CLOSURE REQUEST REPORT

Residential Portion of
2415 Mariner Square Drive
Alameda, California

NOVEMBER 1999

Prepared for

Mariner Square & Associates
2900 Main St., Suite 100
Alameda, California 94501

Prepared by

EARTH SYSTEMS CONSULTANTS
Northern California
47853 Warm Springs Boulevard
Fremont, California 94539

Earth Systems Consultants
Northern California

47853 Warm Springs Blvd.
Fremont, CA 94539-7400
(510) 353-0320
Fax (510) 353-0344

File No. NFE-4392-01
November 18, 1999

Doc. No. 9911-052

Alameda County Health Care Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

Attention: Mr. Larry Seto, Senior Hazardous Materials Specialist

Subject: 2415 Mariner Square Drive
Alameda, California
CLOSURE REQUEST FOR RESIDENTIAL PORTION OF PROPERTY

Dear Mr. Seto:

As requested, Earth Systems Consultants Northern California (ESCNC) is providing this closure request report for the residential portion of the above referenced site. The risk assessment evaluated the site for impacts from contaminants remaining in soil and groundwater on the residential parcel. The results for the assessment of the site indicate the following:

- Hydrocarbons remaining in soil will not likely further impact groundwater at the site. Volatile compounds were not reported in the soul samples from the site.
- Volatile compounds remaining in groundwater do not pose a significant risk to residential use of the parcel. The groundwater at the site is not considered drinking water quality. Continued groundwater monitoring and sampling has not shown significant change in the three wells located on the residential parcel.
- The risk of exposure to soil and groundwater is currently low due to the present configuration and in the proposed residential configuration. The receptor pathways are limited to dermal contact during construction and excavation.
- Based upon the Risk Assessment, no remediation has been proposed on the residential portion of the subject site.

Based upon the above evaluation and the attached report, ESCNC requests closure for the residential parcel.

File No. NFE-4392-01
November 18, 1999

Doc. No. 9911-052

If you have any questions regarding this report, please call the undersigned at your earliest convenience.

Very truly yours,

EARTH SYSTEMS CONSULTANTS
Northern California

Jeanne Buckthal
Staff Geologist

Gary Pischke
Senior Geologist
Certified Engineering Geologist 1501

JB/GMP:dh Rpt#305
Distribution: 1 to Addressee
1 to Mr. John Beery

Attachments: Case Closure Summary

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

APPENDICES

Appendix A

Boring/Well Construction Logs for wells MW-1, MW-5, MW-7, and MW-8, SB-A and SB-B

File No. NFE-4392-01
November 18, 1999

Doc. No. 9911-052

CLOSURE REQUEST REPORT

**PROJECT: 2415 Mariner Square Drive
Alameda, California**

CLIENT: Mariner Square & Associates

INTRODUCTION

Purpose

The Mariner Square site at 2415 Mariner Square Drive in Alameda, California (Figure 1) has been under assessment for bulk oil related hydrocarbon impacts to soil and groundwater since 1991. The site has recently been divided into two parcels which will eventually have separate Assessor's Parcel Numbers and street addresses. The western portion of the site will be commercial/industrial and retain the address of 2415 Mariner Square Drive, while the eastern portion of the site will be residential and acquire a new street address in the future. The approximate property boundaries are shown on Figure 2. These areas will be referred to hereafter as the "commercial portion/parcel" and the "residential portion/parcel" while the site as a whole will be referred to as the "subject site" or the "site".

The purpose of this report is to request closure for the residential portion. However, the site background information includes data from the entire subject site.

Site Description and Background

The subject site is located in Alameda, California in an area of commercial, light manufacturing and military usage. Adjacent to the western and southern boundaries of the subject site is the Fleet Industrial Supply Center, Alameda Annex. The Alameda-Oakland Estuary and Oakland Inner Harbor are adjacent to the northern site boundary. Mariner Square Drive and the Webster Street Tube are located east of the site. Currently, the subject site is occupied by several buildings housing companies catering to the marine industry, such as boat sales, storage, and repairs, and railroad boxcars which have been converted to offices. There are 10 groundwater monitoring wells at the subject site, of which three are located within the residential portion. A fourth well is located at the northern boundary between the two parcels.

The subject site was reclaimed from marshlands in the late 1890s. Available maps indicate the site now occupies fill over tidal channels present in the former marshland. The site was previously owned by Tidewater/Texaco then Phillips Petroleum, and was used for bulk fuel storage and distribution of refined oils, motor lubricants, and fuel oils for use by ships until 1972. It is estimated that the site was used for bulk fuel storage and distribution as early as 1916.

