aqua science engineers inc.

4/7/97

February 6, 1997

REPORT
of
SOIL AND GROUNDWATER ASSESSMENT
ASE JOB NO. 2991
at
Geo M. Martin Company
1308 67th Street
Emeryville, California

Prepared for:
Geo M. Martin Company
1250 67th Street
Emeryville, CA 94608

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391

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1.0 INTRODUCTION

This report outlines the methods and findings of Aqua Science Engineers, Inc. (ASE)'s soil and groundwater assessment at the Geo M. Martin Company property located at 1308 67th Street in Emeryville, California (Figure 1). The site assessment activities were initiated by Mr. David Goodearl of the Geo M. Martin Company as required in a letter from the Alameda County Health Care Services Agency (ACHCSA) dated November 5, 1996 (Appendix A).

2.0 SITE HISTORY

On September 20, 1996, ASE removed one (1) 700-gallon underground diesel storage tank (UST) from the site. 7.5 tons of contaminated soil were excavated from around the UST at the time of its removal and were transported to Forward Landfill in Manteca, California as non-hazardous waste. Up to 3,400 parts per million (ppm) total petroleum hydrocarbons as diesel (TPH-D), 6.0 ppm ethylbenzene and 44 ppm total xylenes were detected in the soil samples collected from beneath the UST. No halogenated volatile organic compounds (HVOCs) were detected in the soil samples, and no cadmium, chromium, lead, nickel or zinc were detected at concentrations above regulatory concern. On November 5, 1996, Ms. Amy Leech of the ACHCSA issued a letter requesting a soil and groundwater assessment at the site.

3.0 SCOPE OF WORK (SOW)

Based on the November 5, 1996 letter and a conversation between Mr. Scott Ferriman of ASE and Ms. Amy Leech of the ACHCSA on November 13, 1996, ASE's scope of work was to:

1) Prepare a workplan for approval by the ACHCSA.

2) Obtain a drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7).

3) Drill three soil borings at the site with a Geoprobe drill rig. Collect soil samples at least every 5-feet and screen the soil samples for volatile compounds with an organic vapor meter (OVM).

4) Analyze at least one soil sample from each boring at a CAL-EPA certified analytical laboratory for TPH-D by modified EPA Method 3510/8015, benzene, toluene, ethylbenzene and total xylenes (BTEX)

by EPA Method 8020, MTBE by EPA Method 8020 and polynuclear aromatic hydrocarbons (PNAs) by EPA Method 8310.

5) Collect groundwater samples from each boring. Analyze the groundwater samples at a CAL-EPA certified analytical laboratory for TPH-D by modified EPA Method 3510/8015, BTEX by EPA Method 8020, MTBE by EPA Method 8020 and PNAs by EPA Method 8310.

6) Backfill the borings with neat cement.

7) Prepare a report outlining the methods and findings of this assessment.

Details of the assessment are presented below.

4.0 DRILL SOIL BORINGS AND COLLECT SAMPLES

Prior to drilling, ASE obtained drilling permit 97035 from the Alameda County Flood Control and Water Conservation District (Zone 7). A copy of this permit is presented in Appendix B.

On January 20, 1997, Gregg Drilling of Martinez, California drilled three soil borings at the site using a Geoprobe hydraulic sampling rig (Figure 2). Boring BH-A was located outside the site building to determiine the downgradient extent of groundwater contamination. Borings BH-B and BH-C were located approximately 10-feet west and southwest of the former UST. The drilling was directed by ASE project geologist Robert E. Kitay, R.G.

Undisturbed soil samples were collected continuously as drilling progressed for lithologic and hydrogeologic description and for possible chemical analysis. The samples were collected by driving a sampler lined with acetate tubes using hydraulic direct push methods. Selective soil samples were immediately trimmed, sealed with Teflon tape, plastic end caps and duct tape, labeled, sealed in plastic bags and stored on ice for transport to Chromalab, Inc. of Pleasanton, California (ELAP #1094) under chain of custody. Soil from the remaining tubes was described by the site geologist using the Unified Soil Classification System and was screened for volatile compounds using an Organic Vapor Meter (OVM). The soil was screened by emptying soil from one of the sample tubes into a plastic bag. The bag was then sealed and placed in the sun for approximately 10 minutes. After the volatile compounds were allowed to volatilize, the OVM measured the vapor in the bag through a small hole punched in the bag.

OVM readings are used as a screening tool only, since the procedures are not as rigorous as those used in the laboratory. OVM readings can be found on the boring logs located in Appendix C.

A temporary PVC well casing was driven into place in each boring for the collection of groundwater samples. Groundwater samples were removed from the boring with a pre-cleaned stainless steel bailer. The groundwater samples were contained in 40-ml volatile organic analysis (VOA) vials (pre-preserved with hydrochloric acid) without headspace and 1-liter amber glass bottles. The samples were labeled, placed in protective foam sleeves, and stored on ice for transport to Chromalab under chain of custody. Boring BH-A did not produce a large enough volume of water on January 20, 1997, so ASE environmental specialist Scott Ferriman collected additional samples from this boring on January 21, 1997. Upon completion of the soil and groundwater sampling, the borings were backfilled with neat cement to the ground surface.

Drilling equipment was cleaned with a TSP solution between sampling intervals and between borings to prevent potential cross-contamination.

Sediments encountered during drilling generally consisted of silt, clayey silt or gravelly silt for the entire lengh of each boring although boring BH-C contained a silty sand layer from 12 to 16-feet bgs. Boring logs are presented as Appendix C.

5.0 ANALYTICAL RESULTS FOR SOIL

Soil samples collected from 11.0-feet bgs in boring BH-A (the capillary zone), 11.5-feet bgs in boring BH-B (the capillary zone and highest OVM reading) and 8.5-feet bgs in boring BH-C (the highest OVM reading in that boring) were analyzed by Chromalab for TPH-D by modified EPA Method 3510/8015, BTEX and MTBE by EPA Method 8020 and PNAs by EPA Method 8310. The analytical results are tabulated in Tables One and Two, and the certified analytical report and chain of custody forms are included in Appendix D.

TABLE ONE
Summary of Chemical Analysis of **SOIL** Samples
TPH-D, BTEX and MTBE
All results are in **parts per million**

Boring	Depth Sampled	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	11.0'	2.1	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
BH-B	11.5'	1,800	< 0.0050	0.034	0.23	0.85	< 0.017
BH-C	8.5'	90	< 0.14	< 0.14	< 0.14	3.3	< 0.72
PRG		NE	1.4	880	230	320	NE

Notes:
Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in **bold**.

PRG is the United States Environmental Protection Agency (US EPA) Region IX Preliminary Remediation Goal (PRG) for industrial soil.

