must be obtained. Signs and symptoms are: red, hot, unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse and coma.

Preventing heat stress is particularly important because once someone suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat injuries. To avoid heat stress the following steps shall be taken whenever the ambiant temperature is over 80 °F:

1) Field personnel shall have a work/rest cycle of 2 hours work, 15 minutes rest.

2) The Site Safety Officer shall mandate work slowdowns as needed.

IV. JOB HAZARD SUMMARY

In summary, the expected potential hazards to personnel working in the work area are (Check all that apply):

(1) Over exposure to chemical contaminants	☒
(2) Physical injury from equipment being operated at job site	☒
(3) Public traffic	☒
(4) Hot surfaces	☒
(5) Heat stress	☐
(6) Fire	☐
(7) Electrical shock	☐
(8) Other	☐

As described in Section III - Job Hazard Analysis, these potential hazards have been mitigated for the protection of both the worker health and safety. The proposed work does not appear to present any potential health risk to workers, the surrounding community, or the environment.

V. EXPOSURE MONITORING PLAN

Periodic monitoring for organic vapors is ☐ is not ☒ required. The Site Safety Officer shall monitor the ambient air in the work area with an organic vapor photoionization meter (Thermo Environmental Model 580B OVM, or equivalent) should their presence be detected by odor. If the meter indicates petroleum

hydrocarbon concentrations in the area exceed 300 ppm, the Site Safety Officer shall require personnel in the work area to wear respirators with organic vapor cartridges (MSA 464046, or equivalent).

The manufacturer's calibration procedures for the Model 580B OVM are located within the instrument case. Field calibration shall be performed daily during use.

All personnel working for HETI at the job site shall be monitored for heat stress. Because workers at the job site are expected to be wearing permeable clothing (e.g. standard cotton or synthetic work clothes), monitoring for heat stress will consist of personnel constantly observing each other for any of the heat stress symptoms discussed in Section III.

Field personnel shall be cautioned to inform each other of non-visual effects of the presence of toxins, such as: headaches, dizziness, nausea, blurred vision, cramps, irritation of eyes, skin, or respiratory tract, changes in complexion or skin discoloration, changes in apparent motor coordination, changes in personality or demeanor, excessive salivation or changes in pupillary response or hanges in speech ability or pattern.

VI. PERSONAL PROTECTIVE EQUIPMENT

Level D personal protection equipment is expected to be the highest protective level required to complete the field activities for this project. Modified Level C protection may also be required at the discretion of the Site Safety Officer. The following lists summarize the personal protective equipment that shall be available to all field personnel working in the work area:

Level D Protection (shall be worn at all times)

- Boots, steel toe
- Safety glasses, chemical splash goggles, or face shield
- Hard hat
- Work gloves required ☒ optional ☐
- Long leg trousers
- Long sleeves required ☐ optional ☒

Modified Level C Protection (available at all times.)

- Half-face air purifying respirator with organic vapor cartridges to be used should organic vapor concentrations exceed 300 ppm as discussed in Section V of this SSP.
- Hearing protection

VII. SITE CONTROL

The exclusion, contamination reduction, and support zones are shown in Figure 2. these zones shall be marked with natural barriers, cones or tape as appropriate. Personnel without the proper training, personal protective equipment or who have not agreed to follow this SSP shall not be allowed into the exclusion or contamination reduction zones.

VIII. DECONTAMINATION MEASURES

Field personnel shall wash hands and face before entering a clean area. Additional decontamination measures are discussed under General Safe Work Practices (section IX).

IX. GENERAL SAFE WORK PRACTICES

The project operations shall be conducted with the following minimum safety requirements employed:

- Eating, drinking, and smoking shall be restricted to a designated support zone.
- All personnel shall wash hands and face before eating, drinking, or smoking.

X. SANITATION

The location of the nearest running water source and toilet is ON-SITE

A portable potable water cooler orother source of drinking water shall be maintained on site.

XI. STANDARD OPERATING PROCEDURES

The following HETI protocols apply to this scope of work:

Drilling, Well Construction and Sampling Protocols	☒
Soil Vapor Extraction Protocol	☐
Air sparging Protocol	☐

XII EMERGENCY RESPONSE PLAN

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to

_____

In the event of a fire or explosion, local fire or response agencies will be called by dialling 9-1-1. The Project Manager shall also be notified.

Emergency Telephone Numbers:

Fire and Police..... 911
Hospital ..OAKLAND NAVAL HOSPITAL..... (510)633-5000

Directions to Hospital: See Figure 1
TRAVEL NORTHEAST ON 73rd TO MACARTHUR BLVD TURN RIGHT ONTO MACARTHUR BLVD. CONTINUE SOUTH TO 82nd AVE TAKE LEFT ONTO 82nd AVE. TAKE FIRST RIGHT ONTO GOLF LINKS RD. CONTINUE UNTIL FORK IN ROAD. BEAR LEFT AT FORK. CROSS OVER 580 FREEWAY. FOLLOW SIGNS TO OAKLAND NAVAL HOSP. IN FRONT OF YOU.

A fire extinguisher, located in the HETI vehicle will be located on-site during all installation, testing and servicing activities.

Additional Contingency Telephone Numbers:

HETI..... (510) 521-268
All cases where an accident has occurred will require filling out an incident / accident report and submitting it within 48 hours of the accident.

XIII. TRAINING REQUIREMENTS

All site personnel will be required to have completed the 40 hours of basic OSHA-SARA training for personnel assigned to hazardous waste sites in compliance with OSHA Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and all are required to participate in the annual OSHA-SARA 8-hour refresher courses.

XIV. MEDICAL SURVEILLANCE PROGRAM

HETI personnel and subcontractors engaged in field operations shall be participants in their company Medical Surveillance program, and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements under California Administrative Code (CAC) Title 8, Section 5216, which is available at the HETI office for review, shall be observed. Project-specific medical surveillance is ☒ is not ☒ required.

XV. DOCUMENTATION

All personnel shall sign the compliance agreement (Appendix A).

Daily documentation shall be provided by a daily log, completed by the Site Safety Officer in his/her field notebook. The Site Safety Officer shall record the names of all personnel working for HETI and any site visitor(s). (S)he shall also record accidents, illness and other safety related matters. In the case of an accident, or injury, during field operations, (s)he will prepare and submit an Incident/Accident Report.

In case air monitoring is implemented, OVM readings (including times) shall be recorded in the daily log.

SSP prepared by: FRANCES MAROLDI/HETI Date: 10-5-96

SSP Approved by: _____ Date: _____

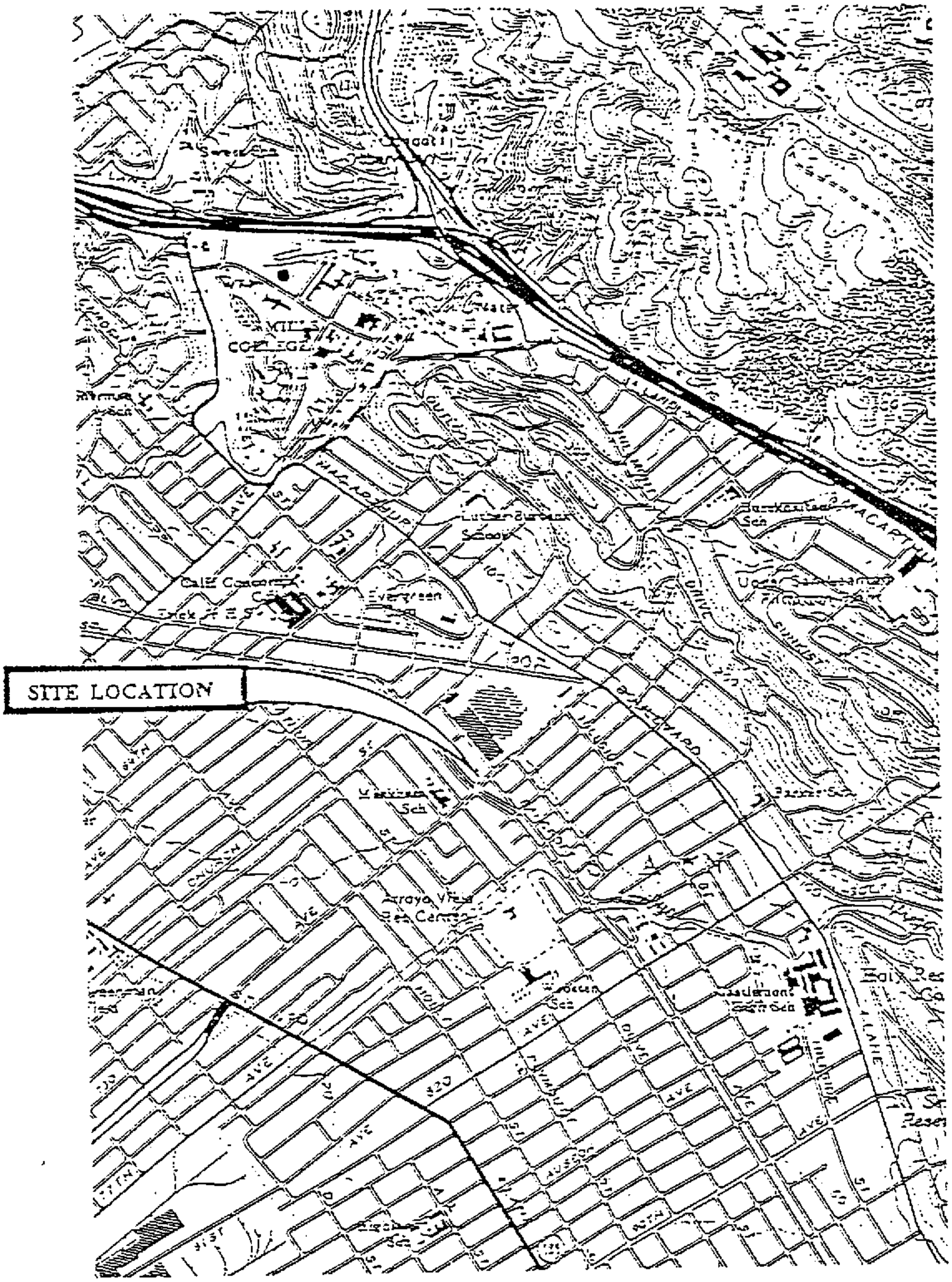
Project Manager

COMPLIANCE AGREEMENT

I have read and understand the Site Safety Plan.

I will comply with the minimum safety requirements set forth in this Site Safety Plan. I agree to notify the responsible employee of HETI should any unsafe acts be witnessed by me while I am on this site.

Print Name	Company	Signature	Date
FRANCES MARONI	HETI	FRANCES MARONI	10-6-94
Eugene Nunes	West Hazmat	Eugene Nunes	10-6-94
John Maddox	West HAZMat	John Maddox	10-6-94

