February 14, 1997

PHASE II SUBSURFACE INVESTIGATION REPORT

240 West MacArthur Blvd.
Oakland, California

Project No. 1493

Prepared For

Mr. Warren Dodson
Dodson, Ltd.
1323 South Flower Street
Los Angeles, CA 90015

Prepared by

All Environmental, Inc.
3364 Mt. Diablo Blvd.
Lafayette, CA 94549
(510) 283-6000

AEI

February 14, 1997
Project No. 1493

Mr. Warren Dodson
Dodson Ltd.
1323 South Flower Street
Los Angeles, CA 90015

Subject: **240 West MacArthur Blvd. , Oakland, California**

Dear Mr. Dodson:

The following letter report describes the activities and results of the subsurface investigation conducted by All Environmental, Inc. (AEI) at the above referenced property (Figure 1: Site Location Map). This investigation was intended to investigate potential groundwater contamination resulting from the storage of petroleum hydrocarbons in a former waste oil UST. In addition, soil and groundwater samples were collected and analyzed in the vicinity of a magnetic anomaly and assumed former UST excavation. The subject property currently supports the operation of Prestige Products Corporation, an automotive repair facility.

I Previous Investigative Work

On February 14, 1991, a magnetometer survey was conducted by Mittelhauser Corporation on the property to determine whether or not underground storage tanks were present on the property. The report issued by Mittelhauser Corporation on February 21, 1991 describes a large magnetic anomaly in the northwestern portion of the property. The anomaly was not characteristic of USTs, however the surveyor believed the anomaly represented wide-spaced reinforcement placed for support following the removal of the tanks. In addition, a UST was identified west of the service bays. The UST was thought to be a waste oil UST based upon a observed cap labeled "fill box". According to the survey report, the City Fire Department records indicate that all fuel USTs were previously removed. A copy of the report is included in Attachment A for reference.

In March, 1991, Mittelhauser Corporation removed waste liquid from the waste oil UST and from an on-site sump. The sump was steamed cleaned prior to being broken up and removed. Soil staining was observed following the sump removal. Soil samples indicated up to 2,600 mg/Kg total oil and grease (TOG) present. Analyses for kerosene and diesel were non-detect. Contaminated soil was removed from in the vicinity of the former sump. Confirmation soil samples indicated the successful removal of the majority of TOG contamination. One soil sample indicated the presence of 360 mg/Kg of TOG remaining. A copy of the Mittelhauser Corporation report is included in Attachment A.

On October 3, 1996, AEI removed the previously identified 350 gallon waste oil UST from in front of the service bay doors. Visual staining was observed on the excavation bottom and sidewalls. Soil samples collected from the excavation indicated the soil beneath the UST was impacted with minor concentrations of petroleum hydrocarbons. At Alameda County Health Care Services Agency's (ACHCSA) request, AEI removed additional soil from the excavation bottom and sidewalls of the excavation. Confirmation soil samples collected from the excavation sidewalls and bottom indicated the successful removal of the petroleum hydrocarbon contamination. Groundwater was not encountered during the excavation activities. A report detailing the removal and subsequent excavation of contaminated soil was issued by AEI on January 3, 1997.

A workplan to investigate potential soil and groundwater contamination in the vicinity of the former waste oil UST and the magnetic anomaly was requested, submitted and approved by Ms. Madhulla Logan of the ACHCSA. The following report describes the activities and results of the investigation.

II Investigative Efforts

Soil Borings

All Environmental, Inc. (AEI) performed a subsurface investigation at the property on January 8, 1997. The investigation included the advancement of six soil borings (BH-1, BH-2, BH-3, BH-4, BH-5 and BH-6) using a Geoprobe drilling rig. Soil borings BH-1, BH-2, BH-4 and BH-6 were advanced to a depth of 20 feet below ground surface and soil borings BH-3 and BH-5 were advanced to 16 feet bgs. BH-1 was advanced in the southwest corner of the property to obtain up gradient groundwater samples. BH-2 and BH-3 were advanced near the former waste oil UST and BH-4, BH-5 and BH-6 were advanced near the magnetic anomaly. The borings were advanced through the asphalt surface. No concrete was encountered during the boring advancement. The locations of the soil borings are shown on Figure 2. Moderate yellowish brown silty clay and silty sand was encountered in the near surface sediments during the boring advancement as described in detail in the borings logs (Attachment B).

Soil samples were collected at 5 foot intervals in 7/8 inch acrylic liners which were sealed with teflon tape and caps and placed on ice in an ice chest for transportation to McCampbell Analytical Inc. (DOHS Certification Number 1644) under chain of custody protocol for analysis.

Groundwater was encountered at approximately 16 feet bgs during the advancement of the borings. Grab groundwater samples were collected from BH-1, BH-2, BH-4 and BH-6 and labeled BH1W, BH2W, BH4W and BH6W, respectively. The groundwater samples were collected using a clean stainless steel bailer. Water was poured from the bailer into 40 ml VOA vials, one liter bottles and/or 500 milliliter plastic containers and capped so that no head space or visible air bubbles were within the sample containers.

The soil and groundwater samples were labeled and placed on ice in an ice chest for transportation to McCampbell Analytical Inc. under chain of custody protocol for analysis. All soil and groundwater samples were analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA method 5030/8015), TPH as diesel (EPA method 3550/8015), benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE) (EPA method 8020/602) and lead (EPA method 6010) with the exception of groundwater sample BH4W. Only two VOA vials were generated from boring BH-4 and therefore, groundwater sample BH4W was analyzed for TPH as gasoline, BTEX and MTBE. Soil and groundwater samples collected from BH-2 and BH-3 were analyzed for total oil and grease (TOG) and polynuclear aromatic hydrocarbons (PNAs) in addition to the above mentioned constituents at the request of Ms. Logan.

The borings were backfilled with cement slurry as per ACHCSA requirements.

Magnetic Anomaly (Concrete Slab)

On February 20, 1997, AEI investigated the area of the magnetic anomaly discovered by Mittelhauser Corporation in February, 1991. AEI probed through the overlying asphalt in the area of the anomaly. Two probes were advanced to two feet below ground surface. No concrete pad was encountered, however strong hydrocarbon odors were emitted from the soil.

III Findings

On January 10, 1997, soil and groundwater samples collected during the investigation were transported to McCampbell Analytical, Inc. for analysis. One soil sample collected at 15 feet bgs from each boring and the groundwater samples from BH-1, BH-2, BH-4 and BH-6 were analyzed on January 10, 1997. Analytical results and chain of custody documents are included as Attachment C.

No detectable concentrations of petroleum hydrocarbons were present in the soil samples analyzed from BH-1, BH-2 and BH-3. PNAs were not present above method detection limits within soil samples analyzed from BH-2, and BH-3. TPH as gasoline was present in soil samples analyzed from borings advanced in the vicinity of the magnetic anomaly (BH-4, BH-5 and BH-6) at concentrations ranging from 1.2 mg/kg to 1100 mg/kg. TPH as diesel was present at concentrations ranging from 1.9 mg/kg to 370 mg/kg in the BH-4, BH-5 and BH-6 soil samples. Minor concentrations of BTEX and MTBE were present in the analyzed soil samples. Lead concentrations in the soil ranged from 4.6 mg/kg to 23 mg/kg. Soil sample analytical data is summarized in Table 1, below.

Table 1 - Soil Sample Analyses, January 10, 1997

Sample ID (Depth)	TPHg mg/kg	TPHd mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	Lead mg/kg	TOG mg/kg	PNAs mg/kg
BH-1 (15')	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	15	NA	19
BH-2 (15')	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	8.4	<50	41
BH-3 (15')	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	7.6	<50	13
BH-4 (15')	1100	370	<3.0	<0.02	<0.02	4.4	14	6.2	NA	1.1
BH-5 (15')	2.1	1.9	<0.05	0.009	0.006	<0.005	0.016	4.6	NA	19
BH-6 (15')	190	140	<0.6	0.25	0.50	0.84	3.6	23	NA	0.27

TPHg = total petroleum hydrocarbons as gasoline
TPHd = total petroleum hydrocarbons as diesel
MTBE = methyl tertiary butyl ether
TOG = total oil and grease
PNAs = poly nuclear aromatics
mg/kg = milligrams per kilogram (ppm)

Concentrations of TPH as gasoline and was detected the groundwater samples collected from BH-1, BH-4 and BH-6 at concentrations ranging from 330 ug/L to 13,000 ug/L. Benzene and MTBE concentrations ranged from 2.0 ug/L to 870 ug/L and 170 ug/L to 320 ug/L, respectively. No TPH as gasoline, MTBE or BTEX was detected in groundwater sample BH2W, however concentrations of TPH as diesel were present at 320 ug/L. TPH as diesel concentrations were also detected in water sample BH1W and BH6W at 490 ug/L and 450,000 ug/L, respectively. PNAs were not present in the groundwater collected from BH-2. Lead was not found present in the groundwater samples. The groundwater analytical results are summarized below in Table 2.

Table 2 - Groundwater Sample Analyses, January 10, 1997

Sample ID (Depth)	TPHg ug/L	TPHd ug/L	MTBE ug/L	Benzene ug/L	Toluene ug/L	Ethyl-benzene ug/L	Xylenes ug/L	Lead mg/L	TOG mg/L	PNAs ug/L
BH1W	330	490	220	2.0	0.72	<0.5	1.3	<0.005	NA	NA
BH2W	<50	320	<5.0	<0.5	<0.5	<0.5	<0.5	<0.005	<5.0	N.D
BH4W	6600	NA	170	58	13	110	270	NA	NA	NA
BH6W	13,000	450,000	320	870	65	130	570	<0.005	NA	NA

ug/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)

IV Discussion

A Shell Service Station is located immediately south and up gradient of the subject property. The station has reported groundwater contamination from leaking underground storage tanks. Four groundwater monitoring wells were installed at the Shell Service Station at an unknown date. The earliest record of groundwater monitoring was from July, 1988. The most recent documented quarterly groundwater monitoring episode occurred in March, 1992 by Pacific Environmental Group, Inc. The four on-site wells were sampled for TPH as gasoline and BTEX. No analyses for TPH as diesel were conducted. According to the analytical results, no detectable concentrations of TPH as gasoline or BTEX were present in groundwater collected from three of the wells. Monitoring of the fourth well (MW-4) indicated TPH as gasoline and BTEX present at concentrations of 2,700 ppb, 180 ppb, 70 ppb, 5.9 ppb and 29 ppb, respectively. MW-4 is located approximately 10 feet from the southern subject property boundary. Refer to Figure 2 for a location of MW-4 and Attachment A for a copy of the Pacific Environmental Group, Inc. report.