TABLE TWO
Summary of Chemical Analysis of **SOIL** Samples
Polynuclear Aromatic Hydrocarbons (PNAs)
All results are in **parts per million**

Boring	Depth Sampled	Naphthalene	Fluorene	Phenanthrene	Other PNAs
BH-A	11.0'	< 0.015	< 0.0050	< 0.0050	< 0.0050 - < 0.010
BH-B	11.5'	< 0.075	**0.88**	**1.9**	< 0.075 - < 0.050
BH-C	8.5'	< 0.015	**0.013**	**0.018**	< 0.0050 - < 0.010
PRG		240	90	NE	Varies

Notes:
Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit

Detectable concentrations are in **bold**.

PRG is the United States Environmental Protection Agency (US EPA) Region IX Preliminary Remediation Goal (PRG) for industrial soil.

NOT ESTABLISHED

Soil samples collected from all three borings contained TPH-D concentrations between 2.1 ppm and 1,800 ppm. In addition, borings BH-B and BH-C contained low concentrations of fluorene, phenanthrene and total xylenes below United States Environmental Protection Agency (US EPA) Region IX Preliminary Remediation Goals (PRGs) for industrial soil. Boring BH-B also contained low concentrations of toluene and ethylbenzene below US EPA PRGs for industrial soil.

6.0 ANALYTICAL RESULTS FOR GROUNDWATER

The groundwater samples were analyzed by Chromalab for TPH-D by modified EPA Method 3510/8015, BTEX and MTBE by EPA Method 8020 and PNAs by EPA Method 8310. The analytical results are tabulated in Tables Three and Four, and the certified analytical report and chain of custody forms are included in Appendix D.

TABLE THREE
Summary of Chemical Analysis of **GROUNDWATER** Samples
TPH-D, BTEX and MTBE
All results are in **parts per billion**

Boring	TPH Diesel	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
BH-A	< 110	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
BH-B	**1,300**	< 0.5	< 0.5	< 0.5	**8.1**	< 5.0
BH-C	**1,100**	< 0.5	< 0.5	< 0.5	**4.2**	< 5.0
DTSC MCL	NE	1.0	100*	680	1,750	NE

Notes:
Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in **bold**.

DTSC MCL is the California Department of Toxic Substances Control maximum contaminant level for drinking water.

NE = DTSC MCLs are not established.

* = DTSC recommended action level for drinking water; MCL is not established.

TABLE FOUR
Summary of Chemical Analysis of **WATER** Samples
Polynuclear Aromatic Hydrocarbons (PNAs)
All results are in **parts per billion**

Boring	Naphthalene	Fluorene	Phenanthrene	Other PNAs
BH-A	<2.1	<5.3	<2.1	<2.1
BH-B	**3.6**	<6.7	**2.8**	<2.7
BH-C	<2.6	<6.5	<2.6	<2.6

Notes:
Non-detectable concentrations are noted by the less than symbol (<) followed by the detection limit.

Detectable concentrations are in **bold**.

Up to 1,300 parts per billion (ppb) TPH-D were detected in groundwater samples collected from borings BH-B and BH-C. In addition, low total xylene concentrations, below the DTSC MCL for drinking water, were detected in groundwater samples collected from borings BH-B and BH-C. Low concentrations of naphthalene and phenanthrene, both unregulated compounds, were detected in groundwater samples collected from boring BH-B. No hydrocarbons were detected in the groundwater samples collected from boring BH-A.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Soil samples collected from all three borings contained TPH-D concentrations ranging from 2.1 ppm to 1,800 ppm. In addition, low concentrations of one or more of the following compounds were detected in groundwater samples collected from borings BH-B and BH-C: fluorene, naphthalene phenanthrene, toluene, ethylbenzene and total xylenes; however, all of these concentrations were below United States Environmental Protection Agency (US EPA) Region IX Preliminary Remediation Goals (PRGs) for industrial soil.

Up to 1,300 ppb TPH-D were detected in groundwater samples collected from borings BH-B and BH-C. In addition, low total xylene concentrations, below the DTSC MCL for drinking water, were detected in groundwater samples collected from borings BH-B and BH-C. Low concentrations of

naphthalene and phenanthrene, both unregulated compounds, were detected in groundwater samples collected from boring BH-B. No hydrocarbons were detected in the groundwater samples collected from downgradient boring BH-A.

Since none of the hydrocarbon concentrations detected in soil samples collected during this assessment exceeded US EPA PRGs for industrial soil, and none of the hydrocarbon concentrations detected in groundwater exceeded DTSC MCLs for drinking water, ASE does not feel that any further assessment or remediation activities are warranted at the site and recommends that this site be considered for case closure.

8.0 REPORT LIMITATIONS

The results of this assessment represent conditions at the time of the soil and groundwater sampling, at the specific locations at which the samples were collected, and for the specific parameters analyzed by the laboratory.

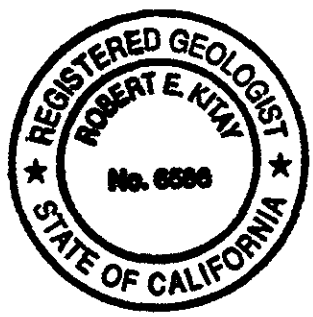
This report does not fully characterize the site for contamination resulting from unknown sources or for parameters not analyzed by the laboratory. All of the laboratory work cited in this report was prepared under the direction of an independent CAL-EPA certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity provide environmental consulting services for this project. Should you have any questions or comments, please feel free to call us at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