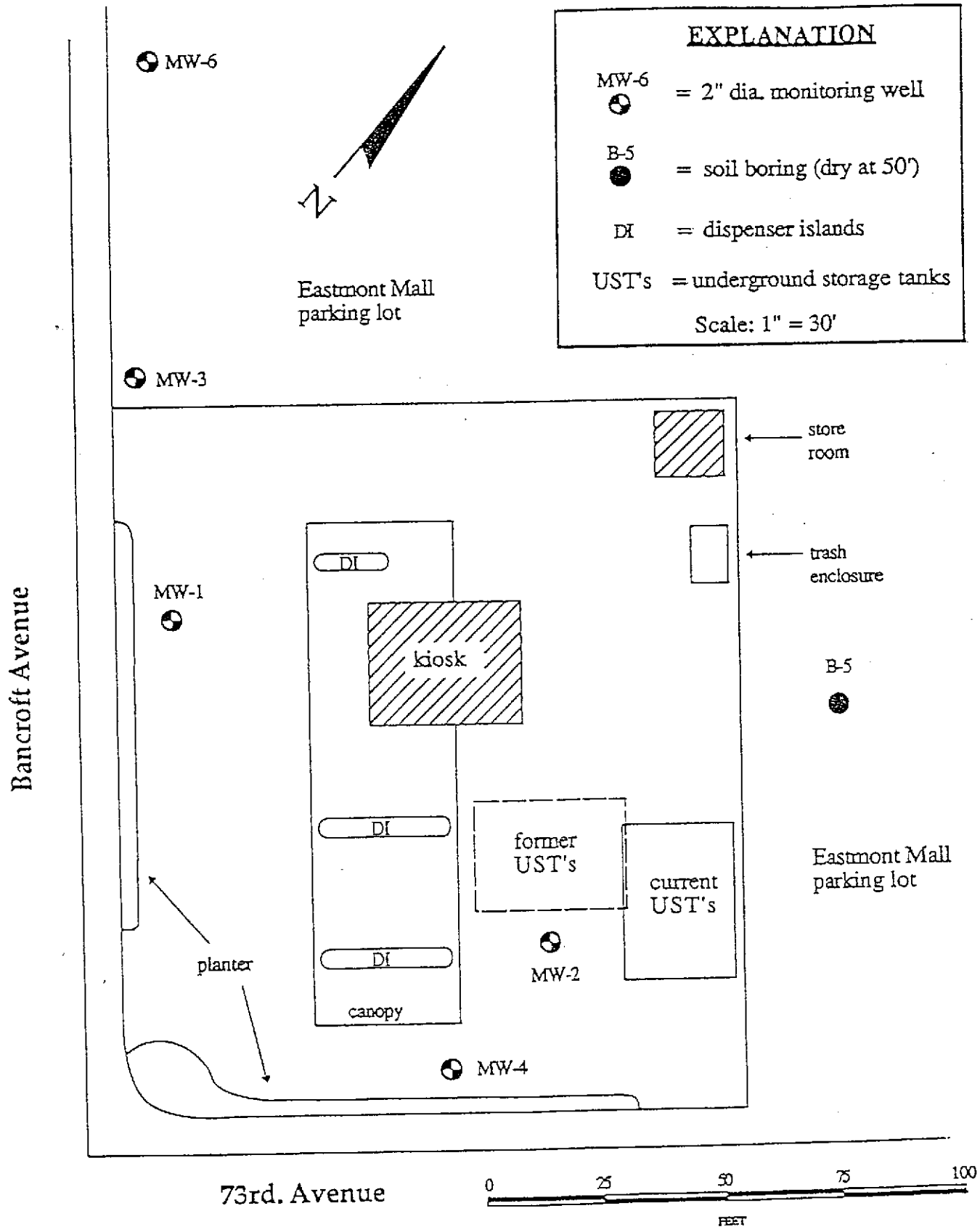


North

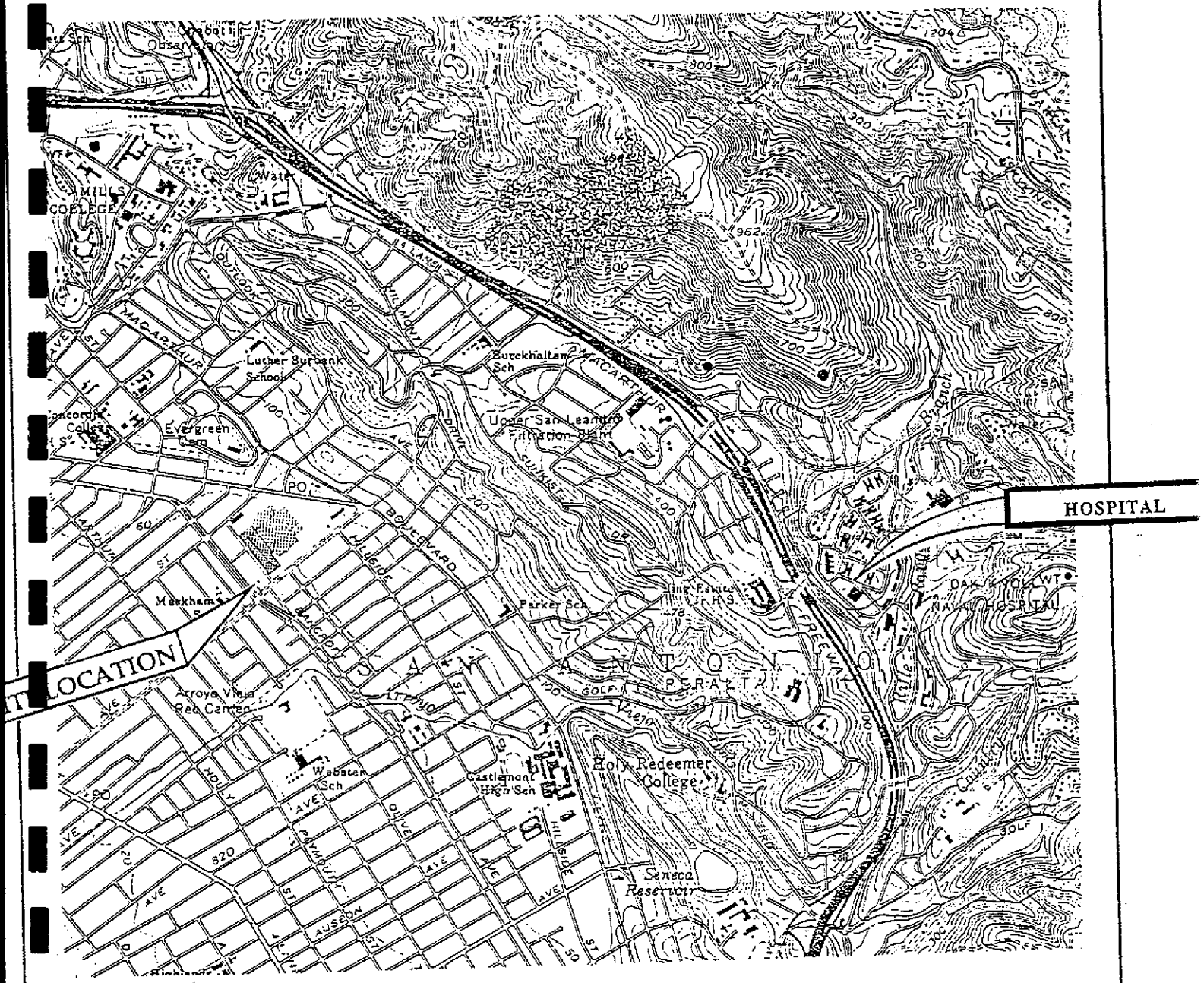
Source: U.S.Geological Survey
7.5 Minute Topographic Map of the
"Oakland East, California" Quadrangle
1959 - Photorevised 1980

0 2000 4000 6000
FEET

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.	SITE LOCATION MAP BP OIL COMPANY SERVICE STATION Nº 11117 7210 BANCROFT AVENUE OAKLAND, CALIFORNIA	Job No. 9-029 Figure 1



HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.	SITE PLAN BP Service Station No. 11117 7210 Bancroft Avenue Oakland, California	Job No. 9-029 Figure 2



Source: U.S.Geological Survey
7.5 Minute Topographic Map of the
"Oakland East, California" Quadrangle
1959 - Photorevised 1980

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.	HOSPITAL LOCATION MAP BP OIL COMPANY SERVICE STATION NO. 11117 7210 BANCROFT AVENUE OAKLAND, CALIFORNIA	Figure 3 9-029 10/94

SITE SAFETY PLAN

FOR

CLIENT: BP OIL CO.

SITE: 7210 BANCROFT AVE Job No: 9-029

ADDRESS: OAKLAND, CA
7310 AVE

SCOPE OF WORK (Check all that apply):

Soil Excavation.....	☐	Soil Stockpile Sampling.....	☐
Drilling.....	☐	Monitoring Well Sampling.....	☒
Testing		System Installation	
Aquifer.....	☐	Ground Water.....	☐
Vapor Extraction.....	☐	Vapor Extraction.....	☐
Air Sparging.....	☐	Air Sparging.....	☐
System Operation and Maintenance...	☐		

PURPOSE AND SCOPE

This Site Safety Plan (SSP) establishes the basic safety guidelines and requirements for the above scope(s) of work at the above site (see Site Location Map - Figure 1). This SSP addresses the expected potential hazards that may be encountered during this project.

The provisions set-forth in this SSP will apply to Hydro-Environmental Technologies, Inc. (HETI) employees and any subcontractors working for HETI at the job site. All personnel working for HETI, including subcontractors, at the job site must read this SSP, and sign the attached Compliance Agreement (Appendix A) before entering the work area.

I. FACILITY BACKGROUND / WORKPLAN

SITE BACKGROUND AND HISTORY:

The site is located at 7210 Bancroft Avenue in Oakland, California (Figure 1) and is currently operated by BP Oil Company (BP). Fuels stored and dispensed at the site have included leaded gasoline, unleaded gasoline and diesel. Unleaded gasoline is currently dispensed from three dispenser islands. Automotive repair is not currently performed at the BP station but was previously conducted at the site when it was a Mobil service station.

Three monitoring wells (MW-1, MW-2 and MW-4) exist on-site, and two monitoring wells (MW-3 and MW-6) exist off-site to the northwest in the adjacent Eastmont Mall

parking lot (Figure 2). Well MW-3 was not installed by HETI. A soil boring (B-5) was drilled to a depth of 50 feet below grade in the mall parking lot northeast of the station. Ground water was not encountered in this boring. Gauging data from the existing wells indicate ground water is present approximately 30 feet below grade, and flows in a generally westerly direction at a gradient of 0.005 ft/ft across the site. Subsurface lithology is characterized primarily by clay, silty clay and sandy clay, with occasional thin layers of clayey sand, silty sand, or sandy gravel.

Total low to medium boiling point petroleum hydrocarbons (TPHg) concentrations detected in soil samples collected during the drilling of MW-4 ranged from 240 to 6,000 parts per million (ppm). TPHg was not detected in concentrations exceeding the analytical method detection limit in soil samples collected and analyzed during the drilling of the other monitoring wells/soil borings.

Monitoring well MW-6 is considered to delineate the downgradient extent of the dissolved hydrocarbon plume, as hydrocarbons were not detected in the soil sample collected from nearest the water table, TPHg was not detected in a ground water sample collected from the well, and benzene was detected at a concentration of only 1.6 ppb.

On October 6, 1994. HETI installed three 2-inch diameter monitoring wells: well (MW-7) in the center median of Bancroft Avenue, well (MW-8) in the north corner of the site, and well (MW-9) off-site to the southeast, across 73rd Avenue in the empty lot.

After well installation and water column stabilization, the depth to water and total depth was measured in each well using an interface probe accurate to 0.01 feet. Each well was checked for the presence of separate-phase petroleum using a clear bailer. The wells were developed by surging with a mechanical block and bailing until pH, temperature and conductivity stabilized, or the development water was relatively free of turbidity. Water generated during well development was stored on-site in labelled 55-gallon drums.

WORKPLAN/FIELD ACTIVITIES:

The new wells (MW-7, MW-8 and MW-9) will be measured for depth of ground water using an electronic water sounder. Prior to sampling, the new wells will be purged of at least three well volumes or until dry, while monitoring the pH, temperature and conductivity for stabilization.

Following recovery of water levels to at least 80% of their static water levels, ground water samples will be collected from the new wells using disposable polyethylene bailers. Samples will be labeled, documented on a chain-of-custody form, and placed in a cooler for transport to PACE Inc. The ground water samples will analyzed for TPHg by EPA Method 8015 (modified) and BTEX by EPA Method 8020 (modified). The elevations of the top-of-casings of the new wells will be surveyed relative to a benchmark on-site and tied in with existing on-site monitoring wells.

II. KEY SAFETY PERSONNEL AND RESPONSIBILITIES

All personnel working for HETI at the job site are responsible for project safety. Specific individual responsibilities are listed below:

Project Manager: SCOTT KELLSTEDT

The Project Manager is responsible for preparation of this SSP. He/she has the authority to provide for the auditing of compliance with the provisions of this SSP, suspend or modify work practices, and to report to the Regional Manager any individuals whose conduct does not meet the provisions presented in this SSP. The Project Manager can be reached at (510) 521-2684.

Site Safety Officer: FRANCES MARCONI

The Site Safety Officer (SSO) is responsible for the dissemination of the information contained in this SSP to all HETI personnel working at the job site, and to the responsible representative(s) of each subcontractor firm working for HETI at the job site.

The SSO is responsible for ensuring the following items are adequately addressed:

- Inspection of tools, drilling equipment and safety equipment
- Safety supplies & equipment inventory
- Site-specific training/hazard communication
- Accident/incident reporting
- Decontamination/contamination reduction procedures

The Site Safety Officer shall be responsible to take necessary steps to ensure that employees are protected from physical hazards, which could include;

- Falling objects such as tools or equipment
- Falls from elevations
- Tripping over hoses, pipes, tools, or equipment
- Slipping on wet or oily surfaces
- Insufficient or faulty protective equipment
- Insufficient or faulty operations, equipment, or tools
- Noise

The SSO has the authority to suspend work anytime he/she determines the safety provisions set-forth in this SSP are inadequate to ensure worker safety. The SSO or Project Manager must be present during all phases of the site work.

SSO Pager Number: (800) 908-3160

III. JOB HAZARD ANALYSIS / SITE CHARACTERIZATION

CHEMICAL HAZARDS:

The hazardous chemicals which may be encountered at the site are petroleum hydrocarbons, including benzene, toluene, ethylbenzene, and xylene. A summary of relevant chemical, physical and toxicological properties for each chemical hazard is discussed below:

Benzene:

Colorless liquid with an aromatic odor.

Vapor pressure	75 mm Hg @ 68 °F
Flash point	12 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	none

Benzene is recognized by the National Institute of Occupational Safety and Health (NIOSH) as a potential human carcinogen.

Benzene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the blood, central nervous system, skin, bone marrow, eyes, and respiratory system. Acute exposure effects include irritation of the eyes, nose, and respiratory system as well as headache, nausea, staggered gait, depression, and abdominal pain. The chronic effect of over-exposure is the potential for cancer.

Toluene:

Colorless liquid with an aromatic odor.

Vapor pressure	22 mm Hg @ 68 °F
Flash point	40 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Toluene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, liver, kidneys, and skin. Acute exposure effects include fatigue, dizziness, headache, euphoria, dilated pupils, paralysis.

Ethylbenzene:

Colorless liquid with an aromatic odor.

Vapor pressure	7.1 mm Hg @ 68 °F
Flash point	55 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Ethylbenzene can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the eyes, upper respiratory system, skin and central nervous system. Acute exposure effects include

irritation of the eyes and mucous membranes, nose, and respiratory system as well as headache, nausea, staggered gait, headache, dermatitis, narcosis and coma.

Xylenes: Colorless liquid with an aromatic odor.