Based upon the analytical data and reported groundwater gradient, there is a potential that off-site migration of contaminated groundwater originating from the Shell Service Station has impacted the subject property.

V Conclusions/Recommendations/Additional Investigations

Based upon analytical results of the subsurface investigation, there is a potential that groundwater contamination resulting from a release of petroleum hydrocarbons on the adjacent, up gradient Shell Service Station has migrated to the southwest corner of the subject property.

Significant concentrations of TPH as gasoline and TPH as diesel are present in the soil and groundwater in the vicinity of the magnetic anomaly. The source of the contamination is believed to be the former USTs reportedly located in this area. Further investigation would need to be conducted in order to determine the extent of soil contamination in the vicinity of the magnetic anomaly.

VI Report Limitation

This report presents a summary of work completed by All Environmental, Inc. (AEI). The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

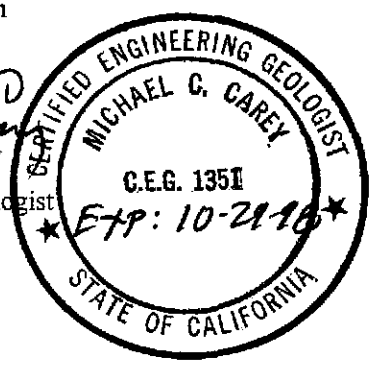
These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact me at (510) 283-6000.

Sincerely,

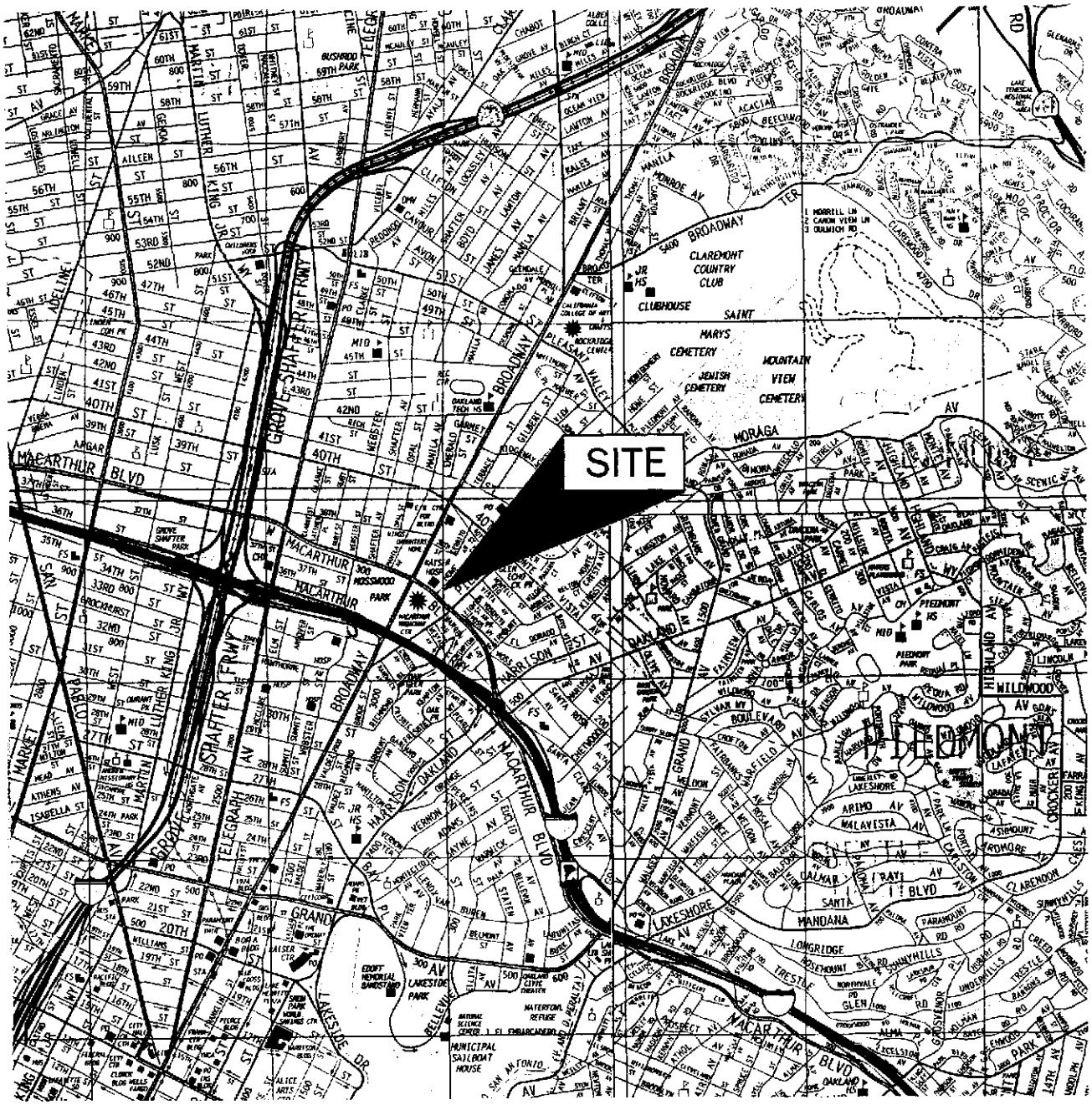
Jennifer Anderson
Project Manager

Michael C. Carey
Engineering Geologist
CEG 1351



Figures
Attachment A
Attachment B
Attachment C

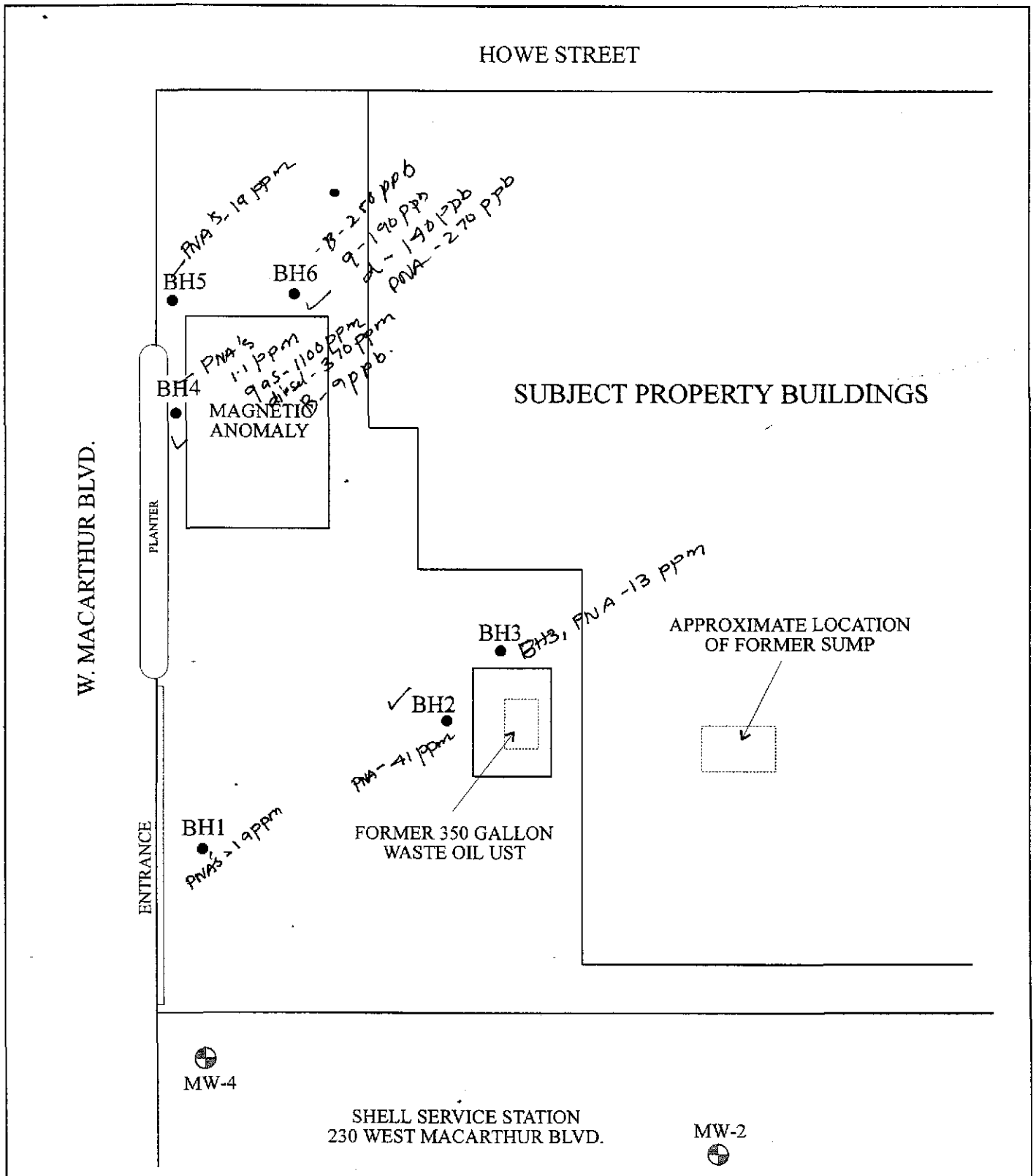
cc: Ms. Madhulla Logan



N

FROM:
THOMAS BROS. MAPS
1997

ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 2400 FT	APPROVED BY:	DRAWN BY:
DATE: 2 JANUARY 97		REVISED:
SITE LOCATION MAP		
240 WEST MACARTHUR BLVD. OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 1



ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE, CA		
SCALE: 1"=20'		REVISED BY: N. WALCHUK
DATE: 20 JANUARY 1997		APPROVED BY: J. ANDERSON
SOIL BORING LOCATION MAP		
240 WEST MACARTHUR BLVD. OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 2

MITTELHAUSER corporation

2401 Crow Canyon Road, Suite 100
San Ramon, California 94583
(415) 743-0335

April 9, 1991

Mr. Warren Dodson
Dodson, Ltd.
1323 South Flower Street
Los Angeles, California 90015

Dear Mr. Dodson:

Enclosed is a letter report to you on the oil clean-up at 240 West MacArthur Boulevard. I suggest you keep this letter report with your records about the station, in the event you are ever asked by a regulatory agency to explain how the site has been cleaned (particularly to demonstrate that the ground under the sump was clean before the hole was backfilled). Another reason might be if you attempt to reclaim costs from the present owner of the Gulf properties, which I understand is Chevron.