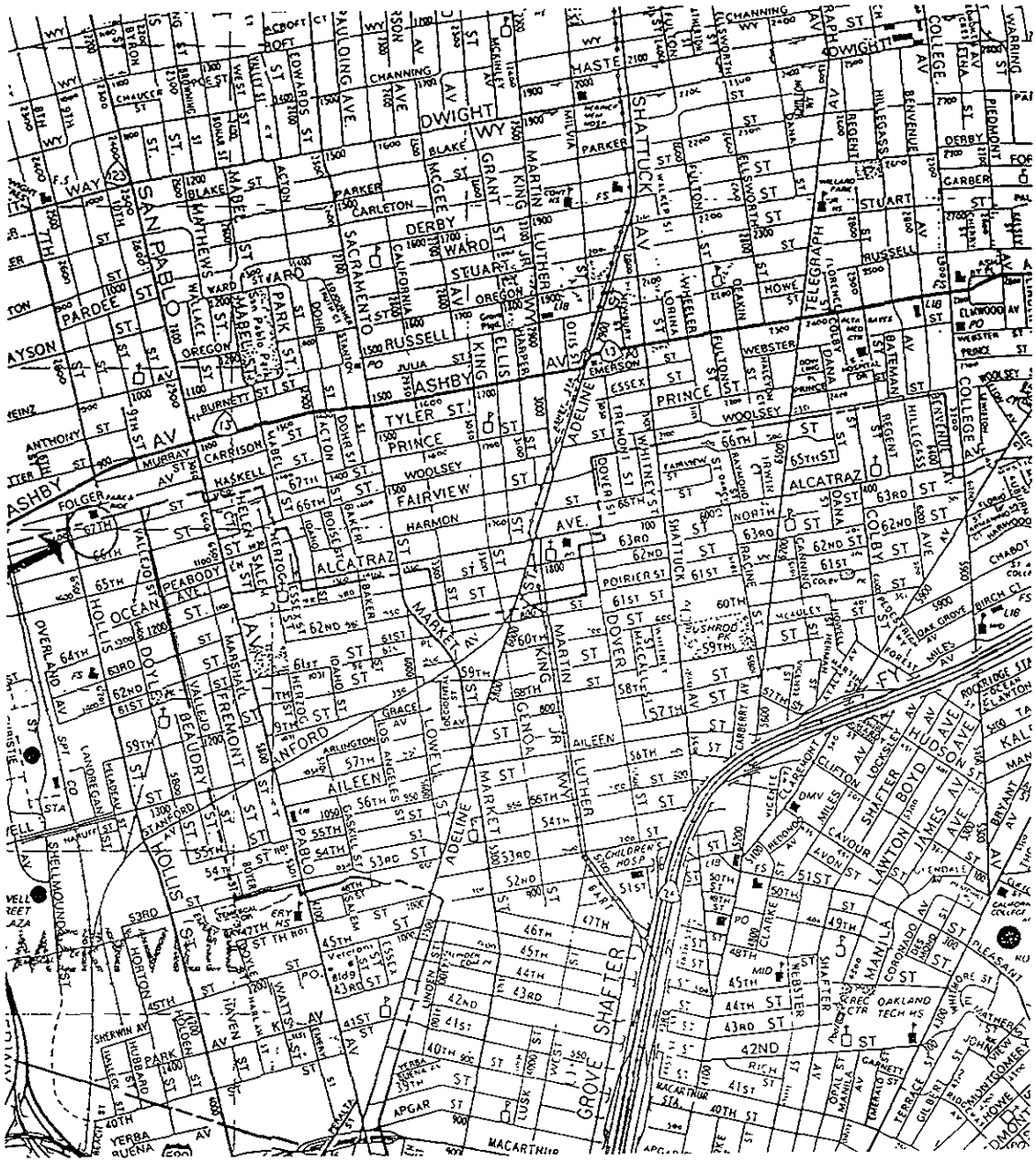
Robert E. Kitay, R.G., R.E.A.
Project Geologist



Attachments: Figures 1 and 2
Appendices A through D

cc: Mr. David Goodearl, Geo M. Martin Company
Ms. Amy Leech, Alameda County Health Care Services Agency
Mr. Kevin Graves, Regional Water Quality Control Board

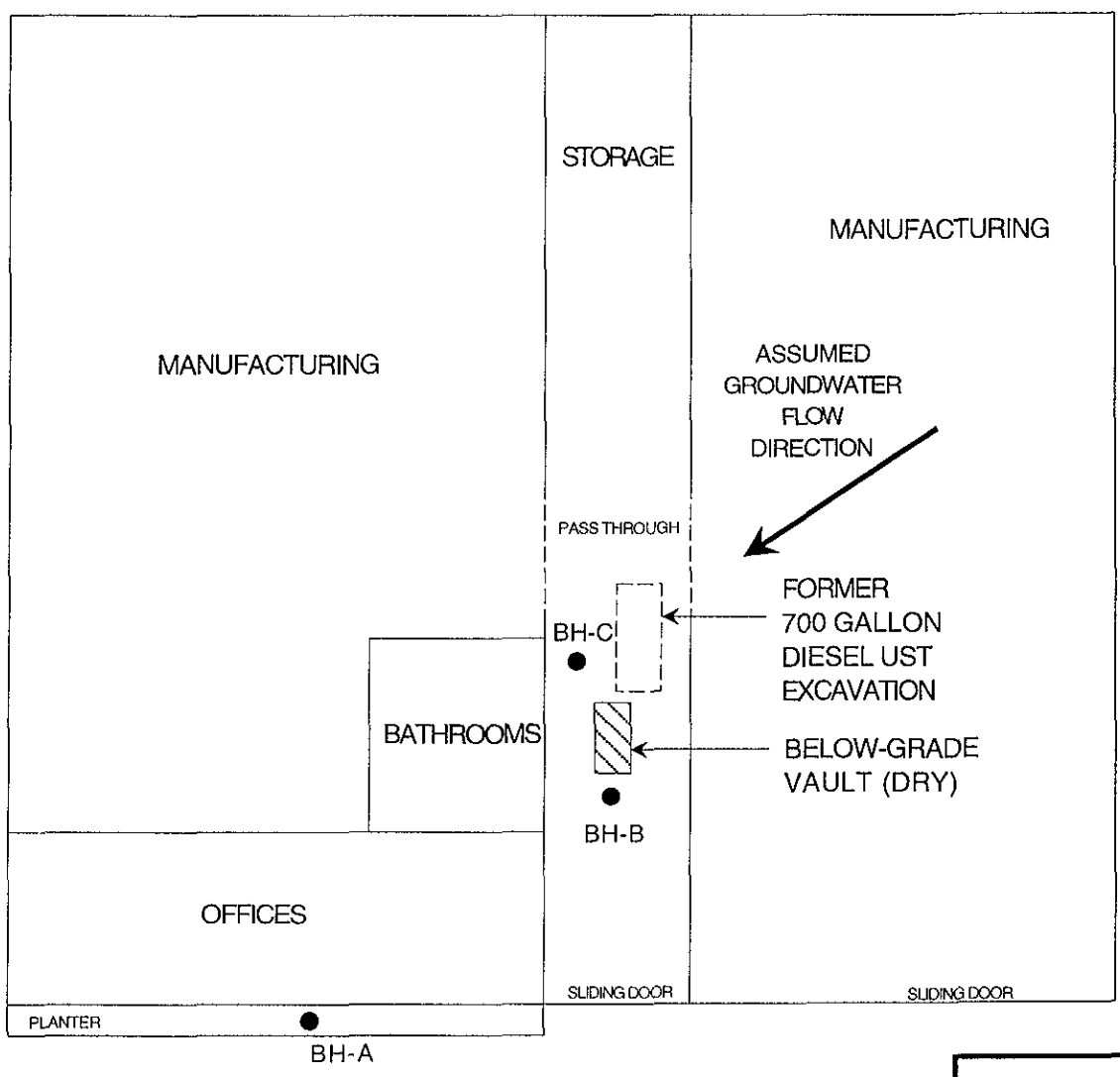
FIGURES



SITE LOCATION MAP

GEO M. MARTIN COMPANY
1308 67th STREET
EMERYVILLE, CALIFORNIA

Aqua Science Engineers, Inc. | Figure 1



NORTH

Scale: 1" = 20'

EXPLANATION

BH-A ● Boring Location

Former Underground Storage Tank

BORING LOCATION MAP

GEO M. MARTIN COMPANY
1308 67th Street
Emeryville, California

Aqua Science Engineers, Inc. | Figure 2

APPENDIX A

ACHCSA Letter

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

StId 318

November 5, 1996

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Attn: David Goodearl
Geo M. Martin Company
1250 - 67th St
Emeryville CA 94608

Subject: Required Investigations at 1308 - 67th St., Emeryville CA 94608

Dear Mr. Goodearl:

This office has completed a review of Aqua Science Engineers Inc.'s *Underground Storage Tank Removal Report*, dated October 21, 1996, for the subject site. This report documents tank closure and soil excavation activities.