During the height of bulk fuel storage and distribution, the site consisted of 16 above ground storage tanks (ASTs) of various sizes and contents, two crude oil ASTs (37,000 and 30,000 barrels), a fire wall surrounding the ASTs, two underground pipelines, a pipeline wharf, a mixing tank, a warehouse/pumphouse, a reinforced concrete oil warehouse, and various buildings. Of these tanks, approximately 13 smaller-capacity ASTs and a small portion of one of the large crude oil ASTs were located on the residential portion of the site (Figure 2). Since 1972, the subject site has been mixed office, restaurant, boat sales, sail manufacturing, boat motor repair, automobile repair, boat hull repair, and boat hull stripping and painting.

GEOLOGY AND HYDROGEOLOGY

The local geology consists of surface fill to a depth of 7 feet underlain by clayey to silty sand (hydraulic fill) from approximately 7 to 17 feet below ground surface (bgs). Since the site was reclaimed from marshlands, the former tidal channels within the tidal flats/marsh may contain thicker hydraulic fill deposits. The hydraulic fill was mechanically placed prior to the development of this portion of Alameda. Below the hydraulic fill, the sediment consists of olive-gray sandy to silty clay with sand lenses, shells and organic matter from approximately 13 to 30 feet bgs, known as Bay Mud. Deep borings drilled on an adjacent to the site to depths greater than 100 feet prior to the construction of the Webster Street Tube in 1957 indicate that the Bay Mud is underlain by lenses of well-sorted sands, silts and clayey silts of the Merritt Sands.

Regional groundwater flow is predominantly westerly toward San Francisco Bay, but groundwater beneath the site generally flows toward the south-southeast. The discrepancy may be the result of several man-made barriers that could impede groundwater flow beneath the site. These barriers include interlocking concrete sheet piling that forms the boundary between the north side of the site and the Alameda Estuary; a sheetpile and concrete bulkhead, located along the eastern site boundary, installed during the construction of the Webster Tube; and wooden pilings and concrete bulkhead that support the concrete fire wall surrounding the former ASTs.

A tidal influence study completed by Subsurface Consultants, Inc. (SCI, 1992) suggests that the concrete sheet piling forming the northern property boundary on the estuary, as well as the sheet piling and bulkhead related to the Webster Tube, form effective barriers to groundwater flow. The fire wall foundation is comprised of spread footing four feet below ground surface, as found at the MW-6 excavation. The firewall's impact to groundwater flow appears to limit contaminant movement within the former tank farm.

BENEFICIAL USES

The beneficial use at the residential portion of the site include redevelopment to include an assisted care facility and associated parking lots. The groundwater beneath the site does not appear to have a potential future beneficial use due to its brackish nature. Total dissolved solids (TDS) at the subject site range from 580 to 4,100 parts per million (ppm) in wells MW-4 and MW-8, respectively. Offsite TDS has been reported by the adjacent Navy property as greater than 3,000 ppm. There are no water supply wells located downgradient (south-southeast) within 1/4-mile of the site. There is no surface water at the site, however, the Alameda Estuary is located north of and adjacent to the site. Beneficial use on the estuary consists mainly of recreational boating.

PREVIOUS SOIL AND GROUNDWATER INVESTIGATIONS

As a result of past operations at the subject site, there is remaining contamination in the soil and groundwater beneath the residential portion. The apparent sources of contamination include the former ASTs. To investigate the soil and groundwater contamination, borings and groundwater monitoring wells were installed at the subject site. The borings advanced on the residential portion include MS-1 through MS-4, MS-11, MS-13, MS-14, and MS-23 in April 1992 and SB-A and SB-B in September 1994. The groundwater monitoring wells on the residential portion include MW-1, installed in July 1992, and MW-7 and MW-8, installed in September 1994. Well MW-5, also installed in July 1992, is located north of and adjacent to the northern boundary of the residential portion. Figures 2 and 3 show the well and boring locations. The boring/well logs for wells MW-1, MW-5, MW-7, and MW-8 are included in Appendix A.

The contaminants of concern at the residential portion have included total recoverable petroleum hydrocarbons (TRPH); total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPHg, TPHd, and TPHmo, respectively); benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl tert-butyl ether (MTBE); volatile organic compounds (VOCs); polynuclear aromatics (PNAs); total lead; and soluble threshold limit concentration (STLC) lead.