Vapor pressure	8 mm Hg @ 68 °F
Flash point	63° F to 81 °F
Hazard classification	flammable liquid
Permissable exposure limit (PEL)	100 ppm

Xylenes can enter the body through all four routes of exposure: (1) inhalation; (2) adsorption; (3) ingestion; and (4) injection. Target organs are the central nervous system, eyes, gastrointestinal tract, blood, liver, kidneys and skin. Acute exposure effects include dizziness, excitement, drowsiness, incoordination, abdmominal pain, vomiting, and irritation of the eyes, nose and throat.

Other Potentially Hazardous Chemicals:

_____ N/A.

Vapor pressure	____ mm Hg @ 68 °F
Flash point	____ °F
Hazard classification	_____.
Permissable exposure limit (PEL)	_____ ppm
Potential carcinogen	☐

Potential exposure routes:

inhalation ☐ adsorption ☐ ingestion ☐ injection ☐

Exposure effects include: _____

_____

_____

_____

The controls to limit potential for exposure to the above chemical hazards is addressed below:

- o Inhalation of contaminants will be controlled by SEE SECTION V

_____

_____

_____

- o Ingestion of contaminants will be controlled by prohibiting eating, drinking, smoking, and chewing in the work area. In addition, workers shall wash their hands and face before engaging in any of the above activities.

- o Absorption of contaminants will be controlled by SEE SECTION VI

- o Injection of contaminants will be controlled by wearing work gloves in the work area.

FIRE HAZARDS:

The potential for fire or explosion exists whenever flammable liquids or vapors are present above lower explosions limit (LEL) concentrations and sufficient oxygen is present to support combustion. These potential fire hazards are addressed below:

- o The potential exists for petroleum hydrocarbon vapors to exceed LEL concentrations within the wells. However, well-gas generally does not contain sufficient oxygen to support combustion.

- o Other potential fire hazards associated with the scope of work have been mitigated by: N/A

- o In addition to the above, the HETI truck shall have an operative fire extinguisher on board. All personnel shall be familiar with its location and use.

ELECTRICAL HAZARDS:

The potential electrical hazards expected on the job site are addressed below:

- o Expected voltages: N/A
- o No electrical enclosures will be opened unless power is disconnected. Power will be verified disconnected with a meter prior to working on any circuits.

PHYSICAL HAZARDS:

The potential physical hazards expected at the job site are addressed below:

- o The potential for physical injury exists from the operation of moving equipment such as drill rigs, forklifts and trucks. Use of steel toe boots, hard hats, and safety glasses will be required when in the work area. Backup alarms are required on all trucks and forklifts.
- o The potential for physical injury exists from public traffic on the site. The site is ☒ is not ☐ open to public vehicles. Work will ☐ will not ☒ be performed in the public right-of-way. If work is performed in the public right-of-way, orange vests shall be worn, a traffic control plan is attached and an encroachment permit from the appropriate government agency shall be obtained.
- o The potential for burns from hot surfaces exist from the operation of an internal combustion engine ☐, an air compressor ☐. Compressed air piping is hot. All hot surfaces shall be allowed to cool and/or be handled with thick cloth work gloves.
- o The potential for noise hazards exist at the site from the operation of _____.

  It is not expected that noise levels will exceed the acceptable CAL-OSHA permissible exposure level of 90 dB. However, workers should be aware of the presence of these hazards and take steps to avoid them. Ear / noise protection, though not required, shall be available to all personnel within the job site in the event noise levels exceed worker comfort or protection levels.
- o Personnel should be cognizant of the fact that when protective equipment such as respirators, gloves, and/or protective clothing are worn, visibility, hearing, and manual dexterity are impaired.

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The anticipated weather conditions will be: sunny, 70's F.

The potential for heat stress is present if the temperature exceeds 80°F. Some signs and symptoms of heat stress are presented below:

- Heat rash may result from continuous exposure to heat or humid air.
- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms, heavy sweating, dizziness, nausea and fainting.
- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea and fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occurs. Competent medical help must be obtained. Signs and symptoms are: red, hot, unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse and coma.

Preventing heat stress is particularly important because once someone suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat injuries. To avoid heat stress the following steps shall be taken whenever the ambiant temperature is over 80 °F:

1) Field personnel shall have a work/rest cycle of 2 hours work, 15 minutes rest.

2) The Site Safety Officer shall mandate work slowdowns as needed.

IV. JOB HAZARD SUMMARY

In summary, the expected potential hazards to personnel working in the work area are (Check all that apply):

(1) Over exposure to chemical contaminants	☒
(2) Physical injury from equipment being operated at job site	☒
(3) Public traffic	☒
(4) Hot surfaces	☐
(5) Heat stress	☐
(6) Fire	☐
(7) Electrical shock	☐
(8) Other	☐

As described in Section III - Job Hazard Analysis, these potential hazards have been mitigated for the protection of both the worker health and safety. The proposed work does not appear to present any potential health risk to workers, the surrounding community, or the environment.

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hydrocarbon concentrations in the area exceed 300 ppm, the Site Safety Officer shall require personnel in the work area to wear respirators with organic vapor cartridges (MSA 464046, or equivalent).

The manufacturer's calibration procedures for the Model 580B OVM are located within the instrument case. Field calibration shall be performed daily during use.

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Field personnel shall be cautioned to inform each other of non-visual effects of the presence of toxins, such as: headaches, dizziness, nausea, blurred vision, cramps, irritation of eyes, skin, or respiratory tract, changes in complexion or skin discoloration, changes in apparent motor coordination, changes in personality or demeanor, excessive salivation or changes in pupillary response or hanges in speech ability or pattern.

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Level D personal protection equipment is expected to be the highest protective level required to complete the field activities for this project. Modified Level C protection may also be required at the discretion of the Site Safety Officer. The following lists summarize the personal protective equipment that shall be available to all field personnel working in the work area:

Level D Protection (shall be worn at all times)

- Boots, steel toe
- Safety glasses, chemical splash goggles, or face shield
- Hard hat
- Work gloves required ☒ optional ☐
- Long leg trousers
- Long sleeves required ☐ optional ☒

Modified Level C Protection (available at all times.)

- Half-face air purifying respirator with organic vapor cartridges to be used should organic vapor concentrations exceed 300 ppm as discussed in Section V of this SSP.
- Hearing protection

VII. SITE CONTROL

The exclusion, contamination reduction, and support zones are shown in Figure 2. these zones shall be marked with natural barriers, cones or tape as appropriate. Personnel without the proper training, personal protective equipment or who have not agreed to follow this SSP shall not be allowed into the exclusion or contamination reduction zones.

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Field personnel shall wash hands and face before entering a clean area. Additional decontamination measures are discussed under General Safe Work Practices (section IX).

IX. GENERAL SAFE WORK PRACTICES

The project operations shall be conducted with the following minimum safety requirements employed:

- Eating, drinking, and smoking shall be restricted to a designated support zone.
- All personnel shall wash hands and face before eating, drinking, or smoking.

X. SANITATION

The location of the nearest running water source and toilet is ON-SITE

A portable potable water cooler orother source of drinking water shall be maintained on site.

XI. STANDARD OPERATING PROCEDURES

The following HETI protocols apply to this scope of work:

Drilling, Well Construction and Sampling Protocols	☒
Soil Vapor Extraction Protocol	☐
Air sparging Protocol	☐

XII EMERGENCY RESPONSE PLAN

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to

OAK VLOLL NAVAL HOSPITAL

In the event of a fire or explosion, local fire or response agencies will be called by dialling 9-1-1. The Project Manager shall also be notified.

Emergency Telephone Numbers:

Fire and Police..... 911
Hospital ..... (510) 633-5000

Directions to Hospital: See Figure 1

TRAVEL NE ON 73rd TO MACARTHUR BLVD. TURN @ RIGHT & CONT ON MACARTHUR UNTIL 82nd AVE. TAKE @ LEFT ONTO 82nd, TAKE FIRST @ RIGHT ONTO GOLF LINKS RD. AT THE FORK IN THE ROAD, BEAR @ LEFT. CROSS OVER 580 HWY. FOLLOW SIGNS TO OAK VLOLL NAVAL HOSP. IN FRONT OF YOU.

A fire extinguisher, located in the HETI vehicle will be located on-site during all installation, testing and servicing activities.

Additional Contingency Telephone Numbers:

HETI..... (510) 521-268
All cases where an accident has occurred will require filling out an incident / accident report and submitting it within 48 hours of the accident.

XIII. TRAINING REQUIREMENTS

All site personnel will be required to have completed the 40 hours of basic OSHA-SARA training for personnel assigned to hazardous waste sites in compliance with OSHA Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and all are required to participate in the annual OSHA-SARA 8-hour refresher courses.

XIV. MEDICAL SURVEILLANCE PROGRAM

HETI personnel and subcontractors engaged in field operations shall be participants in their company Medical Surveillance program, and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements under California Administrative Code (CAC) Title 8, Section 5216, which is available at the HETI office for review, shall be observed. Project-specific medical surveillance is ☐ is not ☒ required.

XV. DOCUMENTATION

All personnel shall sign the compliance agreement (Appendix A).

Daily documentation shall be provided by a daily log, completed by the Site Safety Officer in his/her field notebook. The Site Safety Officer shall record the names of all personnel working for HETI and any site visitor(s). (S)he shall also record accidents, illness and other safety related matters. In the case of an accident, or injury, during field operations, (s)he will prepare and submit an Incident/Accident Report.

In case air monitoring is implemented, OVM readings (including times) shall be recorded in the daily log.

SSP prepared by: FRANCES MARTIN Date: 10.12.94

SSP Approved by: [signature] Date: ____________

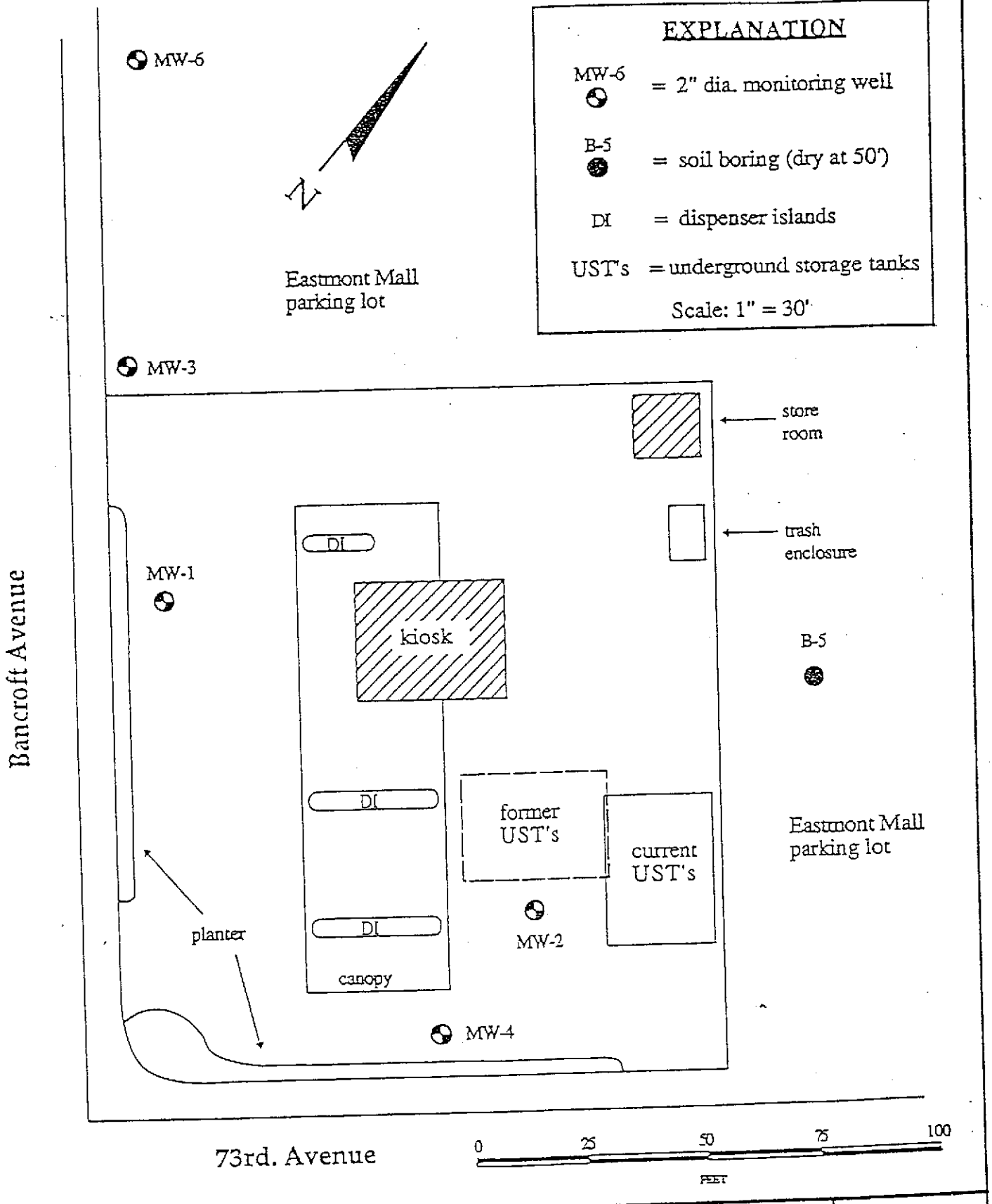
Project Manager

COMPLIANCE AGREEMENT

I have read and understand the Site Safety Plan.

