P & D ENVIRONMENTAL
4020 Panama Court
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FAX TRANSMITTAL
COVER SHEET

Date: 2/21/96 Job #: 0101.R2

To: Barney Chan

Company: ACDEH

From: Ahmad Ghandour
P&D ENVIRONMENTAL

Number of pages in this transmittal, including this cover sheet: 21

SUBJECT: 1044 5th Ave.

MESSAGE: Merritt Environmental Corp

If transmittal is incomplete, please call (510) 658-6916.
P&D Environmental fax number: (510) 658-9074.

DESTINATION FAX NUMBER: (510) 337-9335

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P & D ENVIRONMENTAL

4020 Panama Court
Oakland, CA 94611
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February 21, 1996
Report 0101.R2

Mr. Jeff Hammond
Merritt Environmental Corporation
1044 5th Avenue
Oakland, CA 94606

SUBJECT: SUBSURFACE INVESTIGATION REPORT
Merritt Environmental Corporation Facility
1044 5th Avenue
Oakland, CA

Dear Mr. Hammond:

P&D Environmental (P&D) is pleased to present this report documenting the collection of soil and groundwater grab samples from three exploratory boreholes (designated as B1, B2, and B3) located at or near the subject site. This work was performed in accordance with P&D's work plan 0101.W1 dated February 5, 1996. A Site Location Map (Figure 1), and a Site Plan (Figure 2) showing the locations of exploratory boreholes B1, B2, and B3 are attached with this report.

All work was performed under the direct supervision of an appropriately registered professional. This report is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

BACKGROUND

The subject site is located in a developed portion of the City of Oakland approximately 3,000 feet to the south of Lake Merritt. The site and surrounding topography are relatively flat.

It is P&D's understanding that the subject facility was previously used by Merritt Environmental Corporation as a storage yard for equipment and materials. Based upon discussions with Mr. Jeff Hammond of Merritt Environmental Corporation, the underground storage tank was installed some time in the 1950's. The underground storage tank was reported to always have contained gasoline. It is P&D's understanding that the tank was most recently pressure tested in October, 1994 and was reported to have passed the pressure test with no indication of leaks.

Use of the tank was reported to have been discontinued at the end of 1994, at which time the tank was reported to have been emptied of its contents. The tank capacity was 1,000 gallons. The fill port for the gasoline tank was located directly above the tank, at the west end of the tank. One vent line was reported to have been connected to the tank, with one dispenser located adjacent and to the south of the tank. The dispenser line and vent line were also reported to have been connected to the tank at the west end of the tank. The tank was located beneath the sidewalk at the facility on 5th Avenue. The former location of the tank pit at the facility is shown in Figure 2.

On September 14, 1995 Merritt Environmental Corporation uncovered one 1,000 gallon capacity gasoline underground storage tank and prepared the tank for removal. However, because of scheduling difficulties, it was necessary to postpone the removal of the tank from the site.

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On October 18, 1995 Merritt Environmental Corporation removed the 1,000-gallon capacity gasoline fuel tank from the tank pit at the subject site. The tank was constructed of single wall steel. Groundwater was not encountered in the tank pit. Two soil samples were collected from beneath the ends of the tank from the bottom of the tank pit. The bottom of the tank was at a depth of approximately eight feet below grade. The samples, designated as T1-10 and T2-10, were collected at a depth of approximately ten feet below grade, approximately two feet into the native material beneath the former ends of the tank. Sample T1-10 was collected from the end of the pit closest to East 11th Street. Groundwater was not encountered in the tank pit.

The laboratory analytical results of soil samples T1-10 and T2-10 showed that TPH-G was detected at concentrations of 130 and 64 parts per millions (ppm), respectively, and that lead was detected at concentrations of 4.4 and 5.5 ppm, respectively. Benzene was only detected in sample T1-10.0 at a concentration of 0.059 ppm. Review of the laboratory analytical reports indicates that the TPH-G results are aged gasoline. Documentation of the sample collection and laboratory reports are presented in P&D's Underground Storage Tank Removal Report 0101.R1 dated January 22, 1996.