Other soil sampling was done which did not apply to the report, but which I wanted to explain to you because you will be getting charged for the laboratory work. For example, an interim set of samples taken from the pit did not pass the regulatory levels and more soil was then removed and the pit was sampled again. Also, samples have been taken from the pile of excavated soil because the soil cannot be disposed of at a dump without the dump knowing what is in it.

I understand the soil piles will be removed from the site within a few days and a slurry coat put on the drive to cover the stains so that things will be pretty much back to normal.

Sincerely,
MITTELHAUSER COPORATION

Marjorie Bushnell

MITTELHAUSER corporation

2401 Crow Canyon Road, Suite 100
San Ramon, California 94583
(415) 743-0335

April 9, 1991

Mr. Warren Dodson
Dodson, Ltd.
1323 South Flower Street
Los Angeles, California 90015

Subject: Sump Removal and Waste Oil Cleanup at
240 W. MacArthur Blvd., Oakland, California

Dear Mr. Dodson:

This letter is to report to you the removal of waste oil and the waste-oil sump at the above-referenced property.

All oil, sludge, and other materials standing in the sumps and in the underground waste-oil storage tank (approximately 650 gallons) were removed by Erickson, Inc. on March 13, 1991, and taken away for appropriate disposal. The sumps were steam-cleaned by the Erickson operator, and the waste-water was also transported with the other fluids.

The concrete sump was then broken up and removed. Prior visual inspection had revealed that the sump appeared intact; however, fluids were noted on the exposed pit floor, and had ponded toward the east end. Moisture and staining was apparent on the sides under floor-drain pipes entering from the sides. Samples were taken from the floor and sides, with results as follows:

Pit bottom, east end	2,600 mg/Kg oil and grease
Pit bottom, west end	630 mg/Kg oil and grease
Pit east wall	150 mg/Kg oil and grease
Pit west wall	no oil and grease detected

The samples were also tested for kerosene and for diesel and were non-detect for those components.

Based on these findings, one foot of soil was excavated from the bottom of the pit. In addition, soil was removed from the east wall until all stained soil was removed. Following this, samples were again taken from the bottom of the pit. These were non detect for oil and grease. Laboratory-analysis reports are attached to this letter.

The pit was then filled with clean, imported fill material, the soil was compacted, and the floor was reconstructed with concrete.

Dodson, Ltd.
April 9, 1991

Discussion

This phase of work addressed the problem of oil, grease, and sludge in the waste-oil sump, and any leakage underlying the sump. Soil was removed from beneath the sump until only clean soil was encountered.

Contents of the waste-oil storage tank were also removed because it was cost-efficient to have this done at the same time and because it removes a potential source of leakage.

Upon inspection, fluids underlying the waste-oil sump did not appear to have come from within the sump. Instead, floor drains carrying cleaning water, which were directed towards the sump but did not enter the sump, appeared to have leaked along the outside walls of the sump, and the fluids run underneath. The liquid appeared to be mostly water, but there were black stains. Replacement of the rusted drain pipe after sump removal should have corrected leakage at this location.

Recommendations

The possibility of oil leaking from the pipe which leads from the former sump to the waste-oil storage tank should be addressed when you remove the underground waste-oil storage tank.

Although the empty tank no longer presents a source of potential contamination, its removal and the required concurrent sampling of the underlying soil is advised. The benefit of addressing this matter early is to detect any contamination from possible earlier leakage before it has migrated to the ground water table.

Upon your request, Mittelhauser Corporation would be pleased to submit a proposal to remove the underground waste-oil storage tank. If you have any comments or questions please call me at (415) 743-0335.

Sincerely,
MITTELHAUSER CORPORATION

Marjorie Bushnell
Registered Geologist

attachment: lab reports

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 103235
CLIENT: MITTELHAUSER CORPORATION
PROJECT ID: 1522-02
LOCATION: DODSON OAKLAND

DATE RECEIVED: 03/14/91
DATE EXTRACTED: 03/14/91
DATE ANALYZED: 03/15/91
DATE REPORTED: 03/15/91

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
103235-1	1522-WEST WALL	ND	ND	1
103235-2	1522-EAST WALL	ND	ND	1
103235-3	1522-BOTTOM WEST	ND	ND	1
103235-4	1522-BOTTOM EAST	ND	ND	1

ND = Not Detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

RPD, %	10
RECOVERY, %	124

Curtis & Tompkins, Ltd.

LAB NUMBER: 103235
CLIENT: MITTELHAUSER CORPORATION
PROJECT #: 1522-02

DATE RECEIVED: 03/14/91
DATE ANALYZED: 03/15/91
DATE REPORTED: 03/15/91

ANALYSIS: HYDROCARBON OIL AND GREASE
METHOD: SMWW 17:5520 E&F

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
103235-1	1522-WEST WALL	ND	mg/Kg	50
103235-2	1522-EAST WALL	150	mg/Kg	50
103235-3	1522-BOTTOM WEST	630	mg/Kg	50
103235-4	1522-BOTTOM EAST	2,600	mg/Kg	50

ND = Not detected at or above reporting limit

QA/QC SUMMARY

RPD, %	9
RECOVERY, %	87

CHROMALAB, INC.

Analytical Laboratory (E694)

5 DAYS TURNAROUND

March 29, 1991 ChromaLab File No.: 0391122

MITTELHAUSER CORPORATION

Attn: Marjorie Bushnell

RE: Three soil samples for Oil & Grease analysis

Project Name: DODSON OAKLAND
Project Number: 1522-02
Date Sampled: March 19-24, 1991 Date Submitted: March 25, 1991
Date Extracted: March 28, 1991 Date Analyzed: March 29, 1991

RESULTS:

Sample No.	Oil & Grease (mg/Kg)
1522-3	N.D.
1522-4	N.D.
1522-C	360
BLANK	N.D.
DETECTION LIMIT	10
METHOD OF ANALYSIS	5520 D&F

ChromaLab, Inc.

David Duong
Chief Chemist

Eric Tam
Laboratory Director

2239 Omega Road, #1 • San Ramon, California 94583
415/831-1788 • Facsimile 415/831-8798
Federal ID #68-0140157

MITTELHAUSER corporation

2401 Crow Canyon Road, Suite 100
San Ramon, California 94583
(415) 743-0335

February 21, 1991

Mr. Warren Dodson
Dodson, Ltd.
1323 South Flower Street
Los Angeles, California 90015

Subject: Magnetic Survey for Underground Utilities and Recommendations
240 W. MacArthur Blvd., Oakland, California

Dear Mr. Dodson:

This letter is to report to you the results of an electronic survey conducted on February 14, 1991 to determine the presence of underground utilities and possible remaining storage tanks at your property at 240 West MacArthur Boulevard in Oakland. This survey was conducted prior to cleaning the oil sump, in case fixtures connected to the sump were revealed.

A sketch accompanying this letter shows the general features of the property. An obsolete electrical line leads to what was probably a service station sign at the southwest corner. Three other electrical lines run from the buildings to light fixtures along the MacArthur Boulevard boundary. Water, telephone, and sewer service is from Howe Street and does not impact the area of potential boring placement.

An object thought to be a waste-oil storage tank of at least 500 gallon size was identified west of the service bays, as suspected by the previously-observed cap labelled "Fill Box". A pipe leading from oil sumps in the service bays to the north side of this tank was also electronically identified. Upon opening the cap, the tank was found to be filled with what appeared to be old oil.

There is a large area of magnetic anomaly situated west of the office portion of the buildings. It is not a continuous area, but rather is in "squares" in a large region shown on the sketch. Although the signal was strong, it was the opinion of the survey operator that this was not an underground storage tank. City Fire Department records indicate that all fuel tanks have been removed. The anomaly may represent wide-spaced reinforcement placed for support

after the former tanks were removed.

While conducting the survey, I asked that potential drilling sites be given particular attention. These sites which were declared clear as a result of the survey are indicated on the attached sketch and are marked on the ground at the site with white paint.

Recommendation

We are proceeding with clean-up of the oil sumps and testing of soil underlying the sumps. If the soil is uncontaminated the sumps can be filled and surfaced. If the soil has been contaminated by the oil, the soil and the sump will need to be removed and disposed of at an appropriate site prior to backfilling the hole. Our estimated price for this work included disposing of the sludge observed within the sumps, but did not include any cost for disposing of underlying contaminated soil as this is an unknown and, with luck, there won't be any.

The underground waste-oil tank should be removed as the next step, for the following reasons.

(1) if the tank has been leaking, it is better to remove the source and complete the clean-up before the leaked substance travels further.

(2) draining and cementing the tank is a possibility, if allowed by the regulatory agencies, however this method requires extensive testing of soil from beneath the tank and it is never entirely certain that contamination has been ruled out. The tank still may need to be pulled later.

We recommend that you have this tank removed even though you postpone drilling monitoring wells until you are strongly interested in selling the property.

I will soon send you a proposal and work plan related to removing the tank; however there is some urgency to the sump clean-up due to recent E.P.A. rulings and that work will take priority.

Impact on Future Work

You once inquired how much of this work would have to be repeated if the property were not sold for, for example, ten years.

The Phase I survey we have completed for you would need to be updated to reflect interim uses of the property and changes in the neighborhood.

The sump clean-up and tank removal will be closed issues. At tank removal a representative of the Oakland Fire Department is present. Official records will show that this tank no longer exists and will also record the condition of the soil underlying the tank, its pipe, and the sumps.

The monitoring wells, should you decide to go ahead with this step following the tank removal, should be usable for several years; however, it is always possible that a well can fail.

Should you postpone the monitoring wells, the underground survey will remain valid and this letter indicating the results of that survey should be kept for guidance at the time the wells are installed.