Previous Subject Site Investigations

On November 25, 1991, AllWest Environmental, Inc. (AllWest) performed a Phase I Environmental Site Assessment of the subject site (AllWest, December 3, 1991). AllWest recommended a soil and groundwater investigation related to the fuel and oil storage, refining and distribution, and for contaminants related to boat maintenance, painting and repair. Subsequently, in April 1992, AllWest supervised the placement of 23 geoprobes (MS-1 through MS-23), collecting and analyzing 23 soil samples and four groundwater samples (AllWest, May 1, 1992). Of the soil samples collected from the residential portion (MS-1 through MS-4, MS-11, MS-13, MS-14, and MS-23), the highest TRPH concentration (13,000 ppm) was detected at 4 feet bgs in boring MS-4. Concentrations of BTEX in soil were very low or below the respective method detection limits (MDLs). Concentrations of VOCs in soil were below MDLs in all samples collected from the residential portion. The soil analytical results for the entire subject site are summarized in Tables 1A through 1C. Groundwater samples were collected from MS-1 and MS-13. TRPH, BTEX, and VOCs were below MDLs in both samples, except for 23 ppb TRPH in

① start here

② Write in beginning paragraph being split into two properties.

PNA analysis should have been done on samples of MS-4 where elevated TPH was detected

sample MS-13. The groundwater analytical results for the entire subject site are summarized in Tables 2A through 2C.

In July 1992, SCI supervised the installation of monitoring wells MW-1 through MW-6 (SCI, December 23, 1992). Only well MW-1 is located on the residential portion, but MW-5 is located adjacent to the northern boundary of the residential parcel. TPHd, oil and grease, BTEX, and VOCs were below MDLs in the soil sample collected from MW-1. In addition, the STLC lead concentration was 0.10 ppm. The initial groundwater sampling from well MW-1 reported 580 parts per billion (ppb) TPHd, and TPHmo and BTEX were below MDLs. The soil and groundwater analytical results are summarized in Tables 1A through 1C and 2A through 2C.

On June 14, 1994, McLaren/Hart supervised the drilling of 11 soil borings (SB-A through SB-K), analyzing 28 soil samples, and installing three monitoring wells (MW-7, MW-8, and MW-9 in soil borings MW-7, MW-8, and SB-C, respectively). Of these borings and wells, SB-A, SB-B, MW-7 and MW-8 were installed on the residential portion. The soil sample collected from SB-A did not contain detectable BTEX or vinyl chloride. The soil samples from SB-A and SB-B were also analyzed for total organic carbon (TOC). The maximum concentration of TOC was 19,000 ppm in SB-B at 1.5 feet bgs. The soil sample from MW-7 contained 200 ppm TPHmo and 0.014 ppm toluene, while TPHg, TPHd, BEX, and vinyl chloride were nondetectable. The initial round of groundwater sampling for wells MW-7 and MW-8 reported TPHd at concentrations of 1,800 and 320 ppb, respectively, while TPHg, TPHmo, BTEX and vinyl chloride were nondetectable. All monitoring well locations are shown on Figure 2, and soil and groundwater analytical results are summarized in Tables 1A through 1C and 2A through 2C.

During the preliminary data gathering phase for the Risk-Based Corrective Action (RBCA) evaluation (ESCNC, February 12, 1999), there were no background levels for PNAs, total lead, and STLC lead. Therefore, on December 7, 1998, one direct push boring (DP-2) was advanced near the location of well MW-1. Soil samples were collected and analyzed for PNAs, total lead, and STLC lead. PNAs and total lead were not detected in the soil sample from DP-2. Therefore, the sample from DP-2 was not analyzed for STLC lead. Metals results for the entire subject site are summarized in Tables 1C and 2C.

On November 21, 1998, ESCNC (January 4, 1999) personnel supervised the removal of two pipelines (PL1 and PL2) located north of the residential portion (Figure 2). Twelve (12) soil

TPH remains a concern for dermal + ingestion pathways (women)

and is also a potential eco risk. to Estuary.

samples were collected from depths ranging from 1.8 to 2.3 feet beneath the former pipelines at 20 foot intervals. Concentrations of TPHmo ranged from less than 1.0 to 1,600 ppm; TPHd ranged from less than 1.0 to 1,000 ppm; and TPHg ranged from less than 1.0 to 1,100 ppm. Benzene and MTBE were not detected in any samples. Total lead concentrations ranged from less than 5.0 to 150 ppm. The sample with the reported 150 ppm total lead was also analyzed for STLC lead. The result was 7.9 ppm, indicating some soluble lead in the soil. The PNAs naphthalene and 2-methylnaphthalene were reported at 230 ppm and 260 ppm, respectively. The soil analytical results for the pipeline soil samples (PL1/PL2) are summarized in Tables 1A and 1B.

ESCNC completed a Tier 2 (site specific) RBCA (ESCNC, February 12, 1999) for both the residential and commercial portions of the subject site. The conclusions stated that TRPH in soil at the subject site does not contain volatile compounds and does not represent a significant risk to human health or the environment for residential or commercial use. In addition, volatile organic compounds are not present in high enough concentrations in soil to provide a risk from inhalation from vapors in the soil through cracks in foundations or from soil in landscape areas. Exposure to benzene in groundwater at the subject site has a risk factor between 1E-05 and 1E-06 with the primary receptor being dermal contact during construction onsite.