In response to a letter from Mr. Barney Chan dated January 4, 1996, P&D prepared a work plan (Work Plan 0101.W1) dated February 5, 1996 for soil and groundwater investigation. The work plan was subsequently approved by Mr. Chan in a letter dated February 5, 1996.

FIELD ACTIVITIES

On February 8, 1996, P&D personnel oversaw the drilling of boreholes B1, B2, and B3 by Vironex of Foster City, California. The locations of boreholes B1, B2, and B3 are shown in Figure 2.

It is P&D's understanding that prior to performing field work, Merritt Environmental Corporation obtained drilling permits from the Alameda County Water Agency, Zone 7 and encroachment permits from the City of Oakland, and notified underground Safety Alert for buried utility location. Prior to performing field activities, P&D prepared a site health and safety plan and provided notification of the scheduled field activities to Mr. Barney Chan of the Alameda County Department of Environmental Health (ACDEH).

Soil Boring and Sample Collection

The boreholes were drilled using truck-mounted 1.5-inch outside diameter Geoprobe technology drilling equipment. Borehole B1 was drilled to a total depth of 15 feet and boreholes B2, and B3 were drilled to a depth of 20 feet. Following the completion of drilling, temporary 3/4-inch diameter slotted PVC pipe was placed into the boreholes for the collection of groundwater grab samples. Mr. Chan of the ACDEH visited the site during drilling activities.

Soil samples were collected from the borehole at five ~~foot~~ feet intervals using a two foot long Geoprobe barrel sampler lined with brass tubes. All of the soil samples were evaluated in the field using a Model 580B OVM Photoionization Detector (PID) equipped with a 10.0 eV bulb and calibrated against a 100 ppm isobutylene standard. Organic vapors were not detected in any of the soil samples with the exception of borehole B1 at a depth of eight feet, where a PID value of 1.9 ppm was detected, and in B3 at depths of six and eight feet, where PID values of 4.5 and 62.3 ppm were detected, respectively. Strong petroleum hydrocarbon odors which were qualitatively identified as gasoline were encountered in boreholes B1 and B3 associated with the depths where detectable PID values were encountered.

The soil samples which were collected at a depth of approximately 10 feet were retained in their brass tubes for laboratory analysis in the following manner. After collection of the sample into the brass tube in the Geoprobe soil sampler, the ends of the brass tubes were wrapped in aluminum foil, covered with plastic endcaps, labeled, and placed in ziplock baggies. The capped brass tubes were then placed into a cooler with ice pending delivery to McCampbell Analytical Laboratory in Pacheco, California. McCampbell Analytical Laboratory is a State-certified hazardous waste testing laboratory. Chain of custody procedures were followed for all sample handling.

Groundwater was initially encountered in boreholes B1, B2, and B3 during drilling at depths of approximately 13, 16, and 16.5 feet, below the ground surface, respectively. Approximately 10 to 15 minutes after completion of borehole drilling in each borehole, and immediately prior to groundwater grab sample collection, groundwater levels were subsequently recorded to have stabilized in boreholes B1, B2, and B3 at depths of 7.5, 7.7, and 8.6 feet below the ground surface, respectively.

Groundwater grab samples were collected from boreholes B1, B2, and B3 with a Teflon bailer prior to backfilling the boreholes with neat cement grout. The groundwater sample from boreholes B1, B2, and B3 were collected approximately 10 to 15 minutes after completion of drilling each boring. At the time of sample collection, petroleum hydrocarbon sheen was observed on the water collected from boreholes B1 and B3.

The water samples collected from the boreholes were transferred from the Teflon bailer to 40-milliliter glass Volatile Organic Analysis (VOA) vials which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present. The VOA vials were labeled and then transferred to a cooler with ice, until they were transported to McCampbell Analytical, Inc. Chain of custody documentation accompanied the samples to the laboratory.