I will comply with the minimum safety requirements set forth in this Site Safety Plan. I agree to notify the responsible employee of HETI should any unsafe acts be witnessed by me while I am on this site.

Print Name	Company	Signature	Date
HOA TRINH	HETI		10-20-94
FRANCES MARONI	HETI	FRANCES MARONI	10-20-94



HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.	SITE PLAN BP Service Station No. 11117 7210 Bancroft Avenue Oakland, California	Job No. 9-029 Figure 2

PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600 FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 7210 BALCOM AVE. OAKLAND

CLIENT
Name BP OIL CO
Address 2955 W. 41st ST Voice
City RENTON, WA Zip 98055

APPLICANT
Name HYDRO ENVIRONMENTAL TECH Fax (510) 521-5018
Address 2363 MARIPOSA Voice
City ALAMEDA CA Zip 94501

TYPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring ✓
Geotechnical Investigation
General ___
Contamination ___
Well Destruction ___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other N/A
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger HOLLOW STEM
Cable ___ Other ___

DRILLER'S LICENSE NO. C57-556979

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum Depth 45 ft.
Casing Diameter 2 in. Number 3
Surface Seal Depth 20-28 ft.

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum Depth ___ ft.
Hole Diameter ___ in.

ESTIMATED STARTING DATE 9/7/94
ESTIMATED COMPLETION DATE 9/9/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE FRANCES MARQUEZ Date 8-25-94

FOR OFFICE USE

PERMIT NUMBER 94523
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Craig A. Mayfield Date 7-Sep-94

91992

350-2 (REV. 6/90)

CITY OF OAKLAND
PERMIT TO EXCAVATE IN STREETS OR OTHER WORK AS SPECIFIED

LOCATION OF WORK: 7210 BANCROFT AVENUE (Street or Address) BETWEEN 73rd (Street/Ave.) AND _____ (Specify)

PERMISSION TO EXCAVATE IN THE PUBLIC RIGHT-OF-WAY IS HEREBY GRANTED TO:

APPLICANT BP OIL CO

ADDRESS 295 S.W. 41ST ST. BLVD. SUITE A, RENTON WA 98055 PHONE #: _____

TYPE OF WORK: GAS____ ELECTRIC____ WATER____ TELEPHONE____ CABLE TV____ SEWER____ OTHER SOIL/WATER INVESTIGATION (Specify)

NATURE OF WORK: INSTALLATION OF A GROUND WATER MONITORING WELL

PERMIT VOID 90 DAYS FROM DATE OF ISSUE UNLESS EXTENSION GRANTED BY DIRECTOR OF PUBLIC WORKS.

Approximate Starting Date	DATE SEPT 20 94	
Approximate Completion Date	DATE SEPT 23 94	
HOLIDAY RESTRICTION (1 NOV — 1 JAN)	YES____	NO X
LIMITED OPERATION AREA (7AM – 9AM / 4PM – 6PM)	YES X	NO____
DATE STREET LAST RESURFACED	DATE____	
SPECIAL PAVING DETAIL REQUIRED	YES____	NO X

24-HOUR EMERGENCY PHONE NUMBER 510-486-1686
PERMIT NOT VALID WITHOUT 24 HOUR NUMBER.

Telephone 238-3668 Forty-eight (48) HOURS BEFORE ACTUAL CONSTRUCTION.

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to it's issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 70044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale. (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption in this subdivision on more than two structures more than once during any three-year period. (Sec. 7044, Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law).

☐ I am exempt under Sec. _____, B&PC. for this reason _____

Signature _____ Date _____

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab C).

Policy # CJ7590674 Company Name Industrial Indemnity

☐ Certified copy is hereby furnished.

☒ Certified copy is filed with the city building inspection dept.

Signature Timothy J Cahill Date 9-8-94

(This section need not be completed if the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Signature _____ Date _____

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith imply with such provisions or this permit shall be deemed revoked.

ATTENTION

State law requires that contractor/owner call Underground Service Alert two working days before excavating to have below-ground utilities located. This permit is not valid uness applicant has secured an Inquiry Identification number issued by Underground Service Alert.

Call Toll Free: 800-642-2444 USA ID Number #299

This permit issued pursuant to all provisions of Chapter 6, Article 2 of the Oakland Municipal Code.

This permit is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance.

CONTRACTOR

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

LICENSE # AND CLASS C-57 554979 CITY BUSINESS TAX #_____

X Timothy J Cahill Date 9-8-94
Signature of Contractor Owner or Agent

☐ Agent for ☒ Contractor ☐ Owner

OFFICIAL USE ONLY

UTILITY COMPANY REPORT

Supervisor _____

Completion Date _____

CITY INSPECTOR'S REPORT

	BACKFILL	PAVING
Initials		
Hours		
Date		
Concrete		
Asphalt		
Sidewalk		

Size of Cut: Sq. Ft. _____ Inches _____

Paved by _____ Type _____

Bill No. _____

Charges Backfill _____
Paving _____
Paving Insp. _____

Traffic Striping Replaced _____ Date

APPROVED

Engineering Services _____ Date _____

Planning _____ Date _____

Field Services _____ Date _____

Construction _____ Date _____

Traffic Engineering _____ Date _____

Electrical Engineering _____ Date _____

DIRECTOR OF PUBLIC WORKS

APPROVED BY: _____

DATE: _____

EXTENSION GRANTED BY: _____

DATE: _____

FILE 9-079.1
PERMITS

City of Oakland
Director of Planning & Building
1330 Broadway, 2nd Floor
Oakland, CA 94612

When Recorded Mail to:
Director of Planning & Building
City of Oakland
1330 Broadway, 2nd Floor
Oakland, CA 94612

TAX ROLL PARCEL NUMBER
(ASSESSOR'S REFERENCE NUMBER)

039	3299	002	02
MAP	BLOCK	PARCEL	SUB

SPACE ABOVE FOR RECORDER'S USE ONLY

Address: 7210 Bancroft Ave., Oakland

MINOR ENCROACHMENT PERMIT AND AGREEMENT

BP Exploration & Oil Inc., formerly known as BP Oil Company, lessee of that certain real property commonly known as 7210 Bancroft Avenue, is hereby granted a Conditional Revocable Permit to encroach into the public right-of-way of Bancroft Avenue with one monitoring well. The location of said encroachment shall be as delineated in Exhibit 'A' attached hereto and made a part hereof.

The permittee agrees to comply with and be bound by the conditions for granting an Encroachment Permit attached hereto and made a part hereof.

This agreement shall be binding upon the undersigned and their successors in interest thereof.

In witness whereof, I (we), the representative(s) of BP Exploration & Oil Inc., have set my (our) signature(s) this 15th day of July , 1994 .

BP EXPLORATION & OIL INC.

By: R. K. Purvis
Name: R.K. Purvis
Title: Sr. Vice President, Retail Marketing

By: P. W. Brasse
Name: P.W. Brasse
Title: Manager, Real Estate

By: L. G. Woodley
Name: L.G. Woodley
Title: Manager, Divestment

By: J. C. Taylor
Name: J.C. Taylor
Title: Manager, Divestment

APPROVED
AS TO FORM
AS TO FORM-SM

BELOW FOR OFFICIAL USE ONLY

Dated _____

By: _____
CALVIN N. WONG
Acting Deputy Director
Building Services
For
KAY WINER
Director of Planning & Building

RT:rt
FILE: BANCROFT.MW\PER&AGRT.REV(6)

CALIFORNIA ALL-PURP SE ACKNOWLEDGMENT

No. 5907

State of OHIO

County of CUYAHOGA

On July 15, 1994 (DATE) before me, Alice M. Peavy (NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC")

personally appeared * R.K. Purvis, ** P.W. Brasse, *** L.G. Woodley, and **** J.C. Taylor (NAME(S) OF SIGNER(S))

[X] personally known to me - OR - [ ] proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

* R.K. Purvis, Sr. Vice President, Retail Marketing

** P.W. Brasse, Manager, Real Estate

*** L.G. Woodley, Manager, Divestment

**** J.C. Taylor, Manager, Divestment

WITNESS my hand and official seal.

Alice M. Peavy

SIGNATURE OF NOTARY

ALICE M. PEAVY
Notary Public, State of Ohio, Cuy. Cty.
My Commission Expires Oct. 3, 1998

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

- [ ] INDIVIDUAL
- [ ] CORPORATE OFFICER

_______________ TITLE(S)

- [ ] PARTNER(S) [ ] LIMITED [ ] GENERAL
- [ ] ATTORNEY-IN-FACT
- [ ] TRUSTEE(S)
- [ ] GUARDIAN/CONSERVATOR
- [ ] OTHER: _______________

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

DESCRIPTION OF ATTACHED DOCUMENT

____
TITLE OR TYPE OF DOCUMENT

____
NUMBER OF PAGES

____
DATE OF DOCUMENT

____
SIGNER(S) OTHER THAN NAMED ABOVE

TO: BP Exploration & Oil Inc.
(APN: 039-3299-002-02)

Address: 16400 Southcenter Parkway, Suite 301, Tukwila, WA 98188

RE: Minor Encroachment Permit for 7210 Bancroft Ave.

CONDITIONS FOR GRANTING A MINOR ENCROACHMENT PERMIT

1. That this permit shall be revocable at the pleasure of the Director of Planning & Building.

2. That the permittee, by the acceptance, either expressed or implied, of the minor encroachment permit hereby disclaims any right, title, or interest in or to any portion of the public sidewalk or street area, and agrees that said temporary use of said area does not constitute an abandonment on the part of the City of Oakland of any of its rights for street purposes and otherwise.

3. The permittee shall be considered self-insured. The permittee shall maintain in force and effect at all times that said encroachment occupies said public right-of-way, good and sufficient fund to cover public liability and property damage, both including contractual liability insuring the City of Oakland against any and all claims arising out of the existence of said encroachment in said public right-of-way area.

4. That the permittee, by the acceptance, either expressed or implied, of this revocable permit shall be solely and fully responsible for the repair or replacement of any portion or all of said improvements in the event that said improvements shall have failed or have been damaged to the extent of creating a menace or of becoming a hazard to the safety of the general public; and that the permittee shall be liable for the expenses connected therewith.

5. That upon the termination of the permission herein granted, permittee shall immediately remove said encroachment from the sidewalk and street area, and any damage resulting therefrom shall be repaired to the satisfaction of the Director of Planning & Building.

6. That the permittee shall file with the City of Oakland for recordation a Minor Encroachment Permit and Agreement, and shall be bound by and comply with all the terms and conditions of said permit.

7. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the Director of Planning & Building, and shall become null and void upon the failure of the permittee to comply with all conditions hereinabove set forth.

8. That said permittee shall obtain an excavation permit prior to the construction and a separate excavation permit prior to the removal of the ground water monitoring well.

9. That the ground water monitoring well casting and cover shall be cast iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface. For sidewalk installations, a precast concrete utility box and non-skid cover may be used in conjunction with the bolted cast iron cover with City approval.

10. That monitoring well cover installed within the sidewalk area shall have a skidproof surface.

11. (a) That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the ground water monitoring well and the results of all data collected from the monitoring well.

(b) That said permittee shall provide to the City of Oakland a performance bond for the amount of $3,000 per each monitoring well encroaching within the public right-of-way. Said perfomance bond shall be returned to the permittee after the monitoring is complete and the monitoring well is/are removed and the street area is restored.

12. That said permittee shall remove the monitoring well and repair any damage to the street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.

13. That said permittee shall notify the Office of Planning & Building after the monitoring well is/are removed and the street area restored to initiate the procedure to rescind the minor encroachment permit.

14. That the permittee acknowledges that the City makes no representations or warranties as to the conditions beneath said encroachment. By accepting this revocable permit, permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittees, underground utilities,

contractors, or workmen operating within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.

15. That the permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area, and hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition, or required remediation of the excavation area or any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901 et seq.), the Clean Water Act (33 U.S.C. Section 466 et Seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401-1450), the Hazardous Materials Transportation Act (49 U.S.C. Section 1801 et seq.), the Toxic Substance Control Act (15 U.S.C. Sections 2601-2629), the California Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Section 25300 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).

16. Permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR ~~AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN~~ BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."

Mistake sent 8/23/94 → (SH)

17. Permittee recognizes that by waiving the provisions of this section, permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect his/her decision to execute this encroachment agreement, regardless of whether permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.

18. (a) That the permittee, by the acceptance of this revocable

permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims"), whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were either (1) caused by the permittee, its agents, employees, contractors or representatives; or, (2) in the case of environmental contamination, the claim is a result of environmental contamination that emanates or emanated from the 7210 Bancroft Avenue, Oakland, California site, and was otherwise caused by the permittee, its agents, employees, contractors or representatives.

(b) That the permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.

19. That the hereinabove conditions shall be binding upon the permittee and their successors and assigns thereof.

Ætna LIFE & CASUALTY

LICENSE OR PERMIT BOND

THE ÆTNA CASUALTY AND SURETY COMPANY
Hartford, Connecticut 06115

Bond #2S100302630-681
Site #11117 - 7210 Bancroft Ave.

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, BP Exploration & Oil Inc. dba BP Oil Company, as Principal, and THE ÆTNA CASUALTY AND SURETY COMPANY, a corporation duly incorporated under the laws of the State of Connecticut, and authorized to do business in the State of California, as Surety, are held and firmly bound unto the City of Oakland, California in the penal sum of Three thousand and no/100 --------- ($ 3,000.00) Dollars, for the payment of which we hereby bind ourselves, our heirs, executors and administrators, jointly and severally by these presents.