On September 20, 1996, one 700-gallon diesel underground storage tank (UST) was removed from the subject site. Laboratory analyses of the soil sample collected at the bottom of the UST pit at five feet below ground surface (bgs) identified contaminant levels as high as 3,400 parts per million (ppm) Total Petroleum Hydrocarbons as diesel (TPH-D), 6.0 ppm ethylbenzene, and 44 ppm xylenes. Approximately 7.5 tons of contaminated soil was excavated from the tank pit; however, confirmatory soil samples were not collected to verify the lateral extent of soil contamination. Overexcavation reportedly did not occur vertically beneath the former UST (past 5 feet bgs) due to structural limitations.

Guidelines established by the California Regional Water Quality Control Board (RWQCB) require that soil and ground water investigations be conducted when there is evidence to indicate that a release from an UST will impact or may have impacted the groundwater. Therefore, you are required to conduct a **Soil and Water Investigation (SWI)** to determine the lateral and vertical extent and severity of **both soil and groundwater** contamination resulting from the release at the site. The information gathered by the SWI will be used to determine an appropriate course of action (Corrective Action Plan) to remediate the site, if deemed necessary. The SWI must be conducted in accordance with the RWQCB's Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks, and be consistent with requirements set forth in Article 11 of Title 23, California Code of Regulations. The major elements of such an investigation are summarized in the attached **Appendix A**. In addition, the San Francisco Bay RWQCB's *Interim Guidance on Required Cleanup at Low-Risk Fuel Sites* (copy attached) and the ASTM E1739-95 document entitled *Standard Guide for Risk-Based Corrective Action (RBCA) Applied at Petroleum Release Sites* should be used to evaluate this site.

This Department will oversee the assessment and remediation of your site. Our oversight will include the review of and comment on work proposals and technical guidance on appropriate investigative approaches and monitoring schedules. The issuance of well drilling permits, however, will be through the Alameda County Flood Control and Water Conservation District, Zone 7, in Pleasanton. The RWQCB may choose to take over as lead agency if it is determined that there has been a substantial impact to ground water.

In order to properly conduct a site investigation, you are required to obtain professional services of a reputable environmental consultant. **All reports and proposals must be submitted under seal of a California-Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer.**

The SWI proposal (work plan) is due within 60 days of the date of this letter or by January 7, 1997. Once the proposal is approved, field work should commence within 30 days. A report must be submitted within 45 days after the completion of this phase of work at the site.

Please be advised that this is a formal request for a work plan pursuant to **Section 2722 (c)(d) of Title 23 California Code of Regulations.** Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or RWQCB.

If you have any questions or comments, please contact me at (510) 567-6755.

Sincerely,

Amy Leech
Hazardous Materials Specialist

ATTACHMENTS

c: Aqua Science Engineers Inc., 2411 Old Crow Canyon Rd., Suite 4, San Ramon CA 94583
File (ALL)

APPENDIX B

Permit

ZONE 7 WATER AGENCY

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

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1308 - 67th Street
Emeryville, CA

CLIENT
Name Ron M. Martin Company
Address 1250 - 67th Street Voice 510-652-2200
City Emeryville, CA Zip 94608

APPLICANT
Name Agua Sciences Engineers Inc.
Attn: Robert Kitay Fax 510-837-4853
Address 3411 Old Conejo Rd #4 Voice 510-820-7391
City Newbury Park, CA Zip 91320

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	X
Monitoring	___	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Geoprobe

DRILLER'S LICENSE NO. C-57 487000

WELL PROJECTS

Drill Hole Diameter	___	in.	Maximum		
Casing Diameter	___	in.	Depth	___	ft.
Surface Seal Depth	___	ft.	Number	___	

GEOTECHNICAL PROJECTS

Number of Borings	3		Maximum		
Hole Diameter	2.5	in.	Depth	___	ft.