The solid stem Geoprobe technology equipment, and Teflon bailer were washed with an Alconox solution followed by a clean water rinse prior to each use. Soil cuttings were not generated using the Geoprobe technology methodology. Soil samples which were not retained for laboratory analysis were stored onsite with stockpiled soil which it is P&D's understanding was excavated from the bottom of the tank pit following soil sample collection associated with the tank removal. The stockpiled soil is covered with a sheet of visqueen.

At the request of Mr. Chan, two soil samples, designated as COMP A, were collected into brass tubes and sealed using procedures described above for the purpose of characterizing the soil stockpile. The samples were stored in a cooler with ice pending delivery to McCampbell Analytical, Inc. Chain of custody procedures were observed for sample handling.

GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U.S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E.J. Helley and K.R. Lajoie, 1979 the subject site is underlain by Pleistocene beach and dune sand deposits (Merrit Sand). The deposits are described as typically consisting of loose, well-sorted fine to medium sand.

Based on observations of the subsurface materials encountered in the boreholes, the subsurface materials consist of a brown silty clay with minor fine sand to the total depth explored of approximately 20 feet. Although groundwater was initially encountered during drilling in boreholes B1, B2 and B3 at depths of 13, 16, and 16.5 feet below grade, respectively, groundwater levels had risen

to 7.5, 7.7, and 8.6 feet below grade, respectively, within 10 to 15 minutes of borehole drilling completion.

The site groundwater flow direction is unknown. However, the groundwater flow direction is inferred to be southerly or westerly, towards the channel separating Oakland from Alameda. The channel is connected to San Francisco Bay, and is tidally influenced. It is possible that the groundwater flow direction at the site may be tidally influenced.

LABORATORY ANALYTICAL RESULTS

Soil and groundwater samples collected from boreholes B1, B2, and B3 and the soil samples collected from the soil stockpile (COMP A) were analyzed for TPH-G using EPA Method 5030 in conjunction with Modified EPA Method 8015 (GC/FID), and for BTEX using EPA Method 8020. The COMP A samples were composited in the laboratory prior to analysis.

The laboratory analytical results of the soil sample collected from borehole B2 show that TPH-G and BTEX were not detected. In boreholes B1, and B3, TPH-G was detected at concentrations of 2,300, and 12 ppm, respectively, and benzene was detected at concentrations of 7.1, and 0.036 ppm, respectively. Review of the laboratory analytical report indicates that the TPH-G results are aged gasoline. Copies of the laboratory analytical reports are attached with this report.The laboratory analytical results of the soil samples are summarized in Table 1. Copies of the laboratory analytical reports are attached with this report.

The laboratory analytical results of the groundwater grab sample collected from borehole B2 show that TPH-G and BTEX were not detected. In boreholes B1, and B3, TPH-G was detected at concentrations of 63, and 50 ppm, respectively; and benzene was detected at concentrations of 1.7, and 1.8 ppm, respectively. The laboratory analytical results of the groundwater grab samples are summarized in Table 2. Copies of the laboratory analytical reports are attached with this report.

The laboratory analytical result of the stockpiled soil sample designated as COMP A show that TPH-G was detected at a concentration of 11 ppm, and that benzene was not detected. The laboratory analytical results of the stockpiled sample are summarized in Table 3. Copies of the laboratory analytical reports are attached with this report.

DISCUSSION AND RECOMMENDATIONS

Soil and groundwater grab samples were collected from a total of three boreholes designated as B1 through B3 to evaluate soil and groundwater quality in the vicinity of the former tank pit at the subject site.

Review of relevant literature concerning the local geology indicates that the subject site overlies beach and dune sand deposits (Merrit Sand). The subsurface materials encountered in the boreholes drilled during this investigation indicate that the site is underlain by a brown silty clay with minor fine sand to the total depth explored of approximately 20 feet. Although groundwater was initially encountered during drilling between the depths of 13 and 16.5 feet below grade, groundwater levels rose to between 7.5 and 8.6 feet below grade within 10 to 15 minutes of borehole drilling completion. The site groundwater flow direction is unknown. However, the groundwater flow direction is inferred to be southerly or westerly.