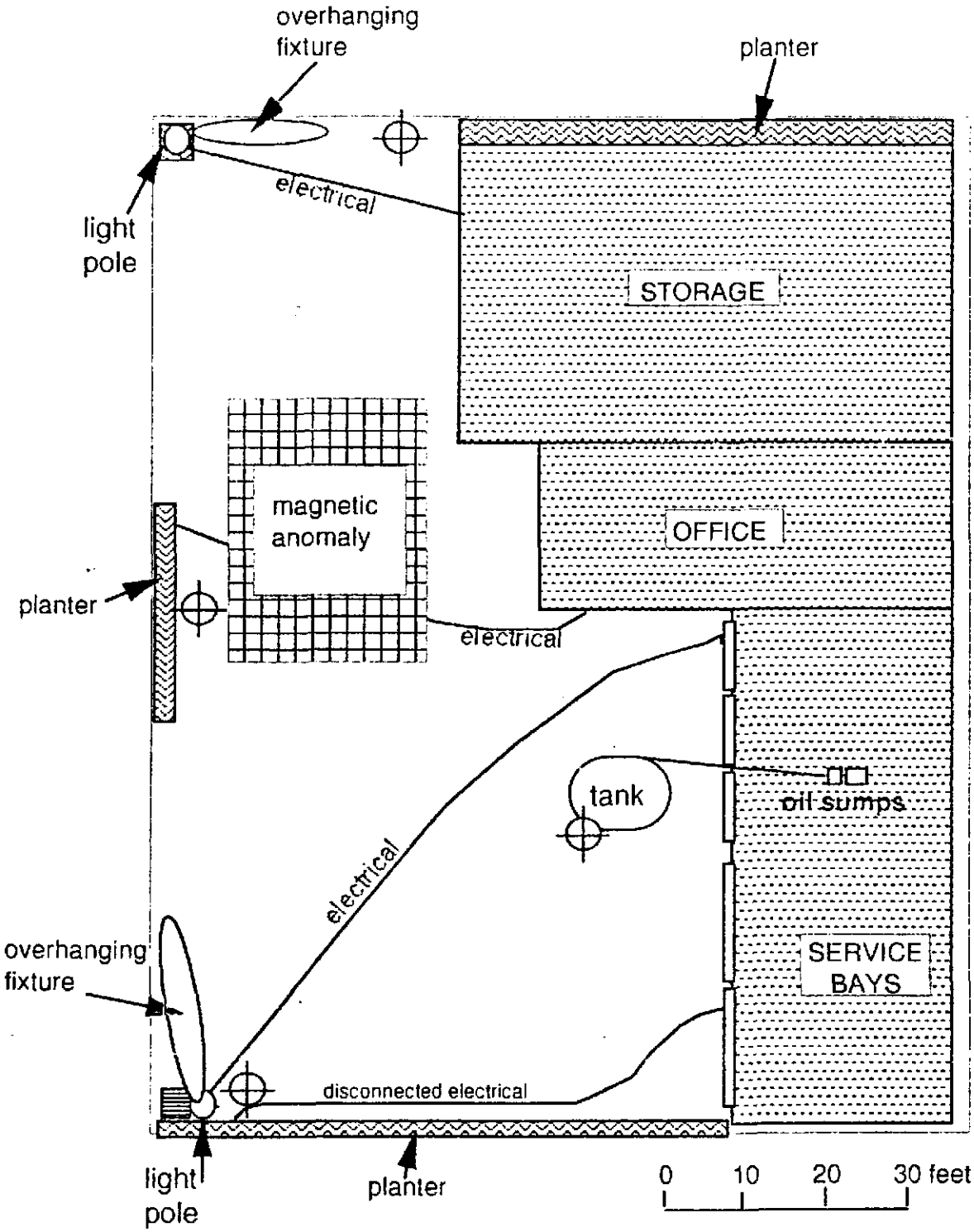
Hope this answers some questions; if I can elaborate further please phone me at (415) 743-0335.

(510)

Sincerely,
MITTELHAUSER COPORATION

Marjorie Bushnell

enclosure:
site drawing


overhanging fixture
planter
light pole
electrical
STORAGE
magnetic anomaly
OFFICE
planter
electrical
tank
oil sumps
electrical
overhanging fixture
SERVICE BAYS
disconnected electrical
light pole
planter
0 10 20 30 feet
proposed monitoring well location
N

PACIFIC
ENVIRONMENTAL
GROUP, INC.

01

May 8, 1992
Project 305-85.01

Mr. Dan Kirk
Shell Oil Company
P.O. Box 5278
Concord, California 94520

Re: Shell Service Station
230 West MacArthur Boulevard at Piedmont Avenue
Oakland, California
WIC No 204-5508-0703

Dear Mr. Kirk:

This letter presents the results of the first quarter 1992 monitoring program prepared for Shell Oil Company (Shell) by Pacific Environmental Group, Inc. (PACIFIC) for the above referenced site (Figures 1 and 2). The scope of work included sampling and analysis of groundwater from four on-site monitoring wells (MW-1 through MW-4), construction of a groundwater elevation map and a gasoline/benzene concentration map, and preparation of this report.

SITE CONDITIONS

The site is currently operational. Three underground fuel storage tanks are located in the southern portion of the site. Figure 2 presents the service station layout, including storage tank locations and pump islands. There are currently four groundwater monitoring wells on site (MW-1 through MW-4).

GROUNDWATER MONITORING

The four on-site monitoring wells were sampled on March 13, 1992 by Emcon Associates (Emcon) at the direction of PACIFIC. Depth to groundwater in the four on-site wells ranged between 12.72 and 14.66 feet. Historically, the groundwater flow direction has been towards the west or northwest. This quarter the groundwater level data shows a groundwater trough trending north-south. The gradient in the eastern portion of the site is 0.012. Table 1 presents groundwater elevation data. Figure 2 presents groundwater contours for March 1992.

1601 Civic Center Drive, Suite 202, Santa Clara, California 95050 (408) 984-6536 FAX: (408) 243-3911
620 Contra Costa Boulevard, Suite 209, Pleasant Hill, California 94523 (510) 825-0855 FAX: (510) 825-0882

Groundwater samples from each well were analyzed for low-boiling hydrocarbons (calculated as gasoline) and for benzene, toluene, ethylbenzene and xylene isomers (BTEX compounds).

Gasoline and benzene was detected only in Well MW-4 at concentrations of 2,700 parts per billion (ppb) and 180 ppb, respectively. The hydrocarbon sheen noted during the previous quarterly event was not present during the current event. Figure 3 presents a gasoline/benzene concentration map and Table 2 presents groundwater analytical data. Emcon's groundwater sampling report is presented in Attachment A. The next quarterly sampling event is scheduled for June 1992.

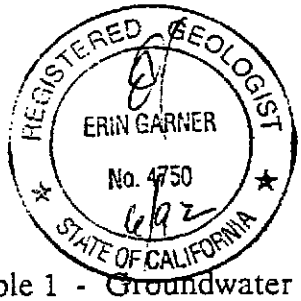
If you have any questions regarding the contents of this letter, please call.

Sincerely,

Pacific Environmental Group, Inc.

Michael Hurd
Project Geologist

Erin Garner
Senior Geologist
RG 4750



Attachments: Table 1 - Groundwater Elevation Data
Table 2 - Groundwater Analytical Data - Low-Boiling Hydrocarbons
Figure 1 - Site Location Map
Figure 2 - Groundwater Contour Map
Figure 3 - Gasoline/Benzene Concentration Map
Attachment A - Groundwater Sampling Report

cc: Ms. Lisa McCann, California Regional Water Quality Control Board Bay Area Region
Mr. Craig Mayfield, Alameda County Flood Control and Water Conservation District
Mr. Gil Wistar, Alameda County Health Department

Table 1
Groundwater Elevation Data

Shell Service Station
230 West MacArthur Boulevard at Piedmont Avenue
Oakland, California

Well Number	Date Sampled	Well Elevation (feet, MSL)	Depth to Water (feet)	Groundwater Elevation (feet, MSL)
MW-1	07/14/88	73.89	13.30	60.59
	10/04/88		13.65	60.24
	11/10/88		13.55	60.34
	12/09/88		13.22	60.67
	01/10/89		12.86	61.03
	01/20/89		12.91	60.98
	02/06/89		12.94	60.95
	03/10/89		12.59	61.30
	06/06/89		14.05	59.84
	09/07/89		14.92	58.97
	12/18/89		14.88	59.01
	03/08/90		14.08	59.81
	06/07/90		13.89	60.00
	09/05/90		14.83	59.06
	12/03/90		15.05	58.84
	03/01/91		14.34	59.55
	06/03/91		14.16	59.73
	09/04/91		14.60	59.29
	03/13/92		13.40	60.49
MW-2	07/14/88	75.24	15.18	60.06
	10/04/88		15.30	59.94
	11/10/88		15.17	60.07
	12/09/88		14.82	60.42
	01/20/89		14.54	60.70
	02/06/89		14.59	60.65
	03/10/89		14.88	60.36
	06/06/89		15.30	59.94
	09/07/89		16.76	58.48
	12/18/89		16.65	58.59
	03/08/90		15.92	59.32
	06/07/90		16.10	59.14
	09/05/90		16.61	58.63
	12/03/90		17.06	58.18
	03/01/91		16.62	58.62
	06/03/91		16.65	58.59
	09/04/91		16.57	58.67
	03/13/92		14.66	60.58

Table 1 (continued)
Groundwater Elevation Data

Shell Service Station
230 West MacArthur Boulevard at Piedmont Avenue
Oakland, California

Well Number	Date Sampled	Well Elevation (feet, MSL)	Depth To Water (feet)	Groundwater Elevation (feet, MSL)
MW-3	07/14/88	74.68	14.05	60.63
	10/04/88		14.60	60.08
	11/10/88		14.35	60.33
	12/09/88		14.04	60.64
	01/10/89		13.70	60.98
	01/20/89		13.72	60.96
	02/06/89		13.75	60.93
	03/10/89		13.42	61.26
	06/06/89		14.52	60.16
	09/07/89		15.52	59.16
	12/18/89		19.59	55.09
	03/08/90		14.72	59.96
	06/07/90		14.65	60.03
	09/05/90		15.51	59.17
	12/03/90		14.85	59.83
	03/01/91		14.92	59.76
	06/03/91		14.75	59.93
	09/04/91		15.14	59.54
	03/13/92		13.50	61.18
MW-4	01/23/90	73.83	14.68	59.15
	03/08/90		14.38	59.45
	06/07/90		14.27	59.56
	09/05/90		15.40	58.43
	12/03/90		15.90	57.93
	06/03/91		14.60	59.23
	09/04/91		15.25	58.58
	03/13/92		12.72	61.11

MSL = Mean sea level, measurements taken from top of casing.