SOIL SUMMARY AND EVALUATION

The borings advanced on the residential portion include MS-1 through MS-4, MS-11, MS-13, MS-14, MS-23, SB-A, and SB-B. Soil samples from borings MS-1, MS-3, MS-4, MS-11, MS-13, MS-14, and MS-23 were analyzed for TRPH, BTEX, and VOCs. Soil samples from borings SB-A at 1.5 feet, and SB-B at 1.5 feet and 4.5 feet bgs were analyzed for total organic carbon. Soil samples SB-A and SB-B were analyzed for 17 metals at 1.5 feet, and for total lead at 3.0 feet. The soil sample from SB-A at 5.5 feet bgs was analyzed for BTEX, vinyl chloride and total organic carbon. TRPH was detected at concentrations ranging from nondetectable (MS-1) to 13,000 ppm (MS-4). Benzene was below detection limits. TEX and VOCs concentrations ranged from nondetectable to 1.2 ppm (MS-4).

at perimeter of property

The wells installed on the residential portion include MW-1, MW-7, and MW-8. In addition, well MW-5 is located north of and adjacent to the northern boundary of the residential portion. Due to the lack of photo ionization detector (PID) readings, no soil samples from well MW-8 were analyzed. The soil samples collected from wells MW-1 and MW-5 were analyzed for TPHd, oil and grease, BTEX, and VOCs. The soil sample collected from well MW-7 was analyzed for TPHg, TPHd, TPHmo, BTEX, VOCs, and vinyl chloride. All analytes were below detection limits in the sample from MW-1. Oil and grease, benzene, and VOCs were not detected in the sample from MW-5. TPHd and TEX were detected in MW-5 at 220 ppm, 0.5 ppm, 1.6 ppm, and 1.4 ppm, respectively. TPHg, TPHd, benzene, total xylenes, and vinyl chloride were not detected in the sample from MW-7. TPHmo and toluene were detected in the sample from MW-7 at 200 and 0.014 ppm, respectively.

Surface soils are defined as less than 3 feet bgs, and subsurface soils are defined as greater than 3 feet bgs. Therefore, soil sample MS-23 is considered surface soil, and the remaining soil samples collected from the residential portion are considered subsurface soils. The contaminant of concern in both surface and subsurface soil of the residential portion is TRPH. A maximum TRPH concentration of 2,000 ppm was established by the ACHCSA. However, the volatile organic compounds normally associated with TRPH are either reported as nondetectable or at low concentrations. Therefore, in the Risk Assessment, TRPH is not considered to be a contaminant of concern for the residential parcel. Concentrations of TRPH are above the ACHCSA levels for a portion of the former bulk plant and adjacent parking lot. However, the volatile organic

compounds normally associated with the TRPH are either reported as non-detectable or at low concentrations.

were lead samples collected properly, preserved, etc?
filtered?

Is SFIA SB82 for TPHg reading 9,150 ppb?, - 3,700 ppb in 7198
also need to look at TPHd & TPHmo.

GROUNDWATER SUMMARY AND EVALUATION

The following summary is based on the analytical results of groundwater samples collected from wells MW-1, MW-7, and MW-8 within the residential portion of the site. TPHg has ranged from nondetectable to 750 ppb, TPHd has ranged from nondetectable to 1,800 ppb, and TPHmo has been nondetectable in all three wells, except for 110 ppb in MW-1 on 6/24/99 and 130 ppb in MW-8 on 9/9/99. Benzene has ranged from nondetectable to 89 ppb, and the highest level of TEX was 64 ppb total xylenes. MTBE was not detected in wells MW-1 or MW-8. Although, MTBE was detected at concentrations of 16 and 34 ppb in well MW-7 on 2/18/98 and 5/8/98, respectively. Vinyl chloride has not been detected in these wells.

Well MW-5 is located north of and adjacent to the northern boundary of the residential portion. However, due to the proximity to the residential portion, the analytical results are summarized. TPHg has ranged from 290 to 9,000 ppb, TPHd has ranged from nondetectable to 8,800 ppb, and TPHmo has ranged from nondetectable to 860 ppb. Benzene has ranged from 1.2 to 48 ppb, and the highest level of TEX was 49 ppb ethylbenzene. MTBE has ranged from nondetectable to 12 ppb. Vinyl chloride has not been detected in well MW-5. Lead was detected in well MW-5 at 82 ppb on 5/25/93 and nondetectable on 9/26/94.