THE CONDITIONS OF THIS BOND ARE SUCH, that the said Principal has applied for a license as/for encroachment permit in accordance with the requirements of the ordinance of said City of Oakland, California, and has agreed to hold said City of Oakland, California harmless from any damage by reason of his/her engaging in said business.

NOW, THEREFORE, if said Principal shall faithfully perform all the duties of encroachment permit according to the requirements of the ordinance of said City of Oakland, California, and protect said City of Oakland, California from any damage as hereinbefore stated, then this obligation shall be null and void; otherwise to remain in full force and effect.

This bond may be terminated as to future acts of the Principal upon thirty (30) days written notice by the Surety; said notice to be sent to Director of Planning & Building of the aforesaid City of Oakland, California by certified mail.

This bond becomes effective on the 4th day of August, 19 94 xxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxx until cancelled.

DATED: August 4, 1994

BP EXPLORATION & OIL INC. DBA
BP OIL COMPANY
Principal

By [signature]
Title

THE ÆTNA CASUALTY AND SURETY COMPANY

By [signature]
Monica H. Peres, Attorney-in-Fact

.(S-2161-A) 11-75

CAT. 405434
PRINTED IN U.S.A.

instrument is such corporate seal; and that [illegible] the said instrument on behalf of the corporation by authority of [illegible] office under the Standing Resolutions thereof.

[signature]
My commission expires November 30, 19[illegible] Notary Public
Rosalind R. Christie

CERTIFICATE

I, the undersigned, Secretary of THE AETNA CASUALTY AND SURETY COMPANY, a stock corporation of the State of Connecticut, DO HEREBY CERTIFY that the foregoing and attached Power of Attorney and Certificate of Authority remains in full force and has not been revoked; and furthermore, that the Standing Resolutions of the Board of Directors, as set forth in the Certificate of Authority, are now in force.

Signed and Sealed at the Home Office of the Company, in the City of Hartford, State of Connecticut. Dated this 4th day of August, 19 94

By [signature]
William T. DiRoberts
Secretary

POWER OF ATTORNEY AND CERTIFICATE OF AUTHORITY OF ATTORNEY(S)-IN-FACT

KNOW ALL MEN BY THESE PRESENTS, THAT THE AETNA CASUALTY AND SURETY COMPANY, a corporation duly organized under the laws of the State of Connecticut, and having its principal office in the City of Hartford, County of Hartford, State of Connecticut, hath made, constituted and appointed, and does by these presents make, constitute and appoint

Margaret A. Smith, Monica E. Peres, Richard P. Southworth
James M. Yancher *

of Cleveland, OH, its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred to sign, execute and acknowledge, at any place within the United States, or, if the following line be filled in, within the area there designated , the following instrument(s):
by his/her sole signature and act, any and all bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking and any and all consents incidents thereto

and to bind THE AETNA CASUALTY AND SURETY COMPANY, thereby as fully and to the same extent as if the same were signed by the duly authorized officers of THE AETNA CASUALTY AND SURETY COMPANY, and all the acts of said Attorney(s)-in-Fact, pursuant to the authority herein given, are hereby ratified and confirmed.

This appointment is made under and by authority of the following Standing Resolutions of said Company, which Resolutions are now in full force and effect:

VOTED: That each of the following officers: Chairman, Vice Chairman, President, Any Executive Vice President, Any Group Executive, Any Senior Vice President, Any Vice President, Any Assistant Vice President, Any Secretary, Any Assistant Secretary, may from time to time appoint Resident Vice Presidents, Resident Assistant Secretaries, Attorneys-in-Fact, and Agents to act for and on behalf of the Company and may give any such appointee such authority as his certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors may at any time remove any such appointee and revoke the power and authority given him or her.

VOTED: That any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the Chairman, the Vice Chairman, the President, an Executive Vice President, a Group Executive, a Senior Vice President, a Vice President, an Assistant Vice President or by a Resident Vice President, pursuant to the power prescribed in the certificate of authority of such Resident Vice President, and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary or by a Resident Assistant Secretary, pursuant to the power prescribed in the certificate of authority of such Resident Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact pursuant to the power prescribed in his or their certificate or certificates of authority.

This Power of Attorney and Certificate of Authority is signed and sealed by facsimile under and by authority of the following Standing Resolution voted by the Board of Directors of THE AETNA CASUALTY AND SURETY COMPANY, which Resolution is now in full force and effect:

VOTED: That the signature of each of the following officers: Chairman, Vice Chairman, President, Any Executive Vice President, Any Group Executive, Any Senior Vice President, Any Vice President, Any Assistant Vice President, Any Secretary, Any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, THE AETNA CASUALTY AND SURETY COMPANY has caused this instrument to be signed by its Assistant Vice President, and its corporate seal to be hereto affixed this 27th day of January, 19 94

THE AETNA CASUALTY AND SURETY COMPANY

By George W. Thompson
Assistant Vice President

State of Connecticut } ss. Hartford
County of Hartford }

On this 27th day of January, 19 94, before me personally came GEORGE W. THOMPSON to me known, who, being by me duly sworn, did depose and say: that he/she is Assistant Vice President of THE AETNA CASUALTY AND SURETY COMPANY, the corporation described in and which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; and that he/she executed the said instrument on behalf of the corporation by authority of his/her office under the Standing Resolutions thereof.

Roseland R. Christie
My commission expires November 30, 1994 Notary Public
Roseland R. Christie

CERTIFICATE

I, the undersigned, Secretary of THE AETNA CASUALTY AND SURETY COMPANY, a stock corporation of the State of Connecticut, DO HEREBY CERTIFY that the foregoing and attached Power of Attorney and Certificate of Authority remains in full force and has not been revoked; and furthermore, that the Standing Resolutions of the Board of Directors, as set forth in the Certificate of Authority, are now in force.

Signed and Sealed at the Home Office of the Company, in the City of Hartford, State of Connecticut. Dated this 4th day of August, 19 94

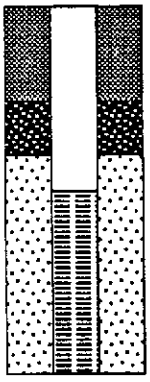
By William T. DiRoberts
William T. DiRoberts
Secretary

S-1922-FIMI (3-93)

UNIFIED SOIL CLASSIFICATION SYSTEM - VISUAL CLASSIFICATION OF SOILS
(ASTM D-2488)

MAJOR DIVISIONS		GROUP SYMBOL	GROUP NAME	DESCRIPTION
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravel Well-graded gravel with sand	Well-graded gravels or gravel-sand mixtures, little or no fines.
		GP	Poorly-graded gravel Poorly-graded gravel with sand	Poorly-graded gravels or gravel sand mixture, little or no fines.
		GM	Silty gravel Silty gravel with sand	Silty gravels, gravel-sand-silt mixtures.
		GC	Clayey gravel Clayey gravel with sand	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	SW	Well-graded sand Well-graded sand with gravel	Well-graded sands or gravelly sands, little or no fines.
		SP	Poorly-graded sand Poorly-graded sand with gravel	Poorly-graded sands or gravelly sands, little or no fines.
		SM	Silty sand Silty sand with gravel	Silty sands, sand-silt mixtures.
		SC	Clayey sand Clayey sand with gravel	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS	SILTS AND CLAYS	ML	Silt; Silt with sand; Silt with gravel; Sandy silt; Sandy silt with gravel; Gravelly silt; Gravelly silt with sand	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL	Lean clay; Lean clay with sand; Lean clay with gravel Sandy lean clay; Sandy lean clay with gravel Gravelly lean clay; Gravelly lean clay with sand	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	ELASTIC SILTS AND CLAYS	MH	Elastic silt; Elastic silt with sand; Elastic silt with gravel Sandy elastic silt; Sandy elastic silt with gravel Gravelly elastic silt; Gravelly elastic silt with sand	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH	Fat clay; Fat clay with sand; Fat clay with gravel Sandy fat clay; Sandy fat clay with gravel Gravelly fat clay; Gravelly fat clay with sand	Inorganic clays of high plasticity, fat clays.
HIGHLY ORGANIC SOILS		OL/OH	Organic soil; Organic soil with sand; Organic soil with gravel Sandy organic soil; Sandy organic soil with gravel Gravelly organic soil; Gravelly organic soil with sand	Organic silts and organic silt-clays of low plasticity Organic clays of medium to high plasticity.
		Pt	Peat	Peat and other highly organic soils.
BEDROCK		Br	Bedrock	Igneous, metamorphic and sedimentary rocks

WELL CONSTRUCTION DETAILS



= Cement

= Bentonite

= Filter pack

= PVC Blank

= PVC Screen

NOTE: Blow count represents the number of blows of a 140-lb hammer falling 30 inches per blow required to drive a sampler through the last 12 inches of an 18-inch penetration.

No warranty is provided as to the continuity of soil strata between borings. Logs represent the soil section observed at the boring location on the date of drilling only.

S = Sampler sank into medium under the weight of the hammer (no blow count)
P = Sampler was pushed into medium by drilling rig (no blow count)
NR = No Recovery

Approximate first encountered water level

Approximate stabilized water level

Retained for Analysis — Sample Interval

SANDS & GRAVELS	BLOWS/FT
VERY LOOSE	0 - 5
LOOSE	5 - 12
MED. DENSE	12 - 37
DENSE	37 - 62
VERY DENSE	OVER 62

SILTS & CLAYS	BLOWS/FT
SOFT	0 - 5
FIRM	5 - 10
STIFF	10 - 20
VERY STIFF	20 - 40
HARD	OVER 40

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SOIL BORING AND WELL CONSTRUCTION LOG LEGEND

APPENDIX C

PLATE C-1

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
BP/7210 Bancroft Ave, Oakland	10/6/94	8"	90°	MW-7
DRILLING CONTRACTOR	**COMPLETED**	**FIRST ENCOUNTERED WATER DEPTH**		**BOTTOM OF BORING**
West Hazmat Drilling Corp.	10/6/94	31.0' damp		45.0'
DRILL MAKE & MODEL	**OPERATOR**	**LOGGED BY**	**STATIC WATER DEPTH/DATE**	**WELL NO.**
Mobile B-57	Eugene Nunes	F. Maroni	43.67' 10/10/94	MW-7
WELL MATERIAL	**SLOT SIZE**	**SAMPLING METHOD**		**BOTTOM OF WELL**
PVC Sch 40	0.020"	CA Modified Split Spoon		45.0'
FILTER PACK	**WELL SEAL**			**PLANNED USE**
#3 Monterey Sand	Bentonite			Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					3" Asphalt over baserock; Gravel (GP) with some reddish brown clay.
		2					
		3					Silty CLAY (CL); very dark brown, stiff, dry.
		4					
88	0.0	5					Sandy CLAY (CL); yellow brown, very stiff; trace very fine grained sand, dry.
		6					
		7					
		8					
		9					
65	0.0	10					Sandy CLAY (CL); reddish brown, iron oxide deposits, black streaks like coal, well graded coarse grained, subangular to angular sand; few gravel, dry.
		11					
		12					
		13					Clayey SAND (SC); brown, well graded coarse sand, some subangular to angular gravel, some fine-grained sand, moist.
		14					
90	0.0	15					
		16					Gravelly CLAY (CL); brown, iron oxide deposits, some coarse gravel, few coarse sand.
		17					
		18					
		19					
57	0.0	20					Sandy CLAY (CL); brown, medium stiff, well graded coarse sand, some angular to subangular gravel, dry.
		21					
		22					
		23					
		24					
50 w/ 5" rec.	0.0	25					Encountered rock/gravel (GP) at 25.5 feet. Drilled out to 26.5 ft.
		26					
		MW-7-25' 27					Sandy CLAY (CL); brown, stiff, well graded, subangular to angular, coarse grained sand; some fine grained angular gravel; few fine grained sand.
50 w/ 10" rec.		28					
		29					
		30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 10/12/94

APPROVED BY: SP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-7

PLATE C-1

SHEET 1 OF 2

JOB NO. 9-029

SITE/LOCATION		BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
BP/7210 Bancroft Ave, Oakland		10/6/94	8"	90°	MW-7
DRILLING CONTRACTOR		COMPLETED	FIRST ENCOUNTERED WATER DEPTH		BOTTOM OF BORING
West Hazmat Drilling Corp.		10/6/94	31.0' damp		45.0'
DRILL MAKE & MODEL	OPERATOR	LOGGED BY	STATIC WATER DEPTH/DATE		WELL NO.
Mobile B-57	Eugene Nunes	F. Maroni	43.67' 10/10/94		MW-7
WELL MATERIAL	SLOT SIZE	SAMPLING METHOD			BOTTOM OF WELL
PVC Sch 40	0.020"	CA Modified Split Spoon			45.0'
FILTER PACK	WELL SEAL				PLANNED USE
#3 Monterey Sand	Bentonite				Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31					Sandy CLAY (CL); brown, stiff, medium to coarse grained, subangular to subrounded sand; some fine grained to coarse grained, angular to subangular gravel, damp.
		32					
		33					
		34					
50 w/ 6" rec.	0.0	35					
		36					CLAY (CL); yellowish brown, very stiff, damp.
		37					
		38					
		39					
85 w/ 8" rec.	0.0	40					Silty CLAY (CL); yellowish orange, very stiff, moist.
		41					
		42					Gravelly CLAY (CL); yellowish brown, fine to coarse grained angular gravel; some medium to coarse grained sand, moist.
		43		▼			
		44					
82		45					CLAY (CL); yellowish brown, trace fine grained sand.
							T.D. = 45.0"