Table 2
Groundwater Analytical Data
Low-Boiling Hydrocarbons

Shell Service Station
230 MacArthur Boulevard at Piedmont Avenue
Oakland, California

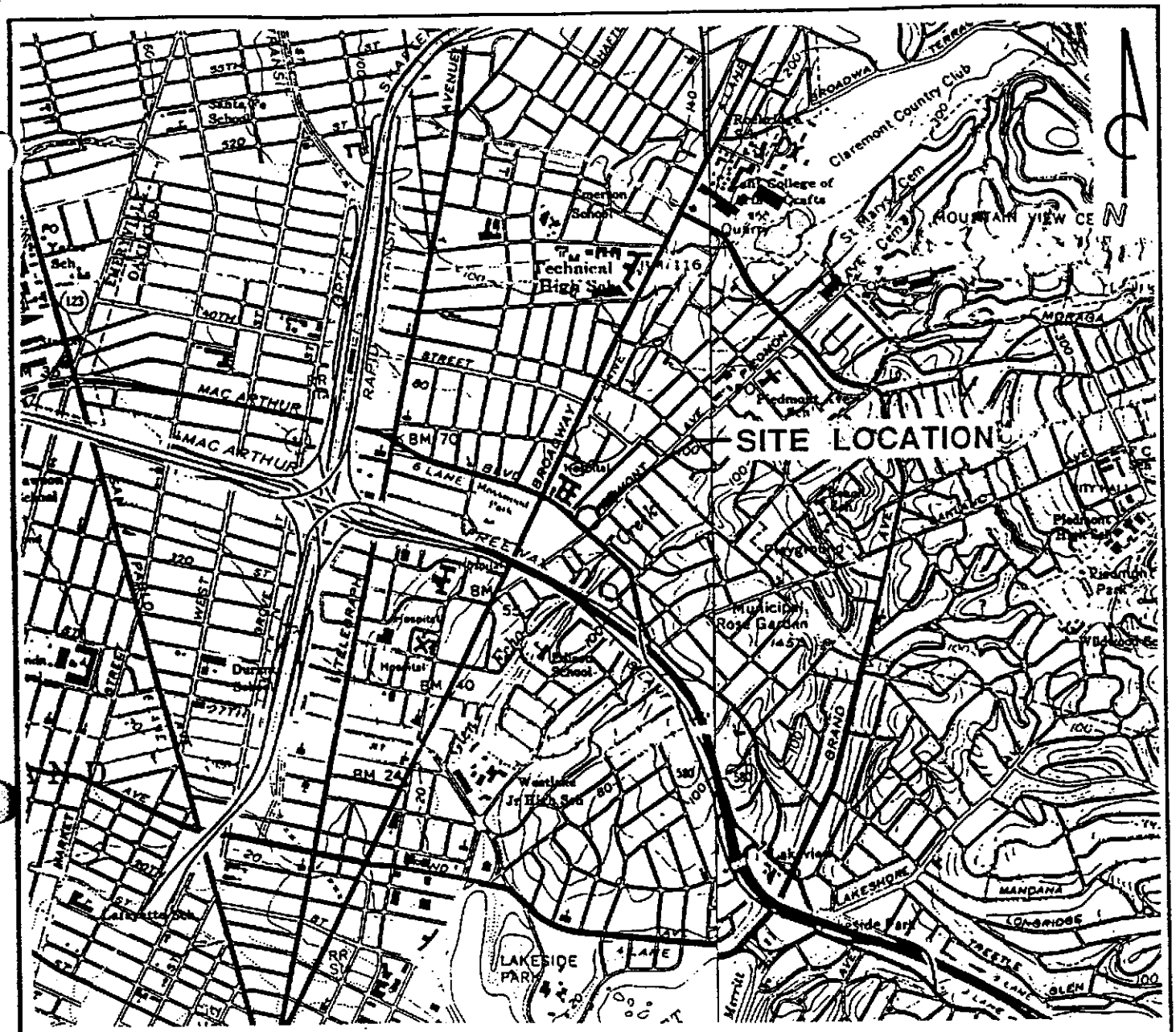
Well Number	Date Sampled	Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-1	07/14/88	ND	ND	ND	ND	ND
	10/04/88	ND	8	4.3	ND	9
	11/10/88	ND	ND	ND	ND	ND
	12/09/88	ND	ND	ND	ND	ND
	01/10/89	ND	ND	ND	ND	NA
	01/20/89	ND	ND	NA	NA	ND
	02/06/89	ND	ND	ND	ND	ND
	03/10/89	ND	ND	ND	ND	ND
	06/06/89	ND	ND	ND	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	12/18/89	ND	ND	ND	ND	ND
	03/08/90	ND	ND	ND	ND	ND
	06/07/90	ND	ND	ND	ND	ND
	09/05/90	ND	ND	ND	ND	ND
	12/03/90	ND	ND	ND	ND	ND
	03/01/91	ND	ND	ND	ND	ND
	06/03/91	ND	ND	ND	ND	ND
	09/04/91	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND
MW-2	07/14/88	ND	7.9	2.6	1.1	4
	10/04/88	90	ND	1.3	2.3	12
	11/10/88	ND	ND	ND	ND	2
	12/09/88	ND	ND	0.6	ND	3
	01/20/89	ND	ND	ND	ND	ND
	02/06/89	NA	ND	ND	ND	ND
	03/10/89	ND	ND	ND	ND	ND
	06/06/89	ND	ND	0.5	ND	ND
	09/07/89	ND	ND	ND	ND	ND
	12/18/89	ND	ND	ND	ND	ND
	03/08/90	ND	ND	ND	ND	ND
	06/07/90	ND	ND	ND	ND	ND
	09/05/90	ND	ND	ND	ND	ND
	12/03/90	ND	ND	ND	ND	ND
	03/01/91	ND	ND	ND	ND	ND
	06/03/91	ND	ND	ND	ND	ND
	09/04/91	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND

Table 2 (continued)
Groundwater Analytical Data
Low-Boiling Hydrocarbons

Shell Service Station
230 MacArthur Boulevard at Piedmont Avenue
Oakland, California

Well Number	Date Sampled	Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
MW-3	07/14/88	ND	ND	ND	ND	ND
	10/04/88	ND	ND	ND	ND	5
	11/10/88	ND	ND	ND	ND	ND
	12/09/88	ND	ND	ND	ND	ND
	01/10/89	ND	ND	ND	ND	NA
	01/20/89	NA	NA	ND	ND	ND
	02/06/89	70	ND	ND	ND	ND
	03/10/89	150	ND	ND	ND	ND
	06/06/89	ND	ND	ND	ND	ND
	09/07/89	ND	0.65	ND	ND	ND
	12/06/89	46	1.3	ND	0.44	0.66
	03/08/90	ND	ND	ND	ND	ND
	06/07/90	ND	ND	ND	ND	ND
	09/05/91	ND	ND	ND	ND	ND
	12/03/90	ND	ND	ND	ND	ND
	03/01/91	1.9	59	ND	22	ND
	06/03/91	ND	ND	ND	ND	ND
	09/04/91	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND
MW-4	01/23/90	1,600	100	10	30	20
	03/08/90	4,200	260	18	88	39
	06/07/90	2,000	150	6.9	14	17
	09/05/90	1,700	130	10	7.2	19
	12/03/90	2,600	108	41	17	59
	06/03/91	2,800	160	15	8.8	32
	09/04/91	NS	NS	NS	NS	NS
	03/13/92	2,700	180	70	5.9	29

ppb = Parts per billion
ND = Not detected
NA = Not analyzed
NS = Not sampled, hydrocarbon sheen observed
See certified analytical results for detection limits.



QUADRANGLE LOCATION

REFERENCES:

USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED: OAKLAND WEST, CALIFORNIA
DATED: 1959 REVISED: 1980
TITLED: OAKLAND EAST, CALIFORNIA
DATED: 1959 REVISED: 1980

SCALE

2000 0 2000 FEET

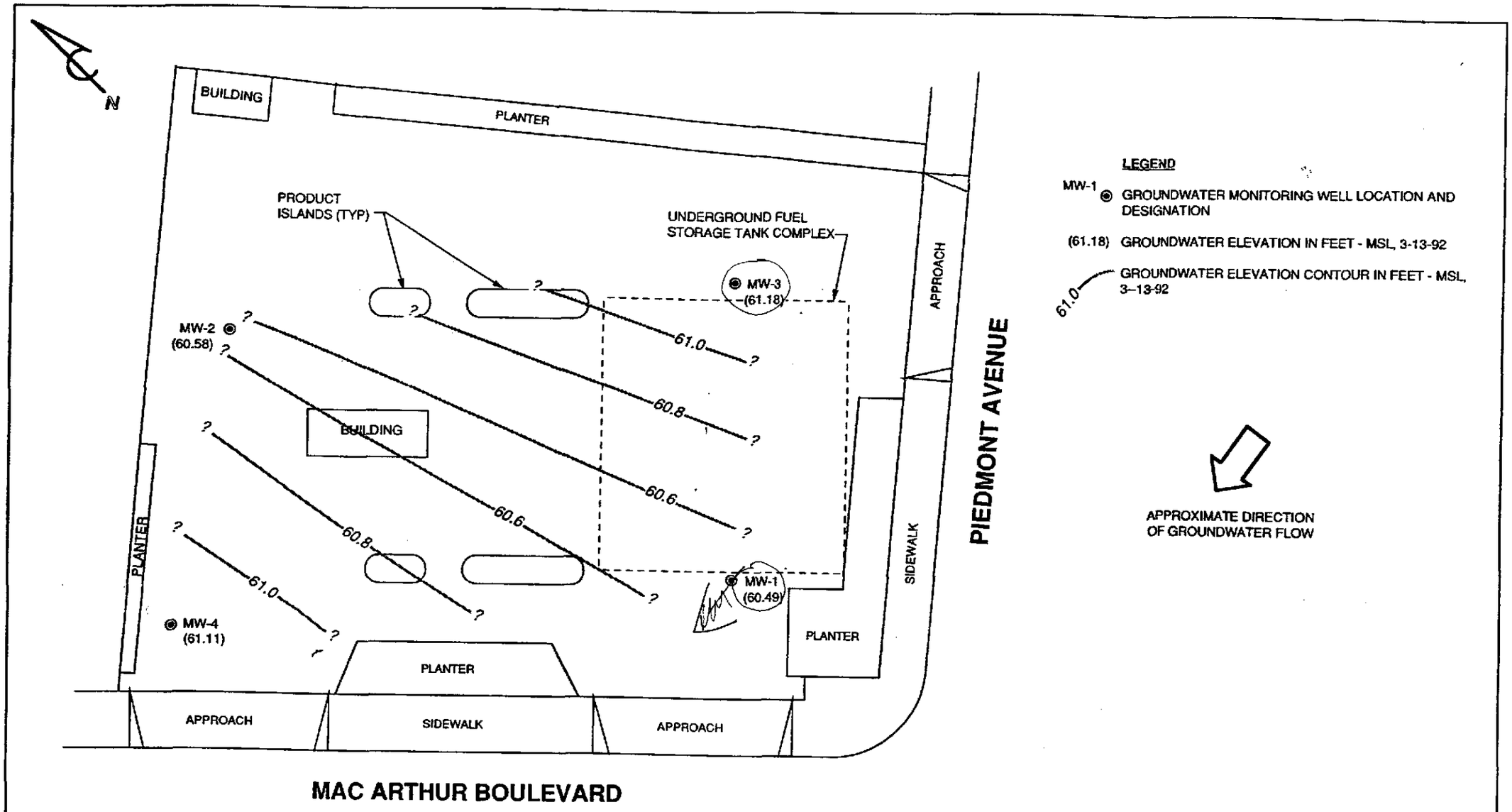
PACIFIC ENVIRONMENTAL GROUP INC.