The primary contaminant of concern in groundwater is benzene. The possible exposure pathway is volatilization from groundwater to the enclosed space of the residential structure, and the calculated risk is between 1E-05 and 1E-06. However, the actual risk of exposure by this pathway is minimal due to the proposed configuration of buildings and pavement.

The Saltwater Ecological Protection Zone (SEPZ) at the San Francisco International Airport (SFIA) was used in the Risk Assessment as a basis for comparison of similar background conditions. The residential portion is within the SEPZ 300 foot evaluation area. The benzene concentrations in groundwater sample results reported from the three wells within the parcel and well MW-5 are, on average, below the SEPZ value of 71 ppb. The SFIA SEPZ value for TPHg is 9,150 ppb. The TPHg concentrations from the three parcel wells and MW-5 average below this value.

In summary, the Risk Assessment did not find significant risk from benzene in groundwater under the residential portion of the site.

REQUEST FOR CLOSURE

The risk assessment evaluated the site for impacts from contaminants remaining in soil and groundwater on the residential parcel. The results for the assessment of the site indicate the following:

- Hydrocarbons remaining in soil will not likely further impact groundwater at the site. Volatile compounds were not reported in the soil samples from the site.
  Volatile compounds remaining in groundwater do not pose a significant risk to residential use of the parcel. The groundwater at the site is not considered drinking water quality. Continued groundwater monitoring and sampling has not shown significant change in the three wells located on the residential parcel.
- The risk of exposure to soil and groundwater is currently low due to the present configuration and in the proposed residential configuration. The receptor pathways are limited to dermal contact during construction and excavation.
- Based upon the Risk Assessment, no remediation has been proposed on the residential portion of the subject site.

Based upon the above evaluation, ESCNC requests closure for the residential parcel and proposes the following tasks to complete closure of the site:

Well Destruction

After approval of the request for closure, permit applications for destruction of wells MW-1, MW-7, and MW-8 will be submitted to ACHCSA. After permit approval, the wells will be destroyed by pressure grouting through the casing and filter pack materials. The casing and borehole will backfilled with neat cement or other approved material from total depth to surface.

Well MW-5, located on the northern boundary between the two parcels, will be destroyed, as described above, and a replacement well MW-5A will be installed on the commercial parcel.

Coordination of Disposal

Soil cuttings, rinsate, and purge and development water that is currently stored onsite in 55-gallon drums should be removed by appropriate subcontractors. ESCNC will coordinate with a separate contractor for the removal of these wastes.

Preparation of Well Destruction Report

A final report will be prepared that documents the well destruction and disposal of soil and groundwater.

LIMITATIONS

This report was prepared under the supervision of a registered geologist. All statements, conclusions and recommendations are based solely upon confirmation boring evaluation and review of available reports by Earth Systems Consultants Northern California.

It is possible that variations in soil or groundwater conditions exist beyond the points explored in past investigations. Also, site conditions are subject to change with time due to variations in rainfall, temperature, regional water usage, or other factors.

REFERENCES

AllWest Environmental, Inc., Subsurface Investigation Report for 2415 Mariner Square Drive, Alameda, California. May 1, 1992.

AllWest Environmental, Inc., Environmental Assessment Report for 2415 Mariner Square Drive, , California. December 3, 1991.

American Society for Testing and Materials Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites. E1739-95^{e1}, 1995.

California Regional Water Quality Control Board, San Francisco Bay Region, Rationale for Modifying the Tier 1 Petroleum Hydrocarbon Saltwater Ecological Protection Zone (SEPZ) Levels for the San Francisco International Airport Board Order 95-136.

Department of Toxic Substances Control, Assessment of Health Risks from Inorganic Lead in Soil. August 1992.

Department of Toxic Substances Control, Memorandum to the Preliminary Endangerment Assessment Guidance Manual - Errata Sheet. March 20, 1998.

Earth Systems Consultants Northern California, Results of Hydropunch Samples Near Former Well MW-6, 2415 Mariner Square Drive, Alameda, California. October 9, 1998.

Earth Systems Consultants Northern California, Risk-Based Corrective Action Report, Mariner Square, 2415 Mariner Square Drive, Alameda, California. February 12, 1999.

Earth Systems Consultants Northern California, Third Quarter 1999 Groundwater Sampling, Mariner Square Associates, 2415 Mariner Square Drive, Alameda, California. October 11, 1999.

Erler & Kalinowski, Inc., Proposal for Site Soils and Groundwater Environmental Assessment, Mariner Square, Alameda, California. February 1994.

Hydro-Environmental Technologies, Inc., Quarterly Monitoring Report, Second Quarter 1998 for 2415 Mariner Square Drive, Alameda, California. June 12, 1998.