ESTIMATED STARTING DATE 1-20-97
ESTIMATED COMPLETION DATE 1-20-97

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

APPLICANT'S SIGNATURE Robert C. Kitay Date 1-20-97

FOR OFFICE USE

PERMIT NUMBER 97035
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

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

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

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

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

E. WELL DESTRUCTION. See attached

Approved Wyman Hong Date 16 Jan 97
Wyman Hong

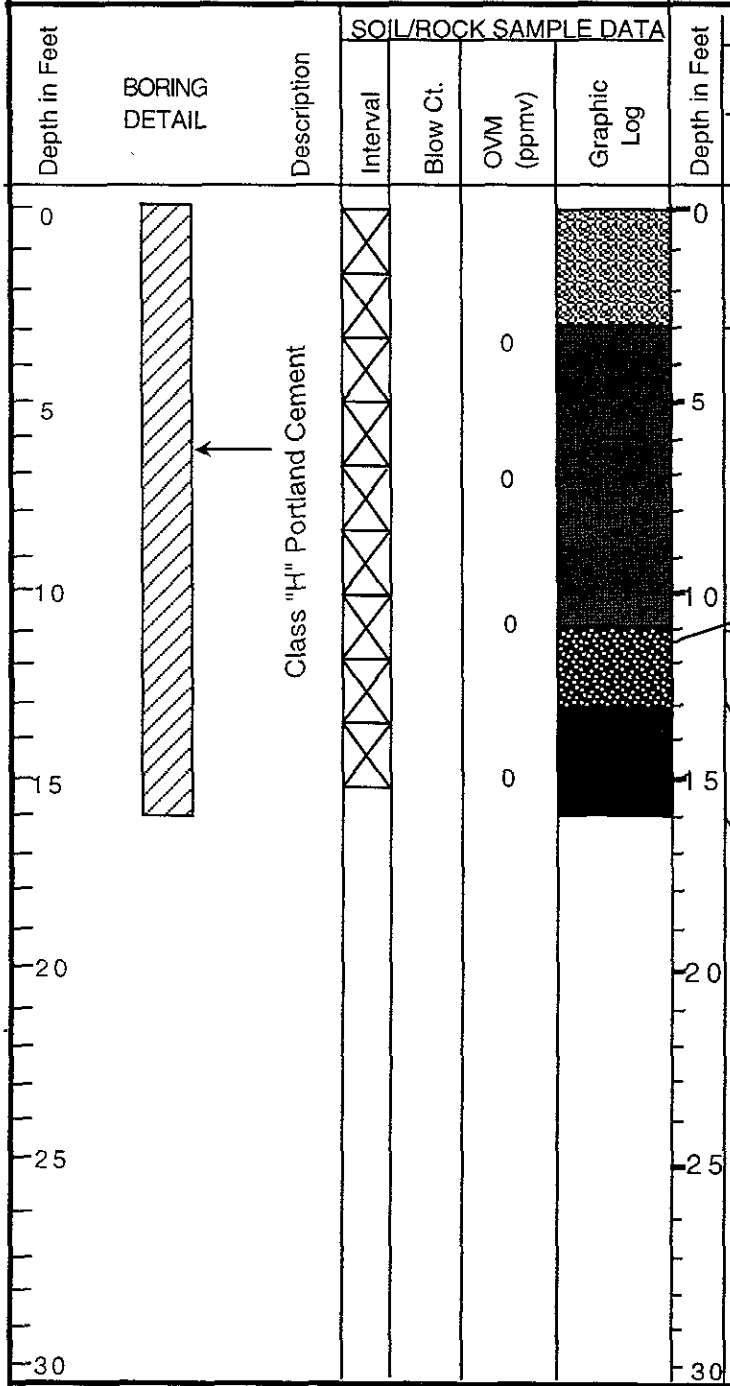
91992

APPENDIX C

Boring Logs

SOIL BORING LOG AND COMPLETION DETAILS		Boring BH-A
Project Name: Geo M. Martin Company	Project Location: 1308 67th Street, Emeryville, CA	Page 1 of 1
Driller: Gregg Drilling	Type of Rig: Geoprobe	Size of Drill: 2" Diameter Direct Push
Logged By: Robert E. Kitay, R.G.	Date Drilled: January 20, 1997	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA	
Depth of Water First Encountered: 11.5'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 16'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 1.5" I.D. Micro Sampler



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor

Clayey SILT (MH); dark yellow brown; stiff; moist; 70% silt; 30% clay; high plasticity; very low estimated K; no odor

▼ *Groundwater First Encountered*

Gravelly SILT (ML); yellow brown; medium stiff; wet; 70% silt; 20% subangular to subrounded pebbles to 1" diameter; 10% clay; low plasticity; low estimated K; no odor

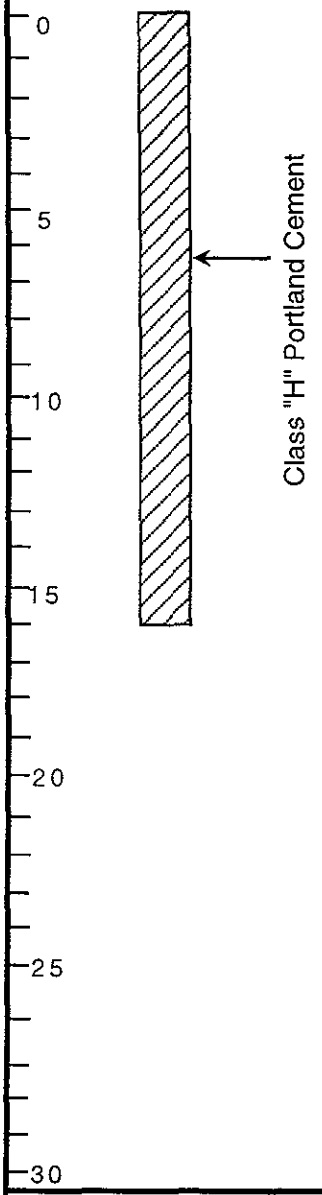
CLAY (CH); dark yellow brown; stiff; wet; 70% clay; 30% silt; high plasticity; very low estimated K; no odor

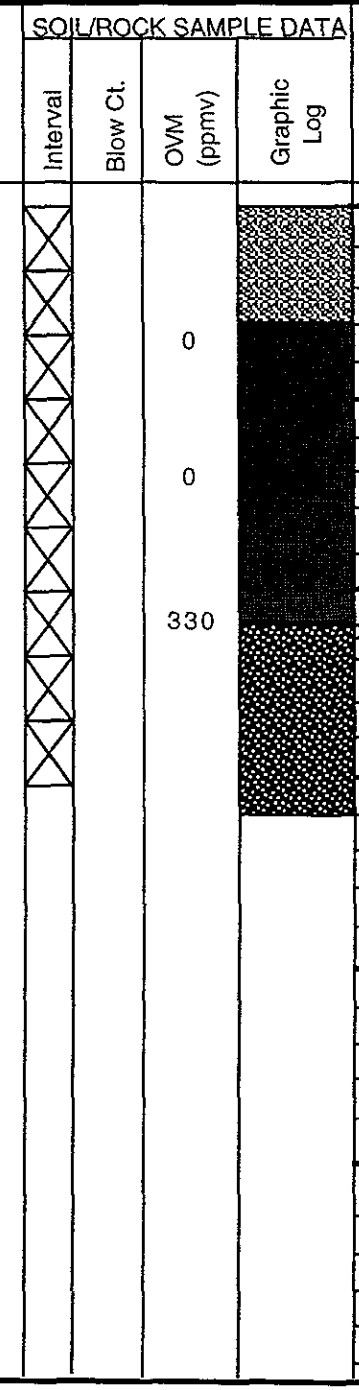
End of boring at 16'

SOIL BORING LOG AND COMPLETION DETAILS		Boring BH-B
Project Name: Geo M. Martin Company	Project Location: 1308 67th Street, Emeryville, CA	Page 1 of 1
Driller: Gregg Drilling	Type of Rig: Geoprobe	Size of Drill: 2" Diameter Direct Push
Logged By: Robert E. Kitay, R.G.	Date Drilled: January 20, 1997	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: 11.5'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 16'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 1.5" I.D. Micro Sampler





DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor

Clayey SILT (MH); dark yellow brown; stiff; moist; 70% silt; 30% clay; high plasticity; very low estimated K; no odor

▼ *Groundwater First Encountered* 11'

Gravelly SILT (ML); yellow brown; medium stiff; wet; 70% silt; 20% subangular to subrounded pebbles to 1" diameter; 10% clay; low plasticity; low estimated K; moderate hydrocarbon odor

End of boring at 16'