The results of the soil and groundwater grab sample analysis showed that TPH-G and BTEX were not detected in borehole B2. In boreholes B1 and B3, TPH-G and BTEX were detected in both the soil and groundwater samples. The soil sample

results showed that in boreholes B1 and B3 TPH-G was detected at concentrations of 2,300, and 13 ppm, respectively, and benzene was detected at concentrations of 7.1, and 0.036 ppm, respectively. Review of the laboratory analytical report indicates that the TPH-G results are aged gasoline. The groundwater sample results showed that in boreholes B1 and B3 TPH-G was detected at concentrations of 63, and 60 ppm, respectively, and benzene was detected at concentrations of 1.7, and 1.8 ppm, respectively. In addition, sheen was observed on the water samples collected from boreholes B1 and B3.

Based upon the analytical results of the soil samples and the inferred groundwater flow direction at the site, the soil appears to be most significantly impacted in the downgradient direction from the tank pit (soil sample B1-10.0), appears to be marginally impacted in the transgradient direction from the tank pit (soil sample B3-10.0), and appears to not be impacted in the upgradient direction from the tank pit (soil sample B2-10.0).

Based upon the analytical results of the groundwater grab samples and the assumed groundwater flow direction at the site, the groundwater appears to be equally impacted in the borehole B1 and B3 locations, but not impacted in the presumed upgradient location (borehole B2).

Based upon the sample results, P&D recommends that groundwater grab samples be collected from four boreholes designated as B4 through B7 located to the south and northwest of the subject site to define the extent of petroleum hydrocarbons detected in borings B1 and B3. In addition, one soil sample should be collected at a depth of approximately 10 feet from borehole B5 to further define the extent of petroleum hydrocarbons in soil. The procedures for sample collection and analysis should be identical to the procedures identified in P&D's work plan 0101.WP dated February 5, 1996. The proposed locations of the exploratory soil borings, designated as B4 through B7, are shown in Figure 2.

In the event that petroleum hydrocarbons are noticeably present in groundwater in boreholes B5 or B6 at the time of sample collection, P&D recommends that additional boreholes be drilled and groundwater samples be collected in the sidewalk to the west of the locations where petroleum hydrocarbons are detected.

DISTRIBUTION

Copies of this report should be sent to Mr. Barney Chan at the ACDEH and to Mr. Kevin Graves at the San Francisco Bay Regional Water Quality Control Board.

LIMITATIONS

This report was prepared solely for the use of Merritt Environmental Corporation. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgement based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly-revealed conditions must be evaluated and may invalidate the findings of this report.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained

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herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgement based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,
P&D Environmental

Paul H. King

Paul H. King
Hydrogeologist

Don R. Braun

Don R. Braun
Certified Engineering Geologist
Registration No.: 1310
Expires: 6/30/96

PHK/aog
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Attachments: Tables 1, 2 & 3
Site Location Map (Figure 1)
Site Plan (Figure 2)
Laboratory Analytical Reports
Chain of Custody Documentation

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TABLE 1

SUMMARY OF LABORATORY ANALYTICAL RESULTS
BOREHOLE SOIL SAMPLES
(Samples Collected on February 8, 1996)

Sample No.	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B1-10.0	2,300	7.1	26	45	200
B2-10.0	ND	ND	ND	ND	ND
B3-10.0	12	0.036	0.009	0.067	0.039

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
ND = Not Detected.
Results are in parts per million (ppm), unless otherwise indicated.

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TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER GRAB SAMPLES mg/l
(Sample Collected on February 8, 1996)

Sample No.	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B1	63	1.7	0.054	3.6	5.5
B2	ND	ND	ND	ND	ND
B3	60	1.8	3.4	2.6	12

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
ND = Not Detected.
Results are in parts per million (ppm), unless otherwise indicated.