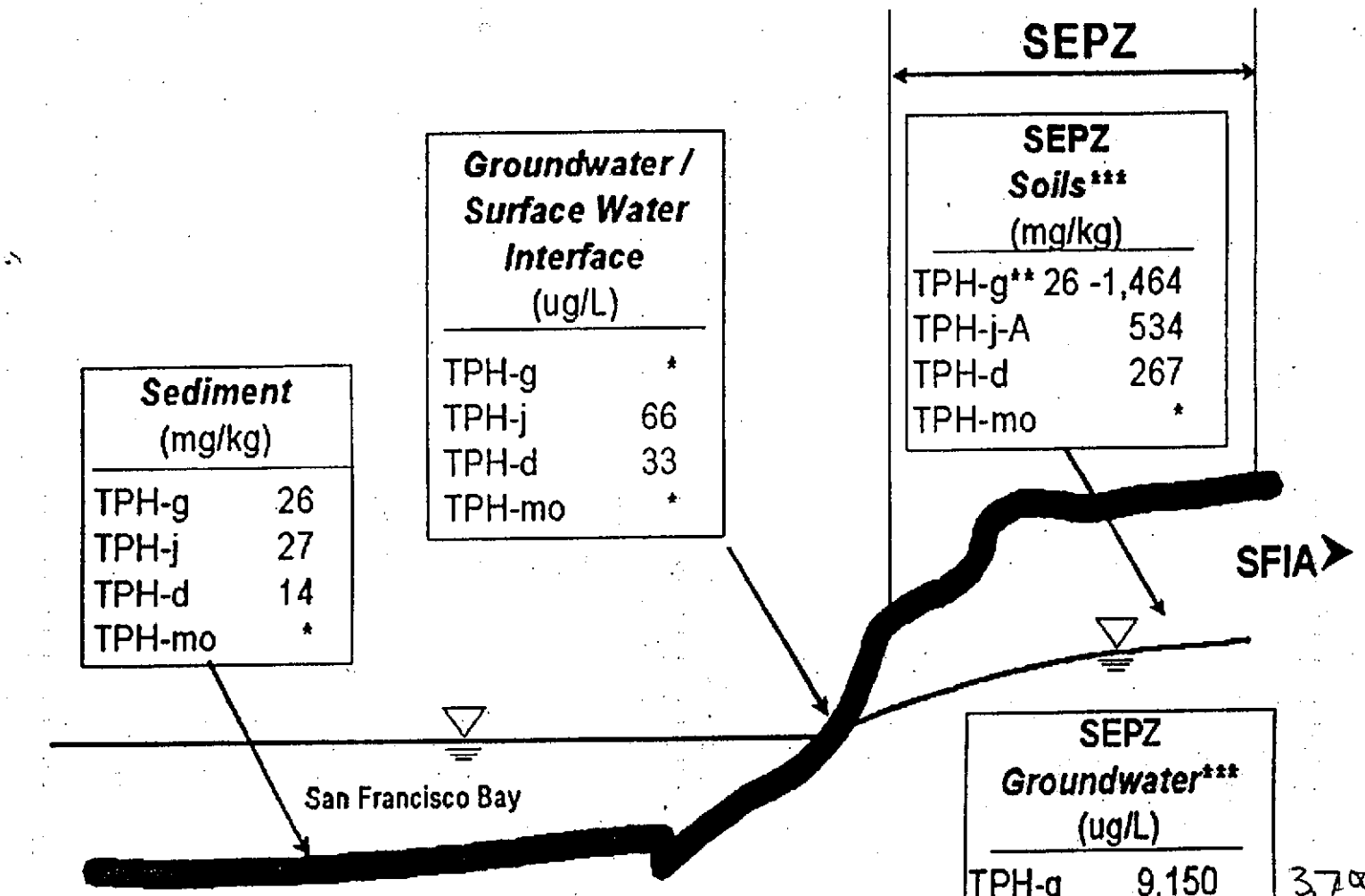
McLaren/Hart, Third Draft of Supplemental Site Investigation and Limited Feasibility Study Report for 2415 Mariner Square Drive, Alameda, California. March 31, 1995.

McLaren/Hart, Supplemental Site Investigation at the Mariner Square Facility, 2415 Mariner Square Drive, Alameda, California. August 2, 1995.

Subsurface Consultants, Inc., Groundwater Investigation for 2415 Mariner Square Drive, Alameda, California. November 13, 1992.

Subsurface Consultants, Inc., Quarterly Groundwater Monitoring Report for 2415 Mariner Square Drive, Alameda, California. December 23, 1992.