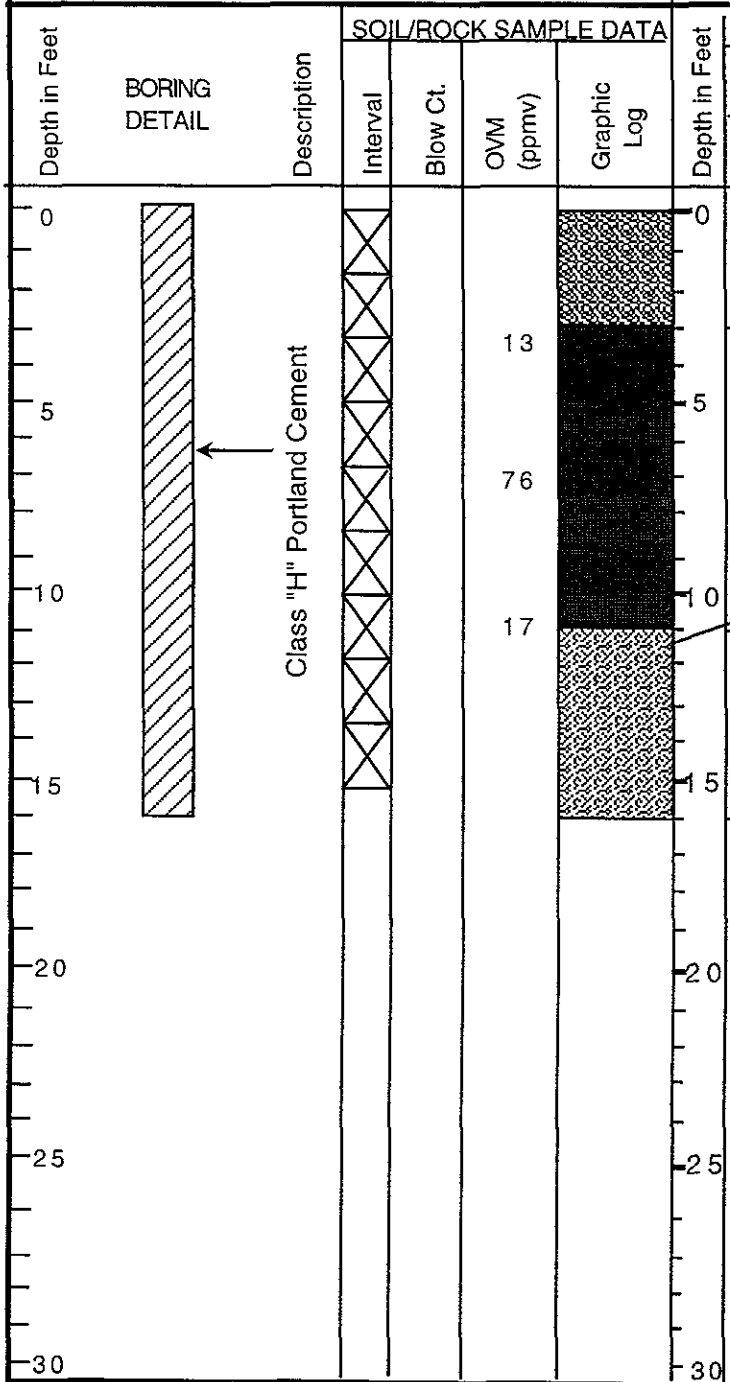
SOIL BORING LOG AND COMPLETION DETAILS

Boring BH-C

Project Name: Geo M. Martin Company	Project Location: 1308 67th Street, Emeryville, CA	Page 1 of 1
Driller: Gregg Drilling	Type of Rig: Geoprobe	Size of Drill: 2" Diameter Direct Push
Logged By: Robert E. Kitay, R.G.	Date Drilled: January 20, 1997	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: 11.5'	Total Depth of Well Completed: NA
Static Depth of Water in Well: NA	Well Screen Type and Diameter: NA
Total Depth of Boring: 16'	Well Screen Slot Size: NA
	Type and Size of Soil Sampler: 1.5" I.D. Micro Sampler



Depth in Feet	DESCRIPTION OF LITHOLOGY standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.
0	SILT (ML); yellow brown; medium stiff; damp; 100% silt; non-plastic; low estimated K; no odor
5	Clayey SILT (MH); dark yellow brown; stiff; moist; 70% silt; 30% clay; high plasticity; very low estimated K; slight hydrocarbon odor moderate hydrocarbon odor
10	▼ *Groundwater First Encountered*
15	Silty SAND (ML); yellow brown; medium stiff; wet; 60% fine sand; 40% silt; non-plastic; medium estimated K; slight hydrocarbon odor
	End of boring at 16'
20	
25	
30	

APPENDIX D

Analytical Report and Chain of Custody Forms
For Soil and Groundwater Samples

CHROMALAB, INC.

Environmental Services (SDB)

January 27, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

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

Client Sample ID: **BH-A WATER**
Spl#: 114873 *Matrix:* WATER *Extracted:* January 22, 1997
Sampled: January 20, 1996 *Run#:* 5040 *Analyzed:* January 24, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	2.1	N.D.	--	1
ACENAPHTHYLENE	N.D.	2.1	N.D.	--	1
ACENAPHTHENE	N.D.	2.1	N.D.	83.0	1
FLUORENE	N.D.	5.3	N.D.	--	1
PHENANTHRENE	N.D.	2.1	N.D.	--	1
ANTHRACENE	N.D.	2.1	N.D.	--	1
FLUORANTHENE	N.D.	2.1	N.D.	--	1
PYRENE	N.D.	2.1	N.D.	108	1
BENZO(A)ANTHRACENE	N.D.	2.1	N.D.	--	1
CHRYSENE	N.D.	2.1	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	2.1	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	2.1	N.D.	--	1
BENZO(A)PYRENE	N.D.	2.1	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	2.1	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	2.1	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	2.1	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

January 27, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

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

Client Sample ID: **BH-B WATER**
Spl#: 114874 *Matrix:* WATER *Extracted:* January 22, 1997
Sampled: January 20, 1996 *Run#:* 5040 *Analyzed:* January 24, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	3.6	2.7	N.D.	--	1
ACENAPHTHYLENE	N.D.	2.7	N.D.	--	1
ACENAPHTHENE	N.D.	2.7	N.D.	83.0	1
FLUORENE	N.D.	6.7	N.D.	--	1
PHENANTHRENE	2.8	2.7	N.D.	--	1
ANTHRACENE	N.D.	2.7	N.D.	--	1
FLUORANTHENE	N.D.	2.7	N.D.	--	1
PYRENE	N.D.	2.7	N.D.	108	1
BENZO(A)ANTHRACENE	N.D.	2.7	N.D.	--	1
CHRYSENE	N.D.	2.7	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	2.7	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	2.7	N.D.	--	1
BENZO(A)PYRENE	N.D.	2.7	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	2.7	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	2.7	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	2.7	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

January 27, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

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

Client Sample ID: **BH-C WATER**
Spl#: 114875 *Matrix:* WATER *Extracted:* January 22, 1997
Sampled: January 20, 1996 *Run#:* 5040 *Analyzed:* January 24, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	2.6	N.D.	--	1
ACENAPHTHYLENE	N.D.	2.6	N.D.	--	1
ACENAPHTHENE	N.D.	2.6	N.D.	83.0	1
FLUORENE	N.D.	6.5	N.D.	--	1
PHENANTHRENE	N.D.	2.6	N.D.	--	1
ANTHRACENE	N.D.	2.6	N.D.	--	1
FLUORANTHENE	N.D.	2.6	N.D.	--	1
PYRENE	N.D.	2.6	N.D.	108	1
BENZO(A)ANTHRACENE	N.D.	2.6	N.D.	--	1
CHRYSENE	N.D.	2.6	N.D.	--	1
BENZO(B)FLUORANTHENE	N.D.	2.6	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	2.6	N.D.	--	1
BENZO(A)PYRENE	N.D.	2.6	N.D.	--	1
INDENO(1,2,3-CD)PYRENE	N.D.	2.6	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	2.6	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	2.6	N.D.	--	1