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TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS
STOCKPILED SOIL SAMPLE
(Sample Collected on February 8, 1996)

Sample No.	TPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
COMP A	11	ND	ND	ND	ND

TPH-G = Total Petroleum Hydrocarbons as Gasoline.
ND = Not Detected.
Results are in parts per million (ppm), unless otherwise indicated.

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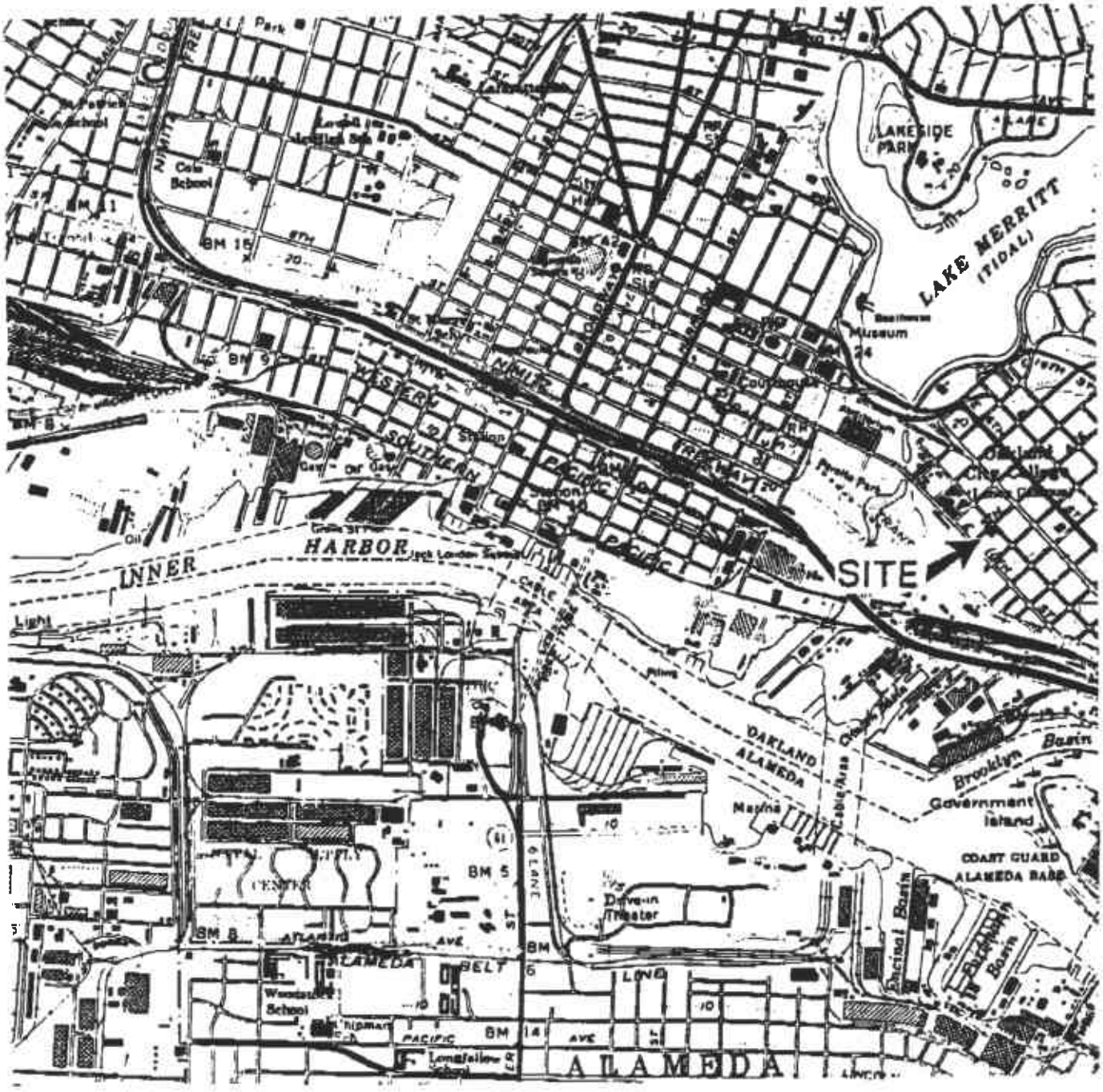