DRAFT Revised Tier 1 Petroleum Hydrocarbon (TPH) Screening Levels for the Saltwater Ecological Protection Zone (SEPZ) and Adjacent Surface Waters at the San Francisco International Airport (SFIA) -- December 11, 1997 / JUN 1998



3,700
314
314

* = site specific
** = increasing landward
*** = see special conditions for 10ft adjacent to Bay

July 1998. FS

TABLES

File No. NFE-4392-01
November 18, 1999

TABLE 1A
Soil Analytical Results -- Organics
Mariner Square, Alameda, California

BORING/ WELL NUMBER	DEPTH (feet)	DATE	TPHg (ppm)	TPHd (ppm)	TPHmo (ppm)	TRPH (ppm)	OIL & GREASE (ppm)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL-BENZENE (ppm)	TOTAL XYLENES (ppm)	MTBE (ppm)	VOCs (ppm)	VINYL CHLORIDE (ppb)	TOC (ppm)
T-1	5.0	12/17/90	ND*	-	-	-	-	ND*	ND*	ND*	0.0063	-	-	-	-
T-2	5.0	12/17/90	ND*	-	-	-	-	ND*	0.017	ND*	0.020	-	-	-	-
D-1	1.0	12/17/90	ND*	-	-	-	-	ND*	ND*	ND*	ND *	-	-	-	-
MS-1	**4.0**	**4/7/92**	-	-	-	**<10**	-	**<0.005**	**<0.005**	**<0.005**	**<0.010**	-	**ND**	-	-
MS-2	**4.0**	**4/7/92**	-	-	-	-	-	-	-	-	-	-	-	-	-
MS-3	**4.0**	**4/7/92**	-	-	-	**870**	-	**<0.005**	**<0.005**	**0.027**	**0.054**	-	**ND**	-	-
MS-4	**4.0**	**4/7/92**	-	-	-	**13,000**	-	**<0.50**	**<0.50**	**1.00**	**1.20**	-	**ND**	-	-
MS-5	4.0	4/7/92	-	-	-	170	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-6	4.0	4/7/92	-	-	-	520	-	<0.10	<0.10	<0.10	<0.20	-	ND	-	-
MS-7	4.0	4/7/92	-	-	-	290	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-8	4.0	4/7/92	-	-	-	46	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-9	4.0	4/7/92	-	-	-	12	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-10	4.0	4/7/92	-	-	-	37	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-11	**4.0**	**4/8/92**	-	-	-	**3,000**	-	**<0.005**	**<0.005**	**<0.005**	**<0.010**	-	**ND**	-	-
MS-12	**4.0**	4/8/92	-	-	-	3,200	-	<0.10	<0.10	0.140	0.270	-	ND	-	-
MS-13	**4.0**	**4/8/92**	-	-	-	**4,900**	-	**<0.10**	**<0.10**	**<0.10**	**<0.20**	-	**ND**	-	-
MS-14	**4.0**	**4/8/92**	-	-	-	**6,300**	-	**<0.005**	**<0.005**	**<0.005**	**<0.010**	-	**ND**	-	-
MS-15	**4.0**	4/8/92	-	-	-	6,400	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-16	0.4	4/8/92	-	-	-	27	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-17	**0.2**	4/8/92	-	-	-	**3,300**	-	<0.50	<0.50	1.60	8.4	-	ND	-	-
MS-18	**0.4**	4/8/92	-	-	-	**11,000**	-	<0.20	<0.20	<0.20	<0.40	-	ND	-	-
MS-19	**0.4**	4/8/92	-	-	-	**3,900**	-	<0.10	<0.10	<0.10	<0.20	-	ND	-	-
MS-20	0.4	4/8/92	-	-	-	970	-	<0.005	<0.005	<0.005	<0.005	-	ND	-	-
MS-21	0.4	4/8/92	-	-	-	39	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-22	0.4	4/8/92	-	-	-	<10	-	<0.005	<0.005	<0.005	<0.010	-	ND	-	-
MS-23	**0.3**	**4/8/92**	-	-	-	**6,200**	-	**<0.005**	**<0.005**	**<0.005**	**<0.010**	-	**ND**	-	-
MW-1	**7.0**	**7/22/92**	-	**<1**	-	-	**<50**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	-	**ND**	-	-
MW-2	6.0	7/22/92	-	40	-	-	66	<0.80	<0.80	21.0	10.0	-	ND	-	-
MW-3	4.5	7/22/92	-	<1	-	-	<50	<.005	<0.005	<0.005	<0.005	-	ND	-	-
MW-4	4.0	7/22/92	-	<1	-	-	<50	<0.005	<0.005	<0.005	<0.005	-	ND	-	-
MW-5	**4.5**	**7/22/92**	-	**220**	-	-	**<50**	**<0.40**	**0.50**	**1.6**	**1.4**	-	**ND**	-	-
SB-A	**1.5**	**9/15/94**	-	-	-	-	-	-	-	-	-	-	-	-	**6,700**
SB-A	**5.5**	**9/15/94**	-	-	-	-	-	**<0.005**	**<0.0063**	**<0.005**	**<0.046**	-	-	**<10**	**960**
SB-B	**1.5**	**9/16/94**	-	-	-	-	-	-	-	-	-	-	-	-	**19,000**