SHELL SERVICE STATION
230 Mac Arthur Boulevard at Piedmont Avenue
Oakland, California

SITE LOCATION MAP

FIGURE: 1

PROJECT: 305-85.01



PACIFIC ENVIRONMENTAL GROUP, INC.

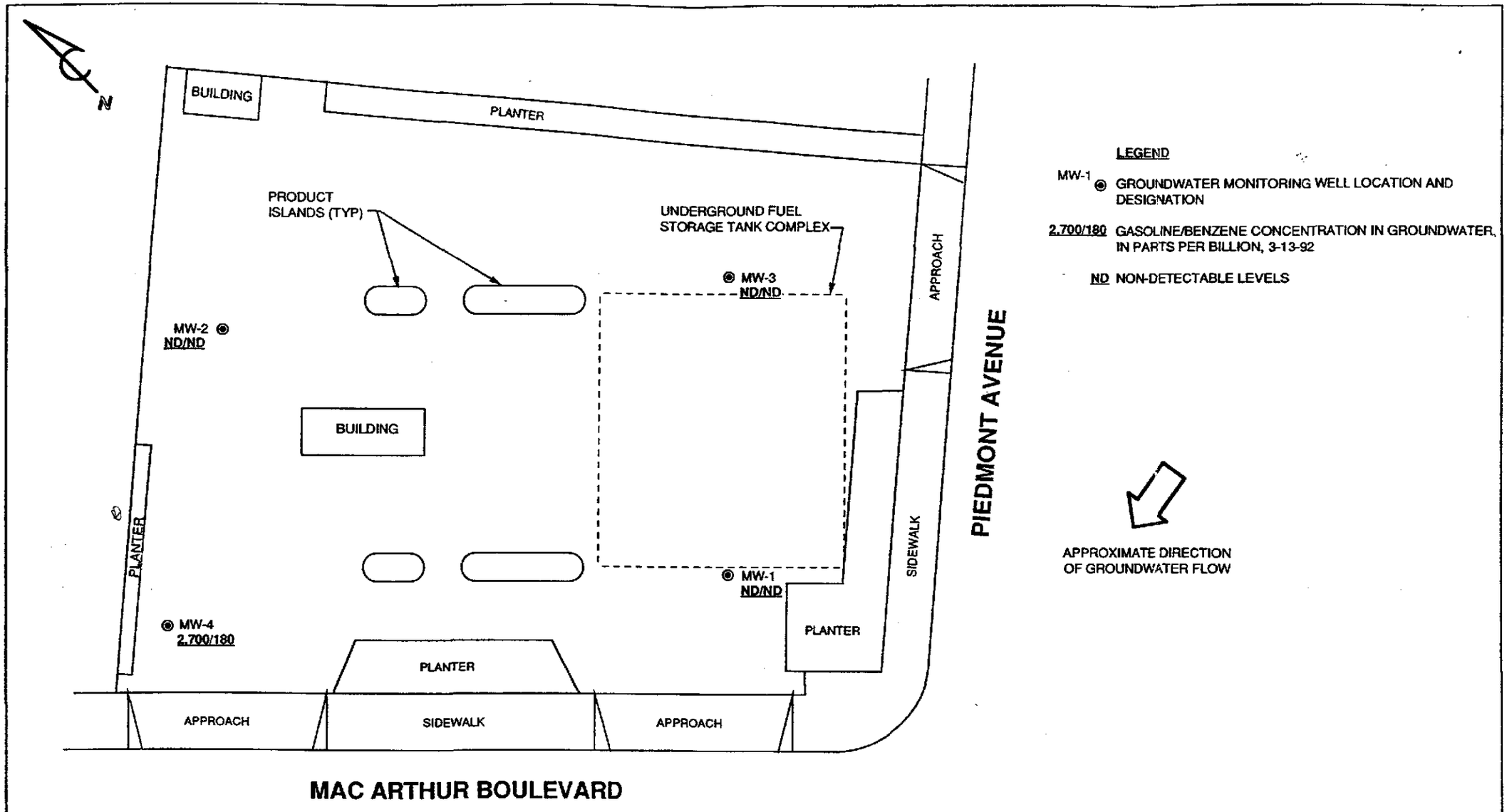
SCALE
0 20 40 FEET

SHELL SERVICE STATION
230 West MacArthur Boulevard at Piedmont Avenue
Oakland, California

GROUNDWATER CONTOUR MAP

FIGURE: **2**
PROJECT: 305-85.01

05/08/92



LEGEND

MW-1 ◉ GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION

2,700/180 GASOLINE/BENZENE CONCENTRATION IN GROUNDWATER, IN PARTS PER BILLION, 3-13-92

ND NON-DETECTABLE LEVELS

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 20 40 FEET

SHELL SERVICE STATION
230 West MacArthur Boulevard at Piedmont Avenue
Oakland, California

GASOLINE/BENZENE CONCENTRATION MAP

FIGURE: 3

PROJECT: 305-85.01

05/08/92

PROJECT: DODSON - Project No. 1493	**LOG OF BOREHOLE:** BH-1
BORING LOC.: SOUTHWEST CORNER OF PROPERTY	ELEVATION, TOC: --
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 1/8/97 / END DATE: 1/8/97
DRILLING METHOD: DIRECT PUSH	TOTAL DEPTH: 20.0'
DRILLING EQUIPMENT: GEOPROBE DRILL RIG	DEPTH TO WATER: 15.0'
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: J.S. ANDERSON
HAMMER WEIGHT and FALL: N/A	RESPONSIBLE PROFESSIONAL: MC

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				
1						
2						
3						
4						
5	CL	4.0 - 6.0; Silty Clay w/ sand; moderate yellowish brown, 10YR 5/4.	L-1			No Hydrocarbon odor.
6						
7						
8						
9						
10	SM	9.0 - 11.0; Silty Sand; mod. yellowish brown 10YR 4/2.	L-2			No Hydrocarbon odor.
11						
12						
13						
14						

PROJECT: DODSON - Project No. 1493 | **LOG OF BOREHOLE:** BH-1

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
15	CL	14.0 - 16.0; Silty Sand (cont.)	L-3			▼ No Hydrocarbon odor. Moist.
16						
17						
18						
19						
20		Borehole terminated at 20.0 feet.				Borehole backfilled with cement grout.
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: DODSON - Project No. 1493	**LOG OF BOREHOLE:** BH-2	
BORING LOC.: WEST OF FORMER W.O. UST	ELEVATION, TOC: --	
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 1/8/97	END DATE: 1/8/97
DRILLING METHOD: DIRECT PUSH	TOTAL DEPTH: 20.0'	
DRILLING EQUIPMENT: GEOPROBE DRILL RIG	DEPTH TO WATER: 15.0'	
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: J.S. ANDERSON	
HAMMER WEIGHT and FALL: N/A	RESPONSIBLE PROFESSIONAL: MC	

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				
4	CL	4.0 - 6.0; Silty Clay; yellowish brown, 10YR 5/4.	L-1			No Hydrocarbon odor.
9	CL	9.0 - 11.0; Same.	L-2			No Hydrocarbon odor.

PROJECT: DODSON - Project No. 1493 | **LOG OF BOREHOLE:** BH-2

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
15	CL	14.0 - 16.0; Silty Clay: moderate yellowish brown, 10YR 5/4, moist.	L-3			No Hydrocarbon odor. Moist. ▼
16						
17						
18						
19						
20		Borehole terminated at 20.0 feet.				Borehole backfilled with cement grout.
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: DODSON - Project No. 1493	**LOG OF BOREHOLE:** BH-3	
BORING LOC.: NORTH OF FORMER W.O. UST	ELEVATION, TOC: --	
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 1/8/97	END DATE: 1/8/97
DRILLING METHOD: DIRECT PUSH	TOTAL DEPTH: 16.0'	
DRILLING EQUIPMENT: GEOPROBE DRILL RIG	DEPTH TO WATER: NA	
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: J.S. ANDERSON	
HAMMER WEIGHT and FALL: N/A	RESPONSIBLE PROFESSIONAL: MC	

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				
1						
2						
3						
4						
5	CL	4.0 - 6.0; Silty Clay; mod. yellowish brown, 10YR 5/4.	L-1			No Hydrocarbon odor.
6						
7						
8						
9						
10	CL	9.0 - 11.0; Same.	L-2			No Hydrocarbon odor.
11						
12						
13						
14						

PROJECT: DODSON - Project No. 1493	**LOG OF BOREHOLE:** BH-4
BORING LOC.: WEST OF MAGNETIC ANOMALY	ELEVATION, TOC: --
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 1/8/97 / END DATE: 1/8/97
DRILLING METHOD: DIRECT PUSH	TOTAL DEPTH: 20.0'
DRILLING EQUIPMENT: GEOPROBE DRILL RIG	DEPTH TO WATER: 15.0'
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: J.S. ANDERSON
HAMMER WEIGHT and FALL: N/A	RESPONSIBLE PROFESSIONAL: MC

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				
4	CL	4.0 - 6.0; Sandy Gravely Clay; mod. yellowish brown, 10YR 5/4, gravel up to 1/4".	L-1			No Hydrocarbon odor.
9	CL	9.0 - 11.0; Silty Clay; mod. yellowish brown, 10YR 5/4, med. stiff.	L-2			Slight odor.

PROJECT: DODSON - Project No. 1493 | **LOG OF BOREHOLE:** BH-4

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
15	CL	14.0 - 16.0; Silty Clay: grayish green, 10GY 5/2.	L-3			▼ Strong Hydrocarbon odor. Moist.
16						
17						
18						
19						
20		Borehole terminated at 20.0 feet.				Borehole backfilled with cement grout.
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: DODSON - Project No. 1493	**LOG OF BOREHOLE:** BH-5
BORING LOC.: NW OF MAGNETIC ANOMALY	ELEVATION, TOC: --
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 1/8/97 / END DATE: 1/8/97
DRILLING METHOD: DIRECT PUSH	TOTAL DEPTH: 16.0'
DRILLING EQUIPMENT: GEOPROBE DRILL RIG	DEPTH TO WATER: NA
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: J.S. ANDERSON
HAMMER WEIGHT and FALL: N/A	RESPONSIBLE PROFESSIONAL: MC

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				
4	CL	4.0 - 6.0; Sandy Gravely Clay; dark yellowish orange, 10YR 6/6, gravel up to 1/4".	L-1			No Hydrocarbon odor.
9	CL	9.0 - 11.0; Silty Clay; dark yellowish orange, 10YR 6/6.	L-2			No Hydrocarbon odor.