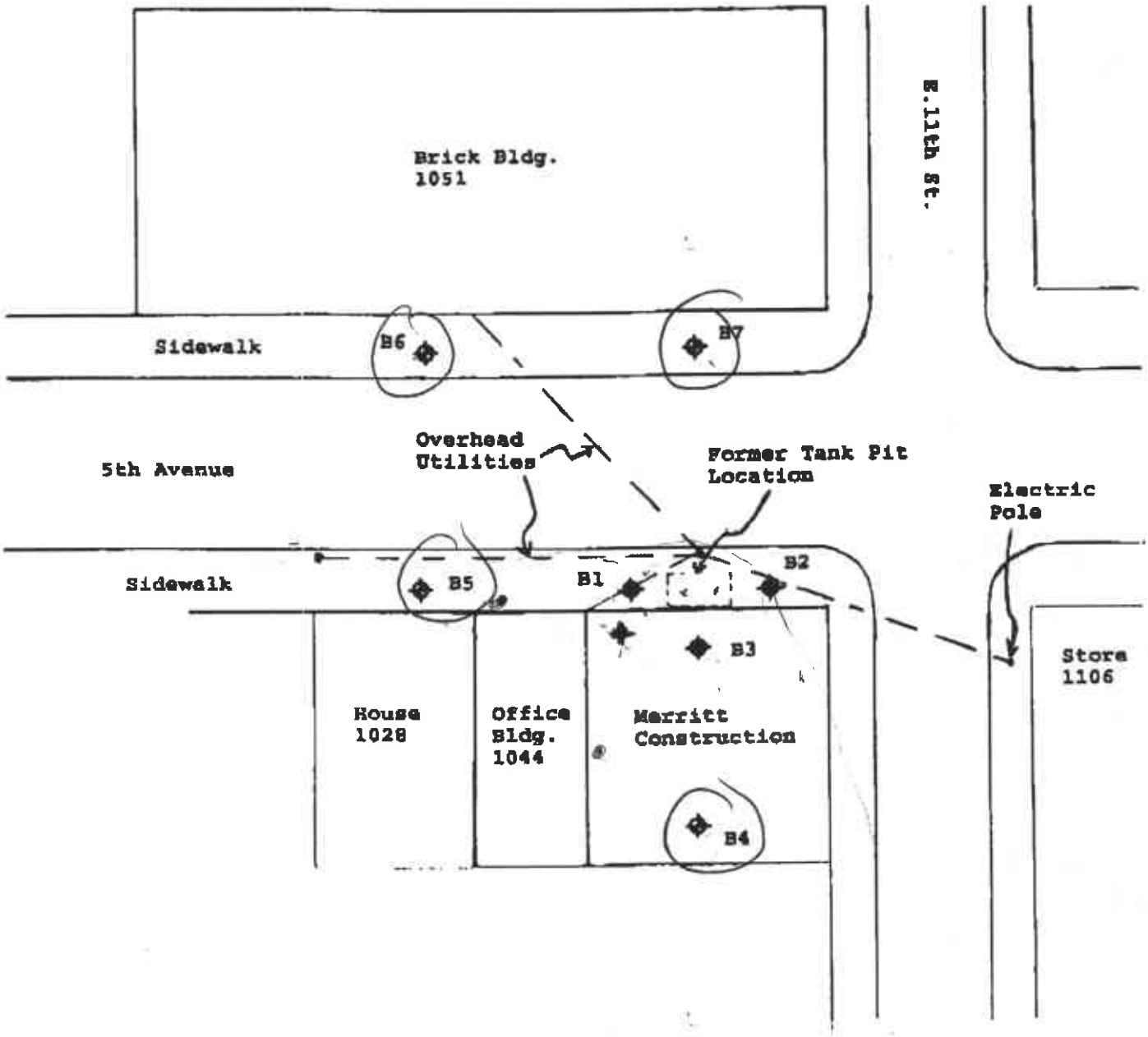
Base Map From:
U.S. Geological Survey
Oakland West, Calif.
7.5 Minute Quadrangle
Photorevised, 1980