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

January 27, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: **Surrogate** report for 3 samples for Polynuclear Aromatic
Method: SW846 Method 8270A Nov 1990
Lab Run#: 5040
Matrix: WATER

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
114873-1	BH-A WATER	NITROBENZENE-D5	73.6	35-114
114873-1	BH-A WATER	2-FLUOROBIPHENYL	73.3	43-116
114873-1	BH-A WATER	TERPHENYL-D14	123	33-141
114874-1	BH-B WATER	NITROBENZENE-D5	78.0	35-114
114874-1	BH-B WATER	2-FLUOROBIPHENYL	86.0	43-116
114874-1	BH-B WATER	TERPHENYL-D14	130	33-141
114875-1	BH-C WATER	NITROBENZENE-D5	72.0	35-114
114875-1	BH-C WATER	2-FLUOROBIPHENYL	76.5	43-116
114875-1	BH-C WATER	TERPHENYL-D14	118	33-141

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
115597-1	*Reagent blank (MDB)*	NITROBENZENE-D5	65.1	35-114
115597-1	*Reagent blank (MDB)*	2-FLUOROBIPHENYL	62.5	43-116
115597-1	*Reagent blank (MDB)*	TERPHENYL-D14	98.3	33-141
115598-1	*Spiked blank (BSP)*	NITROBENZENE-D5	79.3	35-114
115598-1	*Spiked blank (BSP)*	2-FLUOROBIPHENYL	83.5	43-116
115598-1	*Spiked blank (BSP)*	TERPHENYL-D14	107	33-141
115599-1	*Spiked blank duplicate (BSD)*	NITROBENZENE-D5	69.0	35-114
115599-1	*Spiked blank duplicate (BSD)*	2-FLUOROBIPHENYL	70.6	43-116
115599-1	*Spiked blank duplicate (BSD)*	TERPHENYL-D14	105	33-141

S105
QCSURR1229 MIKELEE 27-Jan-97 13

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: 3 samples for TPH - Diesel analysis.
Method: *EPA 8015M*

Matrix: WATER *Extracted:* January 23, 1997
Sampled: January 20, 1996 *Run#:* 5004 *Analyzed:* January 25, 1997

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
114874	BH-B WATER	1300	56	N.D.	74.0	1

Note: Estimated concentration due to overlapping fuel patterns.

Matrix: WATER *Extracted:* January 23, 1997
Sampled: January 20, 1996 *Run#:* 5018 *Analyzed:* January 25, 1997

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
114873	BH-A WATER	N.D.	110	N.D.	74.0	1

Note: Reporting limit raised due to limited sample size.

114875	BH-C WATER	1100	50	N.D.	74.0	1

Note: Estimated concentration due to overlapping fuel patterns.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: 3 samples for TPH - Diesel analysis.
Method: *EPA 8015M*

Matrix: SOIL *Extracted:* January 23, 1997
Sampled: January 20, 1996 *Run#:* 5015 *Analyzed:* January 25, 1997

Spl#	CLIENT SPL ID	DIESEL (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
114872	BH-C 8.5'	90	1.0	N.D.	95.5	1

Note: Estimated concentration due to overlapping fuel patterns.

Matrix: SOIL *Extracted:* January 23, 1997
Sampled: January 20, 1996 *Run#:* 5015 *Analyzed:* January 28, 1997

Spl#	CLIENT SPL ID	DIESEL (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
114870	BH-A 11.0'	2.1	1.0	N.D.	95.5	1

Note: Compounds reported are in the Diesel range. They do not have a pattern characteristic of petroleum hydrocarbons.

114871	BH-B 11.5'	1800	100	N.D.	95.5	100

Note: Estimated concentration due to overlapping fuel patterns.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for BTEX and MTBE compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Client Sample ID: **BH-A 11.0'**
Spl#: 114870 *Matrix:* SOIL
Sampled: January 20, 1996 *Run#:* 4991 *Analyzed:* January 22, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.0050	N.D.	116	1
TOLUENE	N.D.	0.0050	N.D.	108	1
ETHYL BENZENE	N.D.	0.0050	N.D.	114	1
XYLENES	N.D.	0.0050	N.D.	108	1
MTBE	N.D.	0.0050	N.D.	117	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for BTEX and MTBE compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Client Sample ID: **BH-B 11.5'**
Spl#: 114871 *Matrix:* SOIL
Sampled: January 20, 1996 *Run#:* 4991 *Analyzed:* January 22, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.0050	N.D.	116	1
TOLUENE	0.034	0.0050	N.D.	108	1
ETHYL BENZENE	0.23	0.0050	N.D.	114	1
XYLENES	0.85	0.0050	N.D.	108	1
MTBE	N.D.	0.017	N.D.	117	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for BTEX and MTBE compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Client Sample ID: **BH-C 8.5'**
Spl#: 114872 *Matrix:* SOIL
Sampled: January 20, 1996 *Run#:* 4991 *Analyzed:* January 22, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.14	N.D.	116	125
TOLUENE	N.D.	0.14	N.D.	108	125
ETHYL BENZENE	N.D.	0.14	N.D.	114	125
XYLENES	3.3	0.14	N.D.	108	125
MTBE	N.D.	0.72	N.D.	117	125

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for BTEX compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Client Sample ID: **BH-A WATER**
Spl#: 114873 *Matrix:* WATER
Sampled: January 20, 1996 *Run#:* 5054 *Analyzed:* January 27, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	97.0	1
ETHYL BENZENE	N.D.	0.50	N.D.	91.5	1
XYLENES	N.D.	0.50	N.D.	90.8	1
MTBE	N.D.	5.0	N.D.	88.0	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for BTEX compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Client Sample ID: **BH-B WATER**
Spl#: 114874 *Matrix:* WATER
Sampled: January 20, 1996 *Run#:* 5054 *Analyzed:* January 27, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	97.0	1
ETHYL BENZENE	N.D.	0.50	N.D.	91.5	1
XYLENES	8.1	0.50	N.D.	90.8	1
MTBE	N.D.	5.0	N.D.	88.0	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

January 28, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for BTEX compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Client Sample ID: **BH-C WATER**
Spl#: 114875 *Matrix:* WATER
Sampled: January 20, 1996 *Run#:* 5054 *Analyzed:* January 27, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	102	1
TOLUENE	N.D.	0.50	N.D.	97.0	1
ETHYL BENZENE	N.D.	0.50	N.D.	91.5	1
XYLENES	4.2	0.50	N.D.	90.8	1
MTBE	N.D.	5.0	N.D.	88.0	1

Kayvan Kimyai
Chemist

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Gas/BTEX Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