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 10/31/94

APPROVED BY: GP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-7

PLATE C-1

SHEET 2 OF 2

JOB NO. 9-029

SITE/LOCATION		BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
BP/7210 Bancroft Ave, Oakland		10/6/94	8"	90°	MW-8
DRILLING CONTRACTOR		COMPLETED	FIRST ENCOUNTERED WATER DEPTH		BOTTOM OF BORING
West Hazmat Drilling Corp.		10/6/94	32.0'		40.0'
DRILL MAKE & MODEL	OPERATOR	LOGGED BY	STATIC WATER DEPTH/DATE		WELL NO.
Mobile B-57	Eugene Nunes	F. Maroni	28.51' 10/10/94		MW-8
WELL MATERIAL	SLOT SIZE	SAMPLING METHOD			BOTTOM OF WELL
PVC Sch 40	0.020"	CA Modified Split Spoon			40.0'
FILTER PACK	WELL SEAL				PLANNED USE
#3 Monterey Sand	Bentonite				Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1					Sandy topsoil (OL/OH); brown.
		2					Silty CLAY (CL); dark gray, very stiff, dry.
		3					
		4					
		5					
		6					Silty CLAY (CL); light brown, stiff; trace fine grained sand, dry.
		7					
		8					
		9					
90	0.0	10					Sandy CLAY (CL); light brown; some fine to coarse grained sand, some fine-grained, angular to subangular gravel, trace coarse grained gravel; trace silt, dry.
		11					
		12					
		13					
		14					
50 w/ 6" rec.	0.0	15					Gravely CLAY (CL); light brown; some fine to coarse grained, well graded, subangular to subrounded gravel, some well graded, medium grained sand, moist.
		16					
		17					
		18					
		19					
80	0.0	20					Sandy CLAY (CL); light brown, some fine-grained sand, moist.
		21					
		22					
		23					
		24					
50 w/ 6" rec.	0.0	MW-8-25' 25					Sandy GRAVEL (GW); fine to coarse grained, well graded gravel; some fine to coarse grained, well-graded sand; trace clay, moist to wet.
		26					
		27					
		28		▼			
		29					
		30					

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: GP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-8

PLATE C-1

SHEET 1 OF 2

JOB NO. 9-029

SITE/LOCATION		BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
BP/7210 Bancroft Ave		10/6/94	8"	90°	MW-8
DRILLING CONTRACTOR		COMPLETED	FIRST ENCOUNTERED WATER DEPTH		BOTTOM OF BORING
West Hazmat Drilling Corp.		10/6/94	32.0'		40.0'
DRILL MAKE & MODEL	OPERATOR	LOGGED BY	STATIC WATER DEPTH/DATE		WELL NO.
Mobile B-57	Eugene Nunes	F. Maroni	28.51' 10/10/94		MW-8
WELL MATERIAL	SLOT SIZE	SAMPLING METHOD			BOTTOM OF WELL
PVC Sch 40	0.020"	CA Modified Split Spoon			40.0'
FILTER PACK	WELL SEAL				PLANNED USE
#3 Monterey Sand	Bentonite				Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31		▽			As above.
		32					
		33					
35 w/ 6" rec.		34					Clayey SAND (SC); brown, medium grained, well-graded sand; some clay; few fine grained, subrounded gravel, wet.
		35					
		36					
		37					
		38					
40 w/ 6" rec.		39					As above.
		40					T.D. = 40.0'

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: CP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-8

PLATE C-1

SHEET 2 OF 2

JOB NO. 9-029

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
BP/7210 Bancroft Ave, Oakland	10/6/94	8"	90°	MW-9
DRILLING CONTRACTOR	**COMPLETED**	**FIRST ENCOUNTERED WATER DEPTH**		**BOTTOM OF BORING**
West Hazmat Drilling Corp.	10/6/94	27.5'		40.0'
DRILL MAKE & MODEL	**OPERATOR**	**LOGGED BY**	**STATIC WATER DEPTH/DATE**	**WELL NO.**
Mobile B-57	Eugene Nunes	F. Maroni	28.45' 10/10/94	MW-9
WELL MATERIAL	**SLOT SIZE**	**SAMPLING METHOD**		**BOTTOM OF WELL**
PVC Sch 40	0.020"	CA Modified Split Spoon		40.0'
FILTER PACK	**WELL SEAL**			**PLANNED USE**
#3 Monterey Sand	Bentonite			Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1–3					Backfill; GRAVEL (GP); cobble-sized.
		4–9					CLAY (CL); reddish brown, stiff, dry.
80	0.0	10–14					CLAY (CL); light brown, hard, trace fine grained sand, dry.
90	0.0	15–19					Silty CLAY (CL); light brown, hard, dry.
80	0.0	20–24					As above, moist.
70	0.0	MW-9-25' 25–30		▽ ▼			Clayey SAND (SC); brown; fine to medium grained, well graded, rounded to subrounded, moist.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: CP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-9

PLATE C-1

SHEET 1 OF 2

JOB NO. 9-029

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
BP/7210 Bancroft Ave, Oakland	10/6/94	8"	90°	MW-9
DRILLING CONTRACTOR	**COMPLETED**	**FIRST ENCOUNTERED WATER DEPTH**		**BOTTOM OF BORING**
West Hazmat Drilling Corp.	10/6/94	27.5'		40.0'
DRILL MAKE & MODEL	**OPERATOR**	**LOGGED BY**	**STATIC WATER DEPTH/DATE**	**WELL NO.**
Mobile B-57	Eugene Nunes	F. Maroni	28.45' 10/10/94	MW-9
WELL MATERIAL	**SLOT SIZE**	**SAMPLING METHOD**		**BOTTOM OF WELL**
PVC Sch 40	0.020"	CA Modified Split Spoon		40.0'
FILTER PACK	**WELL SEAL**			**PLANNED USE**
#3 Monterey Sand	Bentonite			Monitoring

BLOWS/FOOT	PID FIELD HEADSPACE (ppm)	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		31					Clayey SAND (SC); brown, fine-grained, well-graded, subrounded to rounded sand; few fine to coarse grained, angular to subrounded gravel, wet.
		32					
		33					
		34					
70		35					Gravelly CLAY (CL); brown, fine grained, well graded, subangular to subrounded gravel; some fine grained sand, wet.
		36					
		37					
		38					
		39					
		40					As above.
							T.D. = 40.0'

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

DATE: 11/2/94

APPROVED BY: CP

SOIL BORING LOG AND WELL CONSTRUCTION DIAGRAM

MW-9

PLATE C-1

SHEET 2 OF 2

JOB NO. 9-029

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

MONITORING WELL GAUGING DATA SHEET

GAUGED BY: TM, HT DATE: 10-27-94

GAUGED USING: MMC I/P, ORS I/P, Solinst: (#1,) #2, #3

Monitoring Well I.D.	Depth to Water (feet)	Depth to Bottom (feet)	Separate-phase hydrocarbons thickness (feet)	Replaced parts	Condition/ Comments
MW-1	27.83				
MW-2	—		SEPARATE PHASE SKIMMER		
MW-3	28.22				
MW-4	28.61				
MW-5	DOES NOT EXIST				
MW-6	28.65				
MW-7	42.62 ?	Not according to Well Completion Report			
MW-8	29.02				
MW-9	28.73				

HYDRO-
ENVIRONMENTAL
TECHNOLOGIES, INC.

LOCATION: BP SERVICE STATION
7210 BALDWIN AVE
OAKLAND CA

Job No. 9-026.1

SHEET 1 of 1

PURGED/SAMPLED BY: Hoa Trinh DATE: 10/10/94

GAUGING DATA:

Depth to bottom: 49.6 ft.

Depth to water: 43.67 ft.

Saturated Thickness: 0.93 ft.

Conversion	
diam.	gals/ft.
(2 in.)	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume .16 gallons

volumes to purge x 10 vols.

*Total volume to purge = 1.6 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: (PVC bailer) Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: _____

Time	Volume (gallons)	Temp. (°C)	Conductivity (mS/cm)	pH
	0	—	—	—
	0.93'	of H2O	Column	
	NOT	ABLE	TO PURGE	
	+	DEVELOP	AT THIS	
	TIME			

Color: _____ Turbidity: _____

Recharge: _____ SPP _____ ft. Sheen _____

SAMPLING DATA:

Sampling method: Dedicated bailer /Disposable bailer

Well Development

Sample for: (circle)

TPHg/BTEX	METALS	TOG	8010
TPHd	O-Pb	TEL	8020
TPH mo	Total Pb	EDB	8240
601	602	Nitrates	8260

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # ~~MW-8~~ MW-7

LOCATION: BP No. 1117, Oakland

Job No. 9.029.1

SHEET 1 of 1

PURGED/SAMPLED BY: HT DATE: 10/20 & 10/26

GAUGING DATA:

Depth to bottom: 44.60 ft.

Depth to water: 41.00 ft.

Saturated Thickness: 3.60 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 0.58 gallons

volumes to purge x 10 vols.

*Total volume to purge = 5.8 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: HYDAC #1

	Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH	
	1200	0	—	—	—	
10/20	1210	1	73.9	3.57	6.3	dry
	1445	1.5	74.1	3.20	6.5	dry
	1045	3	71.8	2.75	7.2	dry
10/26	1100	4	70.5	2.31	7.4	dry
	1120	5	70.1	2.19	7.5	dry
		Well Development				
		Attempt #3 (on 10/26) early				
		with 2nd attempt (on 10/20).				
		DTW = 43.42'	DTB =	44.60'		

Color: tan Turbidity: mod.

Recharge: very poor SPP Ø ft. Sheen Ø

SAMPLING DATA:

Sampling method: Dedicated bailer /Disposable bailer

Sample for: (circle)

TPHg/BTEX	METALS	TOG	8010
TPHd	O-Pb	TEL	8020
TPH mo	Total Pb	EDB	8240
601	602	Nitrates	8260

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # ~~MW-6~~ 10/26 MW-7

LOCATION: BP, Oakland

Job No. 9-0291

SHEET 1 of 1

PURGED/SAMPLED BY: Hoa Trinh DATE: 10/10/94

GAUGING DATA:

Depth to bottom: 37.71 ft.

Depth to water: 28.51 ft.

Saturated Thickness: 9.20 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.47 gallons

volumes to purge x 10 vols.

*Total volume to purge = 14.7 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: HETI HYDAC 1

Time	Volume (gallons)	Temp. (°C)	Conductivity (mS/cm)	pH
1430	0	———	———	———
	2.5	75.2	1.10	7.2
	5	73.2	1.03	7.4
	7.5	70.2	0.99	7.5
	10	69.8	0.97	7.6
	12.5	68.2	0.92	7.5
	15	67.9	0.89	7.5
↓	17.5	DRY @	16 gallons	
1600	20.0	DTW =	38.21	
		DTB =	39.51	

Color: tan Turbidity: initial high to final moderate

Recharge: slow SPP 0 ft. Sheen 0

SAMPLING DATA:

Sampling method: Dedicated bailer /Disposable bailer

Well Development

Sample for: (circle)

TPHg/BTEX	METALS	TOG	8010
TPHd	O-Pb	TEL	8020
TPH mo	Total Pb	EDB	8240
601	602	Nitrates	8260

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # ~~MW-7 thru~~ 10/26 MW-8

LOCATION: BP No. 1117, Oakland

Job No. 9.029.1

SHEET 1 of 1

PURGED/SAMPLED BY: Hoa Trinh DATE: 10/10/94

GAUGING DATA:

Depth to bottom: 37.35 ft.

Depth to water: 28.45 ft.

Saturated Thickness: 8.90 ft.

Conversion	
diam.	gals/ft.
(2 in.)	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.43 gallons

volumes to purge x 10 vols.

*Total volume to purge = 14.3 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: (PVC bailer) Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: HETI HYDAC-1

Time	Volume (gallons)	Temp. (°C)	Conductivity (mS/cm)	pH
1300	0	—	—	—
	1	76.0	1.64	7.3
	2.5	72.2	1.44	7.4
	5	71.2	1.21	7.5
	7.5	70.8	1.20	7.4
	10	70.5	1.18	7.4
↓	15	70.4	1.16	7.4
1415	20	70.2	1.15	7.4
	Turbidity Moderate			
	WL = 28.55'		DTB = 38.95	

Color: tan Turbidity: moderate

Recharge: good SPP ϕ ft. Sheen ϕ

SAMPLING DATA:

Sampling method: Dedicated bailer /Disposable bailer

Well Development

Sample for: (circle)

TPHg/BTEX METALS TOG 8010

TPHd O-Pb TEL 8020

TPH mo Total Pb EDB 8240

601 602 Nitrates 8260

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-9

LOCATION: BP No. 1117, Oakland

Job No. 9.029.1

SHEET 1 of 1

PURGED/SAMPLED BY: EM / HT DATE: 10.27.94

GAUGING DATA:

Depth to bottom: 44.60 ft.

Depth to water: 41.62 ft.

Saturated Thickness: ~2.0 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume .32 gallons

volumes to purge x 3 vols.