N

Scale in Feet
0 1000 2000 3000

Figure 1
SITE LOCATION MAP
Merritt Construction, Inc.
1044 5th Avenue
Oakland, California

P & D ENVIRONMENTAL
4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916



LEGEND
◆ Existing Soil Boring Location
◈ Proposed Soil Boring Location

North

0 40
Scale in Feet

Base Map From
P&D Environmental
October, 1995

Figure 2
SITE PLAN
Merritt Construction, Inc.
1044 5th Avenue
Oakland, California

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

P & D Environmental	Client Project ID: # 0101; Merritt Environmental Corp. Facility	Date Sampled: 02/08/96
4020 Panama Court		Date Received: 02/09/96
Oakland, CA 94611	Client Contact: Paul King	Date Extracted: 02/09/96
	Client P.O:	Date Analyzed: 02/10-02/11/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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)*	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec Surrogate
61310	B1-10.0	S	2300,b,d	7.1	26	45	200	100
61311	B2-10.0	S	ND	ND	ND	ND	ND	89
61312	B3-10.0	S	12,b,d	0.036	0.009	0.067	0.039	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil 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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/09/96-02/10/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#59913)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.875	1.981	2.03	92	98	5.5
Benzene	0.000	0.174	0.182	0.2	87	91	4.5
Toluene	0.000	0.188	0.198	0.2	94	99	5.2
Ethylbenzene	0.000	0.186	0.198	0.2	93	99	6.3
Xylenes	0.000	0.564	0.594	0.6	94	99	5.2
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil and grease)	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

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CHAIN OF CUSTODY RECORD

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PROJECT NUMBER:	PROJECT NAME:
0101	Merritt Environmental Corp Facility

SAMPLED BY: (PRINTED AND SIGNATURE) Ahmad Ghandour

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-Gas & BTEX	PRESERVATIVE	REMARKS
B1 - 10.0	2/8/96		Soil		1	X	ICE	Normal Turn Around
B2 - 10.0	"		"		1	X	"	" " "
B3 - 10.0	"		"		1	X	"	" " "

61310
61311
61312

ICE/T ✓ HEADSPACE ✓
GOOD CONDITION ✓ APPROPRIATE ✓
HEAD SPACE ABSENT ✓ CONTAINERS ✓

VOAS O&G/J METALS OTHER

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	TOTAL NO OF SAMPLES (THIS SHIPMENT)	3	LABORATORY:
Ahmad Ghandour	2/8/96	3:49	Joel Hunt #683	TOTAL NO. OF CONTAINERS (THIS SHIPMENT)	3	McCampbell Analytical
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: Ed Hamilton		LABORATORY PHONE NUMBER: (510) 798-1620
RELINQUISHED BY: (SIGNATURE) Joel Hunt	DATE 2/9/96	TIME 830	RECEIVED FOR LABORATORY BY: (SIGNATURE)	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO		
			REMARKS:			

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

P & D Environmental	Client Project ID: #0101; Merritt Environmental Corp. Facility	Date Sampled: 02/08/96
4020 Panama Court		Date Received: 02/09/96
Oakland, CA 94611	Client Contact: Paul King	Date Extracted: 02/09/96
	Client P.O:	Date Analyzed: 02/09-02/10/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GC/FID(5030)

Lab ID	Client ID	Matrix	TPH(g)*	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
61306	B1	W	63,000,a,h	1700	54	3600	6500	97
61307	B2	W	ND	ND	ND	ND	ND	108
61308	B3	W	60,000,a,i	1800	3400	2600	12,000	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil 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