January 29, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for Polynuclear Aromatics (PNAs) analysis.
Method: *SW846 Method 8310 Sept 1986*

Client Sample ID: BH-C 8.5'
Spl#: 114872 *Matrix:* SOIL *Extracted:* January 27, 1997
Sampled: January 20, 1996 *Run#:* 5081 *Analyzed:* January 28, 1997

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	15	N.D.	84.7	1
ACENAPHTHENE	N.D.	5.0	N.D.	--	1
ACENAPTHYLENE	N.D.	6.0	N.D.	--	1
FLUORENE	13	5.0	N.D.	--	1
PHENANTHRENE	18	5.0	N.D.	118	1
ANTHRACENE	N.D.	5.0	N.D.	--	1
FLUORANTHENE	N.D.	5.0	N.D.	--	1
PYRENE	N.D.	5.0	N.D.	81.6	1
BENZO(A)ANTHRACENE	N.D.	5.0	N.D.	--	1
CHRYSENE	N.D.	5.0	N.D.	90.0	1
BENZO(B)FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO(A)PYRENE	N.D.	5.0	N.D.	70.9	1
IDENO(1,2,3-CD)PYRENE	N.D.	10	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	10	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	10	N.D.	--	1

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

January 29, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for Polynuclear Aromatics (PNAs) analysis.
Method: *SW846 Method 8310 Sept 1986*

Client Sample ID: **BH-B 11.5'**
Spl#: 114871 *Matrix:* SOIL *Extracted:* January 27, 1997
Sampled: January 20, 1996 *Run#:* 5081 *Analyzed:* January 28, 1997

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	75	N.D.	84.7	5
ACENAPHTHENE	N.D.	25	N.D.	--	5
ACENAPTHYLENE	N.D.	30	N.D.	--	5
FLUORENE	880	25	N.D.	--	5
PHENANTHRENE	1900	25	N.D.	118	5
ANTHRACENE	N.D.	25	N.D.	--	5
FLUORANTHENE	N.D.	25	N.D.	--	5
PYRENE	N.D.	25	N.D.	81.6	5
BENZO(A)ANTHRACENE	N.D.	25	N.D.	--	5
CHRYSENE	N.D.	25	N.D.	90.0	5
BENZO(B)FLUORANTHENE	N.D.	25	N.D.	--	5
BENZO(K)FLUORANTHENE	N.D.	25	N.D.	--	5
BENZO(A)PYRENE	N.D.	25	N.D.	70.9	5
IDENO(1,2,3-CD)PYRENE	N.D.	50	N.D.	--	5
DIBENZO(A,H)ANTHRACENE	N.D.	50	N.D.	--	5
BENZO(GHI)PERYLENE	N.D.	50	N.D.	--	5

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

January 29, 1997 *Submission #:* 9701241

AQUA SCIENCE ENGINEERS INC

Atten: Robert Kitay

Project: GEO M. MARTIN *Project#:* 2991
Received: January 21, 1997

re: One sample for Polynuclear Aromatics (PNAs) analysis.
Method: *SW846 Method 8310 Sept 1986*

Client Sample ID: **BH-A 11.0'**
Spl#: 114870 *Matrix:* SOIL *Extracted:* January 27, 1997
Sampled: January 20, 1996 *Run#:* 5081 *Analyzed:* January 28, 1997

ANALYTE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
NAPHTHALENE	N.D.	15	N.D.	84.7	1
ACENAPHTHENE	N.D.	5.0	N.D.	--	1
ACENAPTHYLENE	N.D.	6.0	N.D.	--	1
FLUORENE	N.D.	5.0	N.D.	--	1
PHENANTHRENE	N.D.	5.0	N.D.	118	1
ANTHRACENE	N.D.	5.0	N.D.	--	1
FLUORANTHENE	N.D.	5.0	N.D.	--	1
PYRENE	N.D.	5.0	N.D.	81.6	1
BENZO(A)ANTHRACENE	N.D.	5.0	N.D.	--	1
CHRYSENE	N.D.	5.0	N.D.	90.0	1
BENZO(B)FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO(K)FLUORANTHENE	N.D.	5.0	N.D.	--	1
BENZO(A)PYRENE	N.D.	5.0	N.D.	70.9	1
IDENO(1,2,3-CD)PYRENE	N.D.	10	N.D.	--	1
DIBENZO(A,H)ANTHRACENE	N.D.	10	N.D.	--	1
BENZO(GHI)PERYLENE	N.D.	10	N.D.	--	1

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

2411/114862 - 114875

31724

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

SUBM #: 9701241 REP: MV
CLIENT: ASE
DUE: 01/20/97
REF #: 31724

stody

DATE 1/21/97 PAGE 1 OF 2

SAMPLERS (SIGNATURE) Scott Fisher (PHONE NO.)
Robt C. Kitay (510) 820-9391

PROJECT NAME Geo M. Martin NO. 2991
ADDRESS 1308-67th Street, Emeryville, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
5-Day

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX/MTBE (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM MET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	PNAs (EPA 8310)	HOLD	BTEX & MTBE (EPA 8020)		
BH-A 3.5'	1/20	8:50	Soil	1															X			
BH-A 7.0'		9:00		1															X			
BH-A 11.0'		9:13		1			X											X		X		
BH-B 3.5'		10:30		1															X			
BH-B 7.5'		10:36		1															X			
BH-B 11.5'		10:42		1			X											X		X		
BH-B 15.0'		11:04		1															X			
BH-C 3.5'		12:40		1															X			
BH-C 8.5'		12:47		1			X											X		X		
BH-C 11.5'		12:57		1															X			
BH-C 16.0'	✓	13:10	✓	1															X			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
Robt C. Kitay 1413	[signature] 1413	[signature] 1705	Chris Rowley 1715	
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Robert E. Kitay 1/21/97	[signature] 1-21-97	[signature] 1-21-97	Chris Rowley 1/21/97	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company- Chromalab	Company- Chromalab	Company- Chromalab	

9701241

31724

Chain of Custody

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

DATE 1/21/97 PAGE 2 OF 2

SAMPLERS (SIGNATURE) (PHONE NO.)
Robert E. Kitay (510)820-9391

PROJECT NAME Geo M. Martin NO. 2991
ADDRESS 1308-67th Street, Emeryville, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
5-Day

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX/MTBE (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/C020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	PNAs (EPA 8310)	BTEX & MTBE (EPA 8020)
BH-A Water	1/20	11:35	Water	3															X
BH-A Water	1/21	10:50	"	3			X											X	
BH-B Water	1/20	12:20		5			X											X	X
BH-C Water	1/20	13:44	↓	5			X											X	X

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
Robert C. Kitay 1413	1413	1705	Chris Rowley 1715	Acid 1 Liter for B-H B WATER BROKEN CK 1/21/97
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Robert E. Kitay 1/21/97	1-21-97	1/21/97	Chris Rowley 1/21/97	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company- Chromalab	Company- Chromalab	Company- Chromalab	