*Total volume to purge = 0.96 gallons

* unless chemical parameters stabilize earlier

PURGING DATA:

Purge method: PVC bailer/ Submersible pump/ Suction lift pump/ _____
(circle one)

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
1415	0	—	—	—
14:20	0.5	75.5	2.91	7.07
1425	1.0	74.7	2.85	7.06

Color: TAN Turbidity: MODERATE

Recharge: POOR SPP — ft.

SAMPLING DATA:

Sampling method: Dedicated bailer/ _____

Sample for: (circle)

(TPHg/BTEX)	METALS	TOG	8010	
TPHd	O-Pb	TEL	8020	
TPH mo	Total Pb	EDB	8240	
601	602	Nitrates	8260	8270

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

MONITORING WELL PURGE/SAMPLE SHEET

WELL # MW-7

LOCATION 7300 BANCROFT AVE

Job No. 9029

SHEET 1 of 1

PURGED/SAMPLED BY: FM/HT DATE: 10/20/94

GAUGING DATA:

Depth to bottom: 39.48 ft.

Depth to water: 28.91 ft.

Saturated Thickness: 10.57 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.7 gallons

volumes to purge x 3 vols.

*Total volume to purge = 6 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: (PVC bailer) Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: HYDAC #1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
1230	0	—	—	—
↓	2	70.0	0.84	6.4
↓	4	67.0	0.69	7.4
1250	6	66.2	0.66	7.6

Color: tan, silty Turbidity: moderate

Recharge: good SPP Ø ft. Sheen Ø

SAMPLING DATA:

Sampling method: (Dedicated bailer) / Disposable bailer

Sample for: (circle)

(TPHg/BTEX) METALS TOG 8010

TPHd O-Pb TEL 8020

TPH mo Total Pb EDB 8240

601 602 Nitrates 8260

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # ~~MW-7~~ 10/26 MW-8

LOCATION: BP, Oakland

Job No. 9-029.1

SHEET 1 of 1

PURGED/SAMPLED BY: FM/HT DATE: 10/20/94

GAUGING DATA:

Depth to bottom: 38.95 ft.

Depth to water: 28.65 ft.

Saturated Thickness: 10.30 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.64 gallons

volumes to purge x 3 vols.

*Total volume to purge = ~6 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: HYDAC #1

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
1300	0	—	—	—
↓	2	73.5	1.17	6.8
↓	4	71.2	0.98	7.1
1330	6	70.8	0.89	7.3

Color: tan, silty Turbidity: moderate

Recharge: good SPP 0 ft. Sheen 0

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

(TPHg/BTEX)	METALS	TOG	8010
TPHd	O-Pb	TEL	8020
TPH mo	Total Pb	EDB	8240
601	602	Nitrates	8260

Other: _____

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-9

LOCATION: BP, Oakland

Job No. 9-029.1

SHEET 1 of 1

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Hydro-Evironmental
2363 Mariner Square Dr., Suite 243
Alameda, CA 94501

October 17, 1994
PACE Project Number: 441007509

Attn: Mr. Scott Kellstedt

Client Reference: BP Site #11117/9-029

PACE Sample Number:			70 0411882	
Date Collected:			10/06/94	
Date Received:			10/07/94	
			MW-7-25'	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/kg wet	1000	ND	10/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/12/94
Benzene	ug/kg wet	5.0	ND	10/12/94
Toluene	ug/kg wet	5.0	ND	10/12/94
Ethylbenzene	ug/kg wet	5.0	ND	10/12/94
Xylenes, Total	ug/kg wet	5.0	ND	10/12/94

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TEL: 415-883-6100
FAX: 415-883-2673

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Scott Kellstedt
Page 2

October 17, 1994
PACE Project Number: 441007509

Client Reference: BP Site #11117/9-029

PACE Sample Number:			70 0411890	
Date Collected:			10/06/94	
Date Received:			10/07/94	
Client Sample ID:			MW-8-25'	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/kg wet	1000	ND	10/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/12/94
Benzene	ug/kg wet	5.0	ND	10/12/94
Toluene	ug/kg wet	5.0	ND	10/12/94
Ethylbenzene	ug/kg wet	5.0	ND	10/12/94
Xylenes, Total	ug/kg wet	5.0	ND	10/12/94

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REPORT OF LABORATORY ANALYSIS

October 17, 1994
PACE Project Number: 441007509

Client Reference: BP Site #11117/9-029

PACE Sample Number:			70 0411904	
Date Collected:			10/06/94	
Date Received:			10/07/94	
Client Sample ID:			MW-9-25'	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/kg wet	1000	ND	10/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/12/94
Benzene	ug/kg wet	5.0	ND	10/12/94
Toluene	ug/kg wet	5.0	ND	10/12/94
Ethylbenzene	ug/kg wet	5.0	ND	10/12/94
Xylenes, Total	ug/kg wet	5.0	ND	10/12/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Mr. Scott Kellstedt
Page 4

FOOTNOTES
for pages 1 through 3

October 17, 1994
PACE Project Number: 441007509

Client Reference: BP Site #11117/9-029

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Scott Kellstedt
Page 5

QUALITY CONTROL DATA

October 17, 1994
PACE Project Number: 441007509

Client Reference: BP Site #11117/9-029

PURGEABLE AROMATIC COMPOUNDS, EPA 8020
Batch: 70 35039
Samples: 70 0411882, 70 0411890, 70 0411904

METHOD BLANK:

Parameter	Units	MDL	Method Blank
INDIVIDUAL PARAMETERS			
Purgeable Fuels, as Gasoline (EPA 8015M	ug/kg wet	1000	ND
PURGEABLE AROMATIC COMPOUNDS, EPA 8020			
Benzene	ug/kg wet	5.0	ND
Toluene	ug/kg wet	5.0	ND
Ethylbenzene	ug/kg wet	5.0	ND
Xylenes, Total	ug/kg wet	5.0	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700414806	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/kg wet	5.0	ND	100	100%	98%	2%
Toluene	ug/kg wet	5.0	ND	100	98%	96%	2%
Ethylbenzene	ug/kg wet	5.0	ND	100	96%	94%	2%
Xylenes, Total	ug/kg wet	5.0	ND	300	100%	98%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/kg wet	5.0	100	102%	111%	8%
Toluene	ug/kg wet	5.0	100	99%	107%	8%
Ethylbenzene	ug/kg wet	5.0	100	98%	106%	8%
Xylenes, Total	ug/kg wet	5.0	300	103%	111%	7%

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Mr. Scott Kellstedt
Page 6

FOOTNOTES
for page 5

October 17, 1994
PACE Project Number: 441007509

Client Reference: BP Site #11117/9-029

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

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941007.S09

BP

CHAIN OF CUSTODY

No. 00192 Page 2 of

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
HYDRO-ENVIRONMENTAL TECH	2363 MARINER SQ DR	ALAMEDA	CA	94501

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11117	7210 BANCROFT AVE / 73RD ST OAKLAND	9-029

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
SCOTT FAKELSTEIN	(510) 521-2684	(510) 521-5078	

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
SCOTT HOOTON	BUILDING 13 295 SW 41ST ST RENTON, WA		

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
RON CHEW	1 DIGITAL DR, NOVATO	(415) 883-6100	(415) 883-2673

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
FRANCES MARONI	FRANCES MARONI		

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks

AIRBILL NUMBER

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH / BTEX										COMMENTS
MW-7-25'	10/6/94 10AM	SOIL	1		41188.2	X										
MW-8-25'	10/6/94 12p	↓	↓		41189.0	X										
MW-9-25'	10/6/94 3p	↓	↓		41190.4	X										

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
FRANCES MARONI	10/7/94	3:10pm	[signature]	10/7/94	1515	E/2
[signature]	10/7/94	1625	[signature] / PACE	10/7/94	1635	

CLV-16722

Distribution: White - Original (with Data) Yellow - BP Pink - Lab Blue - Consultant Field Staff

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ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

Hydro-Environmental Tech.,Inc.
2363 Mariner Square Dr., Suite 243
Alameda, CA 94501

November 09, 1994(Reissued)
PACE Project Number: 441021515

Attn: Mr. Scott Kellstedt

Client Reference: BP Site #11117 / 9-029.1

PACE Sample Number:			70 0430429	
Date Collected:			10/20/94	
Date Received:			10/21/94	
			MW-8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/25/94
Benzene	ug/L	0.5	ND	10/25/94
Toluene	ug/L	0.5	ND	10/25/94
Ethylbenzene	ug/L	0.5	ND	10/25/94
Xylenes, Total	ug/L	0.5	ND	10/25/94

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REPORT OF LABORATORY ANALYSIS

November 09, 1994(Reissued)
PACE Project Number: 441021515

Client Reference: BP Site #11117 / 9-029.1

PACE Sample Number:			70 0430437	
Date Collected:			10/20/94	
Date Received:			10/21/94	
Client Sample ID:			MW-9	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/25/94
Benzene	ug/L	0.5	ND	10/25/94
Toluene	ug/L	0.5	ND	10/25/94
Ethylbenzene	ug/L	0.5	ND	10/25/94
Xylenes, Total	ug/L	0.5	ND	10/25/94

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PACE INCORPORATED
ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

Mr. Scott Kellstedt
Page 3

November 09, 1994(Reissued)
PACE Project Number: 441021515

Client Reference: BP Site #11117 / 9-029.1

PACE Sample Number:				70 0430445	
Date Collected:				10/20/94	
Date Received:				10/21/94	
Client Sample ID:				C-1 A&B&C&D	
Parameter	Units		MDL	Composite	DATE ANALYZED
ORGANIC ANALYSIS					
PURGEABLE FUELS AND AROMATICS					
TOTAL FUEL HYDROCARBONS, (LIGHT):				-	10/26/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/kg	wet	1000	ND	10/26/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				-	10/26/94
Benzene	ug/kg	wet	5.0	ND	10/26/94
Toluene	ug/kg	wet	5.0	ND	10/26/94
Ethylbenzene	ug/kg	wet	5.0	ND	10/26/94
Xylenes, Total	ug/kg	wet	5.0	ND	10/26/94

These data have been reviewed and are approved for release.

for Darrell C. Cain
Regional Director

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX:415-883-2673

PACE INCORPORATED
ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

Mr. Scott Kellstedt
Page 3

November 09, 1994(Reissued)
PACE Project Number: 441021515

Client Reference: BP Site #11117 / 9-029.1

PACE Sample Number:			70 0430445	
Date Collected:			10/20/94	
Date Received:			10/21/94	
Client Sample ID:			C-1 A&B&C&D	
Parameter	Units	MDL	Composite	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/26/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/kg wet	1000	ND	10/26/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/26/94
Benzene	ug/kg wet	5.0	ND	10/26/94
Toluene	ug/kg wet	5.0	ND	10/26/94
Ethylbenzene	ug/kg wet	5.0	ND	10/26/94
Xylenes, Total	ug/kg wet	5.0	ND	10/26/94

These data have been reviewed and are approved for release.

for Darrell C. Cain
Regional Director

11 Digital Drive
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FAX:415-883-2673

REPORT OF LABORATORY ANALYSIS

FOOTNOTES
for pages 1 through 3

Client Reference: BP Site #11117 / 9-029.1

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

November 09, 1994(Reissued)
PACE Project Number: 441021515

Client Reference: BP Site #11117 / 9-029.1

PURGEABLE FUELS AND AROMATICS
Batch: 70 35524
Samples: 70 0430445

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/kg wet	1000	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/kg wet	5.0	ND
Toluene	ug/kg wet	5.0	ND
Ethylbenzene	ug/kg wet	5.0	ND
Xylenes, Total	ug/kg wet	5.0	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700414156	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/kg wet	1000	ND	5000	58%	64%	10%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/kg wet	1000	5000	90%	92%	2%

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Client Reference: BP Site #11117 / 9-029.1

PURGEABLE FUELS AND AROMATICS
Batch: 70 35540
Samples: 70 0430429, 70 0430437

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700427363	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	95%	99%	4%
Toluene	ug/L	0.5	ND	100	93%	97%	4%
Ethylbenzene	ug/L	0.5	ND	100	92%	96%	4%
Xylenes, Total	ug/L	0.5	ND	300	93%	97%	4%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	95%	104%	9%
Toluene	ug/L	0.5	100	96%	103%	7%
Ethylbenzene	ug/L	0.5	100	97%	101%	4%
Xylenes, Total	ug/L	0.5	300	98%	102%	4%

REPORT OF LABORATORY ANALYSIS

FOOTNOTES
for pages 5 through 6

November 09, 1994(Reissued)
PACE Project Number: 441021515

Client Reference: BP Site #11117 / 9-029.1

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

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441021.515

FILE 9-029 ANALYTICAL DATA

BP

CHAIN OF CUSTODY

No. 00105 Page 1 of 1

CONSULTANT'S NAME: HYDRO-ENVIRONMENTAL	ADDRESS: 2363 Mariner Sq. Dr. Ste 243,	CITY: Alameda,	STATE: CA	ZIP CODE: 94501
BP SITE NUMBER: 11117	BP CORNER ADDRESS/CITY: 7210 Bancroft / 73rd Ave, Oakland, CA		CONSULTANT PROJECT NUMBER: 9-029.1	
CONSULTANT PROJECT MANAGER: Scott Kellstadt	PHONE NUMBER: (510) 521-2684	FAX NUMBER: (510) 521-5078	CONSULTANT CONTRACT NUMBER: F895035	
BP CONTACT: Scott Hooton	BP ADDRESS: Renton, WA	PHONE NUMBER: (206) 251-0689	FAX NO.: (206) 251-0736	
LAB CONTACT: Ron Chew / PACE	LABORATORY ADDRESS: Novato, CA	PHONE NUMBER: (415) 883-6100	FAX NO.:	
SAMPLED BY (Please Print Name): HOA TRINH	SAMPLED BY (Signature): [signature]	SHIPMENT DATE: 10/21/94	SHIPMENT METHOD: PACE courier	AIRBILL NUMBER:

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks

ANALYSIS REQUIRED

SAMPLE DESCRPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB. SAMPLE #	TPHg	BTEX	Pb	COMMENTS
~~MW-7~~ (MW-8) ON 10/27/94	10/20/94	H2O	3	40ml		✓	✓		
MW-9	10/20/94	↓	3	40ml		✓	✓		
C-1-A	10/20/94	Soil	1	Brass tube		✓	✓	✓	Please composite 4 brass tubes into one prior to analysis. Thanks
C-1-B	↓	↓	↓	↓		✓	✓	✓	
C-1-C	↓	↓	↓	↓		✓	✓	✓	
C-1-D	↓	↓	↓	↓		✓	✓	✓	

Reported on separate report!! [initials]

RON, 10/27/94
PLEASE NOTE THAT THE H_2O SAMPLE LABELED MW-7 SHOULD READ: MW-8. PLEASE MAKE CHANGES ON REPORT THANKS
FRANCES MADDIS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	10/21	7am	[signature]	10/21	7am
[signature]	10/21/94	1530	[signature] Pace	10/21/94	1530

ADDITIONAL COMMENTS

OLV-18722

Distribution: White - Original (with Data) Yellow - BP Pink - Lab Blue - Consultant Field Staff

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REPORT OF LABORATORY ANALYSIS

Hydro-Environmental Tech., Inc.
2363 Mariner Square Dr., Suite 243
Alameda, CA 94501

November 03, 1994
PACE Project Number: 441028513

Attn: Mr. Scott Kellstedt

Client Reference: BP Site #11117/9-029.1

PACE Sample Number:			70 0433886	
Date Collected:			10/27/94	
Date Received:			10/28/94	
Client Sample ID:			MW-7	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/31/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/31/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/31/94
Benzene	ug/L	0.5	ND	10/31/94
Toluene	ug/L	0.5	ND	10/31/94
Ethylbenzene	ug/L	0.5	ND	10/31/94
Xylenes, Total	ug/L	0.5	ND	10/31/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Client Reference: BP Site #11117/9-029.1

MDL Method Detection Limit
ND Not detected at or above the MDL.

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Client Reference: BP Site #11117/9-029.1

PURGEABLE FUELS AND AROMATICS
Batch: 70 35764
Samples: 70 0433886

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700408865	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	98%	99%	1%
Toluene	ug/L	0.5	ND	100	97%	97%	0%
Ethylbenzene	ug/L	0.5	ND	100	90%	91%	1%
Xylenes, Total	ug/L	0.5	ND	300	92%	93%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	98%	105%	7%
Toluene	ug/L	0.5	100	100%	104%	4%
Ethylbenzene	ug/L	0.5	100	93%	97%	4%
Xylenes, Total	ug/L	0.5	300	96%	101%	5%

11 Digital Drive
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TEL: 415-883-6100
FAX: 415-883-2673

Client Reference: BP Site #11117/9-029.1

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

15.6

CHAIN OF CUSTODY

No. 00494 | Page 1 of 1

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
HYDRO-ENVIRONMENTAL TECH	2363 MARINER SQ DR	ALAMEDA,	CA	94501

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11117	7210 BANCROFT AVE / 73RD AVE OAKLAND	9-029.1

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
SCOTT KEUSTEDT	(510) 521-2684	(510) 521-5078	F8950B5

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
SCOTT HOOTON	295 SW 41ST ST, SUITE 1, RENTON BUILDING 13 WA	(206) 251-0689	(206) 251-0736

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
DON CHEW	11 DIGITAL DR, NOVATO	(415) 883-0100	(415) 883-2673

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
FRANCES MAZON	FRANCES MAZON		COURIER

AIRBILL NUMBER: —

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	HCL	HCL	COMMENTS
MW-7	10/27/14 330pm	H_2O	3	40ml		X	X	433886
~~MW-8~~						X	X	
~~MW-9~~						X	X	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
FRANCES MAZON / HETI	10/28	1335		10/28/14	1335
Ed Ritts / Tm	10/28	1730		10/28/14	1730

ADDITIONAL COMMENTS: 10/1

CLV-16722

Distribution: White - Original (with Data); Yellow - BP; Pink - Lab; Blue - Consultant Field Staff

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	Organic Lead (ppb)	DO (ppm)	LAB
MW-1	01/05/92	49.81	33.16	—	16.65	57000	50000	2400	1000	1100	3100	ND	—	—
MW-1	01/10/92	49.81	33.16	—	16.65	—	—	—	—	—	—	—	—	—
MW-1	06/05/92	49.81	29.01	—	20.80	31000	—	2800	2100	800	2300	—	—	—
MW-1	07/24/92	49.80	29.45	—	20.35	—	—	—	—	—	—	—	—	—
MW-1	07/27/92	49.80	29.45	—	20.35	—	—	—	—	—	—	—	—	—
MW-1	09/15/92	49.80	30.53	—	19.27	40000	1200 (c)	3400	3000	1300	3400	—	—	ANA
QC-1 (d)	09/15/92	—	—	—	—	36000	—	3800	3400	1400	3800	—	—	ANA
MW-1	12/15/92	49.80	31.26	—	18.54	27000	1100 (c)	1700	580	700	1900	—	—	ANA
QC-1 (d)	12/15/92	—	—	—	—	22000	—	1500	440	510	1300	—	—	ANA
MW-1	03/15/93	49.80	24.80	—	25.00	17000	580	1700	1200	590	1800	—	—	PACE
QC-1 (d)	03/15/93	—	—	—	—	15000	—	1100	860	440	1400	—	—	PACE
MW-1	06/07/93	49.80	25.01	—	24.79	750	100	0.8	0.8	ND<0.5	ND<0.5	—	—	PACE
QC-1 (d)	06/07/93	—	—	—	—	720	—	0.7	0.7	ND<0.5	ND<0.5	—	—	PACE
MW-1	09/23/93	49.80	28.70	—	21.10	—	—	—	—	—	—	—	—	—
MW-1	09/23/93	—	—	—	—	40000	770	4000	500	920	3000	—	—	PACE
MW-1	12/27/93	49.80	28.66	—	21.14	27000	—	2000	400	940	2600	—	—	PACE
QC-1 (d)	12/27/93	—	—	—	—	21000	—	1700	380	830	2400	—	—	PACE
MW-1	04/05/94	49.80	26.37	—	23.43	27000	—	3400	930	950	2900	—	—	PACE
QC-1 (d)	04/05/94	—	—	—	—	29000	—	3700	1000	1000	3100	—	1.3	PACE
MW-1	07/22/94	49.80	26.54	—	23.26	1700	—	220	2.3	2.0	3.4	—	2.0	PACE
MW-2	01/05/92	51.07	DRY	—	DRY	—	—	—	—	—	—	—	—	—
MW-2	01/10/92	51.06	DRY	—	DRY	—	—	—	—	—	—	—	—	—
MW-2	06/05/92	51.06	30.05	—	21.01	11000	—	2000	180	490	1900	—	—	—
MW-2	07/24/92	51.07	30.72	—	20.35	—	—	—	—	—	—	—	—	—
MW-2	07/27/92	51.07	30.52	—	20.55	—	—	—	—	—	—	—	—	—
MW-2	09/15/92	51.07	31.56	—	19.51	75000	3200 (c)	2000	6500	2300	13000	—	—	ANA
MW-2	12/15/92	51.07	32.40	—	18.67	34000	1600 (c)	6200	8900	2000	7900	—	—	ANA
MW-2	03/15/93	51.07	26.14	—	24.93	150000	8400	12000	18000	3200	22000	—	—	PACE
MW-2 (e)	06/07/93	51.07	26.38	SHEEN	24.69	—	—	—	—	—	—	—	—	—
MW-2 (e)	09/23/93	51.07	31.43	1.92	21.08	—	—	—	—	—	—	—	—	—
MW-2 (e)	12/27/93	51.07	34.07	1.07	17.80	—	—	—	—	—	—	—	—	—
MW-2 (e)	04/05/94	51.07	30.44	3.30	23.11	—	—	—	—	—	—	—	—	—
MW-2 (e)	07/22/94	51.07	28.51	0.80	23.16	—	—	—	—	—	—	—	—	—
MW-3	01/05/92	49.95	33.69	—	16.26	7400	4000	790	23	210	40	ND	—	—
MW-3	01/10/92	50.00	33.74	—	16.26	—	—	—	—	—	—	—	—	—
MW-3	06/05/92	50.00	29.65	—	20.35	2000	—	130	5.3	93	20	—	—	—
MW-3	07/24/92	49.95	30.14	—	19.81	—	—	—	—	—	—	—	—	—
MW-3	07/27/92	49.95	30.14	—	19.81	—	—	—	—	—	—	—	—	—
MW-3	09/15/92	49.95	31.07	—	18.88	450	ND<50	55	3.1	34	7.1	—	—	ANA
MW-3	12/15/92	49.95	31.93	—	18.02	12000	710 (c)	940	ND<50	310	120	—	—	ANA
MW-3	03/15/93	49.95	25.71	—	24.24	ND<50	60	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
MW-3	06/07/93	49.95	25.80	—	24.15	150	ND<50	3.6	ND<0.5	0.9	1.3	—	—	PACE
MW-3	09/23/93	49.95	29.18	—	20.77	—	—	—	—	—	—	—	—	—
MW-3	09/24/93	—	—	—	—	160	ND<50	8.4	ND<0.5	3.7	1.3	—	—	PACE
MW-3	12/27/93	49.95	29.25	—	20.70	9400	—	1100	48	530	120	—	—	PACE
MW-3	04/05/94	49.95	26.84	—	23.11	7000	—	860	19	330	52	—	2.0	PACE
MW-3	07/22/94	49.95	26.90	—	23.11	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	2.1	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	Organic Lead (ppb)	DO (ppm)	LAB
MW-4	07/24/92	50.76	30.02	---	20.74	42000	---	3200	3600	1400	4100	---	---	---
MW-4	07/27/92	50.76	30.02	---	20.74	---	---	---	---	---	---	---	---	---
MW-4	09/15/92	50.76	31.14	---	19.62	55000	1700 (c)	7600	13000	2600	9500	---	---	ANA
MW-4	12/15/92	50.76	31.98	---	18.78	36000	2200 (c)	3700	4700	1200	4000	---	---	ANA
MW-4	03/15/93	50.76	25.34	---	25.42	69000	1200	7600	15000	2500	11000	---	---	PACE
MW-4	06/07/93	50.76	25.67	---	25.09	73000	2500	10000	19000	3400	14000	---	---	PACE
MW-4	09/23/93	50.76	29.37	---	21.39	---	---	---	---	---	---	---	---	---
MW-4	09/24/93	---	---	---	---	68000	5700	11000	2100	8600	990	---	---	PACE
QC-1 (d)	09/24/93	---	---	---	---	59000	---	5300	10000	2200	8400	---	---	PACE
MW-4	12/27/93	50.76	29.40	---	21.36	32000	---	2500	4400	1300	4400	---	---	PACE
MW-4	04/05/94	50.76	27.09	---	23.67	64000	---	6500	14000	1900	9600	---	1.4	PACE
MW-4	07/22/94	50.76	27.33	---	23.43	85000	---	10000	20000	3200	13000	---	0.8	PACE
QC-1 (d)	07/22/94	---	---	---	---	65000	---	11000	21000	3300	14000	---	---	PACE
MW-6	07/24/92	50.32	30.63	---	19.69	ND	---	1.8	ND	ND	ND	---	---	---
MW-6	07/27/92	50.32	30.63	---	19.69	---	---	---	---	---	---	---	---	---
MW-6	09/15/92	50.32	31.52	---	18.80	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	12/15/92	50.32	32.42	---	17.90	58	ND<50	1.3	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	03/15/93	50.32	26.29	---	24.03	ND<50	ND<50	ND<0.5	0.6	ND<0.5	0.7	---	---	PACE
MW-6	06/07/93	50.32	26.33	---	23.99	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	1.5	---	---	PACE
MW-6	09/23/93	50.32	29.64	---	20.68	---	---	---	---	---	---	---	---	---
MW-6	09/24/93	---	---	---	---	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	12/27/93	50.32	29.75	---	20.57	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	04/05/94	50.32	27.26	---	23.06	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.7	PACE
MW-6	07/22/94	50.32	27.34	---	22.98	350	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	4.5	PACE
QC-2 (f)	09/15/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2 (f)	12/15/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2 (f)	03/15/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (f)	06/07/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (f)	09/24/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (f)	12/27/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (f)	04/05/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (f)	07/22/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable
ANA	Anametrix, Inc.
PACE	Pace, Inc.

NOTES:

(a) Casing elevations surveyed to the nearest 0.01 foot relative to mean sea level.

(b) Groundwater elevations in feet relative to mean sea level.

(c) Concentrations reported as diesel from MW-1, MW-2, and MW-4 are primarily due to the presence of a lighter petroleum product, possibly gasoline or kerosene.

(d) Blind duplicate.

(e) Well not sampled due to presence of free product.

(f) Travel blank.