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Telc: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/10/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#60731)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	115.5	112.1	100	116	112	3.0
Benzene	0.0	9.2	8.7	10.0	92.0	87.0	5.6
Toluene	0.0	9.4	9.0	10.0	94.0	90.0	4.3
Ethyl Benzene	0.0	9.5	9.7	10.0	95.0	97.0	2.1
Xylenes	0.0	28.1	29.5	30.0	93.7	98.3	4.9
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	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

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CHAIN OF CUSTODY RECORD

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PROJECT NUMBER: 0101

PROJECT NAME: Merritt Environmental Corp Facility

SAMPLED BY: (PRINTED AND SIGNATURE) Ahmad Ghandour

	SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-Gas, BTEX	PRESERVATIVE	REMARKS
2	B1	2/8/96		Water		2	X	ICE	Normal Turn Around
2	B2	"		"		2	X	"	" " "
5	B3	"		"		2	X	"	" " "

61306
61307
61308

VOA HEADSPACE ?

ICE* ✓ PRESERVATIVE ✓
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓

RELINQUISHED BY: (SIGNATURE) Edward Hamilton	DATE 2/8/96	TIME 3:49	RECEIVED BY: (SIGNATURE) Just Hunt #683	TOTAL NO. OF SAMPLES (THIS SHIPMENT) 3 / TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 6	LABORATORY: McCampbell Analytical
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	LABORATORY CONTACT: Ed. Hamilton	LABORATORY PHONE NUMBER: (510) 798-1620
RELINQUISHED BY: (SIGNATURE) Just Hunt	DATE 2/9/96	TIME 830	RECEIVED FOR LABORATORY BY: (SIGNATURE) Nicole Rocca	SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO	

REMARKS: VOA's preserved with HCL

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

P & D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID. #0101; Merritt Environmental Corp. Facility	Date Sampled: 02/08/96
		Date Received: 02/09/96
	Client Contact: Paul King	Date Extracted: 02/09/96
	Client P.O.	Date Analyzed: 02/10/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with 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)*	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
61309	Comp A	S	11,g,d	ND	ND	ND	ND	93
			Oh & reuse					
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil 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

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/09/96-02/10/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#59913)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.875	1.981	2.03	92	98	5.5
Benzene	0.000	0.174	0.182	0.2	87	91	4.5
Toluene	0.000	0.188	0.198	0.2	94	99	5.2
Ethylbenzene	0.000	0.186	0.198	0.2	93	99	6.3
Xylenes	0.000	0.564	0.594	0.6	94	99	5.2
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil and grease)	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

P & D ENVIRONMENTAL
4020 Panama Court
Oakland, CA 94611
Telephone (510) 658-6916

CHAIN OF CUSTODY RECORD

5800 APPX 160 PAGE 1 OF 1

PROJECT NUMBER:	PROJECT NAME:
0101	Merritt Environmental Corp. Facility

SAMPLED BY: (PRINTED AND SIGNATURE) Ahmad Ghandour

SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-Gas & BTEX	PRESERVATIVE	REMARKS
COMP A	2/8/96		Soil	Soil Stockpile	2	X	ICE	Normal Turn Around
								61309

ICE/T ✓ PRESERVATIVE ---
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓

WAS CHAIN OF CUSTODY SEALED PROPERLY? --- --- ---

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
Ahmad Ghandour	2/8/96	3:49	Janet Hunt #683
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)
Janet Hunt	2/9/96	830	Rudi Rucar

TOTAL NO. OF SAMPLES (THIS SHIPMENT): 1
TOTAL NO. OF CONTAINERS (THIS SHIPMENT): 2

LABORATORY: McCampbell Analytical
LABORATORY CONTACT: Ed Hamilton
LABORATORY PHONE NUMBER: (510) 798-1620
SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( )YES (X)NO

REMARKS: Please composite prior to analyzing