PROJECT: DODSON - Project No. 1493 | **LOG OF BOREHOLE:** BH-5

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
15	CL	14.0 - 16.0; Silty Clay: dark yellowish orange, 10 YR 6/6 w/ pale green mottling 10 G 6/2.	L-3			Slight Hydrocarbon odor.
16		Borehole terminated at 16.0 feet.				Borehole backfilled with cement grout.
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: DODSON - Project No. 1493	**LOG OF BOREHOLE:** BH-6
BORING LOC.: NORTH OF MAGNETIC ANOMALY	ELEVATION, TOC: --
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 1/8/97 / END DATE: 1/8/97
DRILLING METHOD: DIRECT PUSH	TOTAL DEPTH: 20.0'
DRILLING EQUIPMENT: GEOPROBE DRILL RIG	DEPTH TO WATER: 15.0'
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: J.S. ANDERSON
HAMMER WEIGHT and FALL: N/A	RESPONSIBLE PROFESSIONAL: MC

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				
1						
2						
3						
4						
5	CL	4.0 - 6.0; Sandy Gravely Clay; mod. yellowish brown, 10YR 5/4 w/ gray mottling.	L-1			No Hydrocarbon odor.
6						
7						
8						
9						
10	CL	9.0 - 11.0; Silty Clay; mod. yellowish brown, 10YR 5/4, gray mottling.	L-2			No Hydrocarbon odor.
11						
12						
13						
14						

PROJECT: DODSON - Project No. 1493 | **LOG OF BOREHOLE:** BH-6

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
15	CL	14.0 - 16.0; Silty Clay: grayish green, 10GY 5/2.	L-3a			▼ Strong Hydrocarbon odor. Moist.
16			L-3			
17						
18						
19						
20		Borehole terminated at 20.0 feet.				Borehole backfilled with cement grout.
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: DODSON - Project No. 1493 | **LOG OF BOREHOLE:** BH-3

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	COMMENTS
15	CL	14.0 - 16.0; Silty Clay: moderate yellowish brown, 10YR 5/4.	L-3			No Hydrocarbon odor. Moist.
16		Borehole terminated at 16.0 feet.				Borehole backfilled with cement grout.
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

01/17/97

Dear Jennifer:

Enclosed are:

1). the results of **10** samples from your **# 1493; Dodson** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1493; Dodson	Date Sampled: 01/08/97
		Date Received: 01/10/97
	Client Contact: Jennifer Anderson	Date Extracted: 01/10-01/13/97
	Client P.O:	Date Analyzed: 01/10-01/13/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*
EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
72755	BH4,L3-15'	S	1100,j	ND< 3	ND< 0.02	ND< 0.02	4.4	14	---#
72758	BH5,L3-15'	S	2.1,j	ND	0.009	0.006	ND	0.016	104
72762	BH6,L3-15'	S	190,j	ND< 0.6	0.25	0.50	0.84	3.6	118#
72765	BH2,L3-15'	S	ND	ND	ND	ND	ND	ND	97
72768	BH3,L3-15'	S	ND	ND	ND	ND	ND	ND	98
72771	BH1,L3-15'	S	ND	ND	ND	ND	ND	ND	97
72772	BH4W	W	6600,b,d	170	58	13	110	270	97
72773	BH6W	W	13,000,a,h	320	870	65	130	570	102
72774	BH2W	W	ND,i	ND	ND	ND	ND	ND	105
72775	BH1W	W	330,c,j,i	220	2.0	0.72	ND	1.3	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1493; Dodson	Date Sampled: 01/08/97
		Date Received: 01/10/97
	Client Contact: Jennifer Anderson	Date Extracted: 01/10/97
	Client P.O:	Date Analyzed: 01/10/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
72755	BH4,L3-15'	S	370,d	102
72758	BH5,L3-15'	S	1.9,d	102
72762	BH6,L3-15'	S	140,d	102
72765	BH2,L3-15'	S	ND	107
72768	BH3,L3-15'	S	ND	107
72771	BH1,L3-15'	S	ND	108
72773	BH6W	W	450,000,d,h	108
72774	BH2W	W	320,g,b,i	105
72775	BH1W	W	490,g,d,i	108
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

* water samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP and STLC extracts in mg/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1493; Dodson	Date Sampled: 01/08/97
		Date Received: 01/10/97
	Client Contact: Jennifer Anderson	Date Extracted: 01/10/97
	Client P.O:	Date Analyzed: 01/10/97

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
72765	BH2,L3-15'	S	ND
72768	BH3,L3-15'	S	ND
72774	BH2W	W	ND,i
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L and soil and sludge samples in mg/kg

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1493; Dodson	Date Sampled: 01/08/97
		Date Received: 01/10/97
	Client Contact: Jennifer Anderson	Date Extracted: 01/13/97
	Client P.O:	Date Analyzed: 01/13/97

Dissolved Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction°	Lead*	% Recovery Surrogate
72773	BH6W	W	TTLC	ND	NA
72774	BH2W	W	TTLC	ND,i	NA
72775	BH1W	W	TTLC	ND,i	NA
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, and water samples and all STLC & TCLP extracts in mg/L

+ Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC from CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~ 2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1493; Dodson	Date Sampled: 01/08/97
		Date Received: 01/10/97
	Client Contact: Jennifer Anderson	Date Extracted: 01/10/97
	Client P.O:	Date Analyzed: 01/13/97

Lead*

EPA analytical methods 6010/200.7, 239.2+

Lab ID	Client ID	Matrix	Extraction°	Lead*	% Recovery Surrogate
72755	BH4,L3-15'	S	TTLC	6.2	102
72758	BH5,L3-15'	S	TTLC	4.6	102
72762	BH6,L3-15'	S	TTLC	23	102
72765	BH2,L3-15'	S	TTLC	8.4	103
72768	BH3,L3-15'	S	TTLC	7.6	103
72771	BH1,L3-15'	S	TTLC	15	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	TTLC	3.0 mg/kg	
		W	TTLC	0.005 mg/L	
		---	STLC,TCLP	0.2 mg/L	

* soil and sludge samples are reported in mg/kg, and water samples and all STLC & TCLP extracts in mg/L

+ Lead is analysed using EPA method 6010 (ICP)for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

° EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC from CA Title 22

surrogate diluted out of range; N/A means surrogate not applicable to this analysis

& reporting limit raised due matrix interference

i) liquid sample that contains greater than ~ 2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 01/10/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#68847)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.941	1.760	2.03	96	87	9.8
Benzene	0.000	0.180	0.192	0.2	90	96	6.5
Toluene	0.000	0.186	0.196	0.2	93	98	5.2
Ethylbenzene	0.000	0.190	0.194	0.2	95	97	2.1
Xylenes	0.000	0.582	0.588	0.6	97	98	1.0
TPH (diesel)	0	315	307	300	105	102	2.5
TRPH (oil and grease)	0.0	23.9	24.3	20.8	115	117	1.7

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 01/10/97 Matrix: Water

Analyte	Concentration (mg/L) Sample (#72590)	MS	MSD	Amount Spiked	% Recovery MS	% Recovery MSD	RPD
TPH (gas)	0.0	101.2	99.2	100.0	101.2	99.2	2.0
Benzene	0.0	10.7	10.8	10.0	107.0	108.0	0.9
Toluene	0.0	10.7	10.8	10.0	107.0	108.0	0.9
Ethyl Benzene	0.0	10.8	11.0	10.0	108.0	110.0	1.8
Xylenes	0.0	32.4	32.8	30.0	108.0	109.3	1.2
TPH (diesel)	0	151	155	150	101	103	2.1
TRPH (oil & grease)	0	24000	23300	23700	101	98	3.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 01/13/97 Matrix: Water

Analyte	Concentration (mg/L) Sample (#72698)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	97.6	94.9	100.0	97.6	94.9	2.9
Benzene	0.0	10.3	10.5	10.0	103.0	105.0	1.9
Toluene	0.0	10.5	10.6	10.0	105.0	106.0	0.9
Ethyl Benzene	0.0	10.5	10.6	10.0	105.0	106.0	0.9
Xylenes	0.0	31.3	31.5	30.0	104.3	105.0	0.6
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0	25300	24600	23700	107	104	2.8

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR ICP and/or AA METALS

Date: 01/13/97 Matrix: Soil/TTLC

Analyte	Concentration (mg/kg, mg/L)			Amount	% Recovery		RPD
	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	0.0	5.08	5.25	5.0	102	105	3.2
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STLC Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR METALS

Date: 01/13/97 Matrix: Water/Dissolved

Extraction: TTLC

Analyte	Concentration (mg/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
Arsenic	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silver	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thallium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beryllium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Antimony	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead	0.0	4.5	4.8	5.0	91	95	4.7
Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cobalt	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

CHROMALAB, INC.

Environmental Services (SDB)

January 17, 1997 *Submission #:* 9701132

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-D1493 *Project#:* 7933
Received: January 13, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **BH2, L3-15'**
Spl#: 113775 *Matrix:* SOIL *Extracted:* January 15, 1997
Sampled: January 8, 1997 *Run#:* 4917 *Analyzed:* January 15, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	0.10	N.D.	--	1
ACENAPHTHYLENE	N.D.	0.10	N.D.	--	1
ACENAPHTHENE	N.D.	0.10	N.D.	76.6	1
FLUORENE	N.D.	0.10	N.D.	--	1
PHENANTHRENE	N.D.	0.10	N.D.	--	1
ANTHRACENE	N.D.	0.10	N.D.	--	1
FLUORANTHENE	N.D.	0.10	N.D.	--	1
PYRENE	N.D.	0.10	N.D.	72.3	1
BENZO(A)ANTHRACENE	N.D.	0.10	N.D.	--	1
CHRYSENE	N.D.	0.10	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	0.10	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	0.20	N.D.	--	1
BENZO(A)PYRENE	N.D.	0.035	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	0.20	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	0.20	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	0.20	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

January 17, 1997 *Submission #:* 9701132

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-D1493 *Project#:* 7933
Received: January 13, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **BH3, L3-15'**
Spl#: 113776 *Matrix:* SOIL *Extracted:* January 15, 1997
Sampled: January 8, 1997 *Run#:* 4917 *Analyzed:* January 15, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	0.10	N.D.	--	1
ACENAPHTHYLENE	N.D.	0.10	N.D.	--	1
ACENAPHTHENE	N.D.	0.10	N.D.	76.6	1
FLUORENE	N.D.	0.10	N.D.	--	1
PHENANTHRENE	N.D.	0.10	N.D.	--	1
ANTHRACENE	N.D.	0.10	N.D.	--	1
FLUORANTHENE	N.D.	0.10	N.D.	--	1
PYRENE	N.D.	0.10	N.D.	72.3	1
BENZO(A)ANTHRACENE	N.D.	0.10	N.D.	--	1
CHRYSENE	N.D.	0.10	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	0.10	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	0.20	N.D.	--	1
BENZO(A)PYRENE	N.D.	0.035	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	0.20	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	0.20	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	0.20	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

510-798-1622 MV 01/17

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

January 17, 1997 *Submission #:* 9701132

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-D1493 *Project#:* 7933
Received: January 13, 1997

re: **Surrogate** report for 2 samples for Polynuclear Aromatic
Method: SW846 Method 8270A Nov 1990
Lab Run#: 4917
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
113775-1	BH2, L3-15'	NITROBENZENE-D5	61.3	23-120
113775-1	BH2, L3-15'	2-FLUOROBIPHENYL	65.3	30-115
113775-1	BH2, L3-15'	TERPHENYL-D14	76.4	18-137
113776-1	BH3, L3-15'	NITROBENZENE-D5	64.5	23-120
113776-1	BH3, L3-15'	2-FLUOROBIPHENYL	74.3	30-115
113776-1	BH3, L3-15'	TERPHENYL-D14	78.9	18-137

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
114421-1	*Reagent blank (MDB)*	NITROBENZENE-D5	67.4	23-120
114421-1	*Reagent blank (MDB)*	2-FLUOROBIPHENYL	73.7	30-115
114421-1	*Reagent blank (MDB)*	TERPHENYL-D14	73.6	18-137
114422-1	*Spiked blank (BSP)*	NITROBENZENE-D5	74.8	23-120
114422-1	*Spiked blank (BSP)*	2-FLUOROBIPHENYL	79.4	30-115
114422-1	*Spiked blank (BSP)*	TERPHENYL-D14	78.7	18-137
114423-1	*Spiked blank duplicate (BSD)*	NITROBENZENE-D5	49.6	23-120
114423-1	*Spiked blank duplicate (BSD)*	2-FLUOROBIPHENYL	58.4	30-115
114423-1	*Spiked blank duplicate (BSD)*	TERPHENYL-D14	76.3	18-137
114424-1	*Matrix spike (MS)*	NITROBENZENE-D5	81.6	23-120
114424-1	*Matrix spike (MS)*	2-FLUOROBIPHENYL	68.6	30-115
114424-1	*Matrix spike (MS)*	TERPHENYL-D14	56.0	18-137
114425-1	*Matrix spike duplicate (MSD)*	NITROBENZENE-D5	93.6	23-120
114425-1	*Matrix spike duplicate (MSD)*	2-FLUOROBIPHENYL	77.6	30-115
114425-1	*Matrix spike duplicate (MSD)*	TERPHENYL-D14	65.8	18-137

5105
QCSURR1229 MIKELEE 17-Jan-97 12

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

January 17, 1997 *Submission #:* 9701132

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-D1493 *Project#:* 7933
Received: January 13, 1997

re: One sample for Polynuclear Aromatic Hydrocarbons (PAHs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **BH2W**
Spl#: 113777 *Matrix:* WATER *Extracted:* January 16, 1997
Sampled: January 8, 1997 *Run#:* 4921 *Analyzed:* January 16, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	3.2	N.D.	--	1
ACENAPHTHYLENE	N.D.	3.2	N.D.	--	1
ACENAPHTHENE	N.D.	3.2	N.D.	66.0	1
FLUORENE	N.D.	8.0	N.D.	--	1
PHENANTHRENE	N.D.	3.2	N.D.	--	1
ANTHRACENE	N.D.	3.2	N.D.	--	1
FLUORANTHENE	N.D.	3.2	N.D.	--	1
PYRENE	N.D.	3.2	N.D.	74.0	1
BENZO(A)ANTHRACENE	N.D.	3.2	N.D.	--	1
CHRYSENE	N.D.	3.2	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	3.2	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	3.2	N.D.	--	1
BENZO(A)PYRENE	N.D.	3.2	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	3.2	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	3.2	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	3.2	N.D.	--	1

Note: Reporting limits raised due to limited of sample size.

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

510-798-1622 MV 01117

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

January 17, 1997 *Submission #:* 9701132

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: A-D1493 *Project#:* 7933
Received: January 13, 1997

re: **Surrogate** report for 1 sample for Polynuclear Aromatic
Method: SW846 Method 8270A Nov 1990
Lab Run#: 4921
Matrix: WATER

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
113777-1	BH2W	NITROBENZENE-D5	57.0	35-114
113777-1	BH2W	2-FLUOROBIPHENYL	61.2	43-116
113777-1	BH2W	TERPHENYL-D14	74.2	33-141

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
114448-1	*Reagent blank (MDB)*	NITROBENZENE-D5	50.7	35-114
114448-1	*Reagent blank (MDB)*	2-FLUOROBIPHENYL	57.2	43-116
114448-1	*Reagent blank (MDB)*	TERPHENYL-D14	79.4	33-141
114449-1	*Spiked blank (BSP)*	NITROBENZENE-D5	60.1	35-114
114449-1	*Spiked blank (BSP)*	2-FLUOROBIPHENYL	68.2	43-116
114449-1	*Spiked blank (BSP)*	TERPHENYL-D14	81.8	33-141
114450-1	*Spiked blank duplicate (BSD)*	NITROBENZENE-D5	59.0	35-114
114450-1	*Spiked blank duplicate (BSD)*	2-FLUOROBIPHENYL	65.4	43-116
114450-1	*Spiked blank duplicate (BSD)*	TERPHENYL-D14	82.8	33-141

S105
QCSURR1229 MIKELEE 17-Jan-97 13

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

132/113775 - 113777

31597

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553

(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY ☐ ROUTINE

REPORT TO: Ed Hamilton BILL TO: MAI

PROJECT NUMBER: 7933 PROJECT NAME: A-D1493

PROJECT LOCATION:

ANALYSIS REQUEST | OTHER

SUBM #: 9701132 REP: MV
CLIENT: MCCAM
DUE: 01/17/97
REF #: 31597

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO_3	ICE	OTHER	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 - PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM - 17 Metals	EPA - Priority Pollutant Metals	LUFT Metals	LEAD (7240/7421/239.2/6010)	ORGANIC LEAD	RCI	PNAs						COMMENTS
BH2, L3-15'		1/6/97	1155	1	VOA		X						X														X						72765
BH3, L3-15'		↓	1300	1	VOA		X						X														X						~~72765~~
BH2W		↓	—	1	Liter	X							X														X						72768
																																	72774

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Angela Rydelius	1/13/97	1329	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 1/13/97	TIME 1625	RECEIVED BY LABORATORY: Mimi

REMARKS:

ALL ENVIRONMENTAL, INC. 7933
3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

Chain of Custody

DATE: 1/8/97 PAGE: 1 OF: 2

AALE116

AEI PROJECT MANAGER: Jennifer Anderson
PROJECT NAME: Dodson
PROJECT NUMBER: 1493
SIGNATURE: [signature]
TOTAL # OF CONTAINERS: 38
RECD. GOOD COND./COLD: yes

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030,8015)	TPH-Gasoline (EPA 5030,8015) w/ BTEX and MTBE (EPA 602,8020)	TPH-Diesel (EPA 3510/3550,8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602,8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7130,7190,7420,7520,7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66261.21-3)	PNA's		
BH4, L1-5'	1/8/97	915	SOIL													72753
BH4, L2-10'	↓	930	↓													72754
BH4, L3-15'		945			X	X			X							72755
BH5, L1-5'		1015														72756
BH5, L2-10'		1025														72757
BH5, L3-15'		1035			X	X			X							72758
BH6, L1-5'		1045														72759
BH6, L2-10'		1055														72760
BH6, L3a-14'		1100														72761
BH6, L3-15'		1102			X	X			X							72762
BH2, L1-5'		1135														72763
BH2, L2-10'		1145														72764
BH2, L3-15'		1155			X	X		X	X					X		72765
BH3, L1-5'	↓	1235	↓													72766
BH3, L2-10'		1250													1	72767

ANALYTICAL LAB: McCampbell
ADDRESS:
PHONE: ( ) FAX: ( )
INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature: [signature]	Signature: [signature]	Signature: [signature]	Signature: [signature]
Printed Name: Jennifer Anderson	Printed Name: Ron Hamilton	Printed Name: Ron Hamilton	Printed Name: H. Ricca
Company: AEI	Company: MAI / TRH	Company: MAI / TRH	Company: MAI
Time 11:25 Date 1/10/97	Time 11:25 Date 1/10/97	Time 5:00 Date 1/10/97	Time 1500 Date 1/10/97

Chain of Custody 1953

ALL ENVIRONMENTAL, INC.
3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

DATE: 1/8/97 PAGE: 2 OF: 2

AALE116

AEI PROJECT MANAGER: Jennifer Anderson
PROJECT NAME: Dodson
PROJECT NUMBER: 1493
SIGNATURE: [signature]
TOTAL # OF CONTAINERS: 38
RECD. GOOD COND./COLD: YES

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030,8015)	TPH-Gasoline (EPA 5030,8015) w/ BTEX and MTBE (EPA 602,8020)	TPH-Diesel (EPA 3510/3550,8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602,8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7130,7190,7420,7520,7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66861.21-3)	PNAs			Lab #
BH3, L3-15'	1/8/97	1300	SOIL		X	X		X	X					X			72768
BH1, L1-5'	↓	1320	↓														72769
BH1, L2-11'	↓	1330	↓														72770
BH1, L3-15'	↓	1345	↓		X	X			X								72771
+ BH4W	1/8/97	—	WATER		X											2 VOAs	72772
+ BH6W	↓	—	↓		X	X			Diss. X							4-… 1 liter, 1 plastic	72773
70 BH2W	↓	—	↓		X	X		X	dissolved X					X		7	72774
5 BH1W	↓	—	↓		X	X			DISS X							6	72775

ANALYTICAL LAB: McCampbell
ADDRESS:
PHONE: ( ) FAX: ( )
INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature: [signature]	Signature: Ron Hamilton	Signature: Ron Hamilton	Signature: [signature]
Printed Name: Jennifer Anderson	Printed Name: Ron Hamilton	Printed Name: Ron Hamilton	Printed Name: H. RICCA
Company: AEI	Company: MAI / JRH	Company: MAI	Company: MAI
Time 11:25 Date 1/10/97	Time 11:25 Date 1/10/97	Time 3:00 Date 1/10/97	Time 1500 Date 1/10/97