File No. NFE-4392-01
November 18, 1999

TABLE 1A
Soil Analytical Results -- Organics
Mariner Square, Alameda, California

BORING/ WELL NUMBER	DEPTH (feet)	DATE	TPHg (ppm)	TPHd (ppm)	TPHmo (ppm)	TRPH (ppm)	OIL & GREASE (ppm)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL-BENZENE (ppm)	TOTAL XYLENES (ppm)	MTBE (ppm)	VOCs (ppm)	VINYL CHLORIDE (ppb)	TOC (ppm)
SB-B	**4.5**	**9/16/94**	-	-	-	-	-	-	-	-	-	-	-	-	**<500**
SB-C/MW-9	1.5	9/16/94	-	-	9,200	-	-	<0.005	13	5.8	<0.005	-	-	<20	4,000
SB-C/MW-9	5.5	9/16/94	-	-	-	-	-	-	-	-	-	-	-	-	<500
SB-D	4.5	9/16/94	<50	810	140	-	-	<0.050	<0.073	<0.050	1.380	-	-	-	-
SB-E	4.5	9/16/94	<10	<10	60	-	-	<0.005	0.019	<0.005	<0.005	-	-	-	-
MW-7	**4.0**	**9/15/94**	**<30**	**<30**	**200**	-	-	**<0.005**	**0.014**	**<0.005**	**<0.005**	-	-	**<10**	-
MW6-N1	4.5	4/28/98	<1	<9	41	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
MW6-S1	3	4/28/98	<1	3,200	24,000	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
MW6-W1	3	4/28/98	<1	2,100	6,800	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
MW6-E1	3	4/28/98	<1	47	380	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
MW6-W2	3	5/4/98	<1	<1	<5	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
MW6-N2	3.5	5/4/98	<1	<1	<5	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
MW6-E2	3	5/4/98	<1	<1	8	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	-
T1-5.5	5.5	8/6/97	350	230	8,900	-	-	<0.05	<0.10	0.3	0.71	<1.0	-	-	-
T2-4.5	4.5	8/6/97	0.550	10	12	-	-	<0.001	<0.002	<0.002	<0.004	<0.010	-	-	-
PL1-1	1.5	11/21/98	<1	590	1,600	-	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-	-
PL1-2	1.5	11/21/98	1,100	470	920	-	-	<1.0	<1.0	<1.0	1.7	<10	-	-	-
PL1-3	1.5	11/21/98	25	30	28	-	-	<0.05	0.065	0.087	0.17	<10	-	-	-
PL1-4	1.5	11/21/98	<1	15	24	-	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-	-
PL1-5	1.5	11/21/98	<1	<1	<1	-	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-	-
PL1-6	1.5	11/21/98	23	110	200	-	-	<0.05	0.07	0.077	0.85	<0.5	-	-	-
PL1-7	1.5	11/21/98	130	59	89	-	-	<0.5	<0.5	2.8	2	<5.0	-	-	-
PL2-1	1.5	11/21/98	<100	210	81	-	-	<0.5	0.54	1.1	<0.5	<5.0	-	-	-
PL2-2	1.5	11/21/98	8.3	28	46	-	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-	-
PL2-3	1.5	11/21/98	<1	<1	73	-	-	<0.005	<0.005	.0061	<0.005	<0.05	-	-	-
PL2-4	1.5	11/21/98	<1	<1	130	-	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-	-
PL2-5	1.5	11/21/98	150	1,000	1,400	-	-	<0.005	<0.005	<0.005	<0.005	<0.05	-	-	-

ppm	Parts per million	TPHd	Total Petroleum Hydrocarbons as diesel
ppb	Parts per billion	TPHmo	Total Petroleum Hydrocarbons as motor oil
<	Analyte not detected at or above specified laboratory reporting limit.	TRPH	Total Recoverable Petroleum Hydrocarbons
-	Not Analyzed	VOCs	Volatile Organic Compounds
ND	No analytes detected above laboratory reporting limits, reporting limits vary for each analyte	TOC	Total Organic Carbon
ND*	Analyted not detected, reporting limit not specified	MTBE	Methy Tert-Butyl Ether
TPHg	Total Petroleum Hydrocarbons as gasoline	**bold**	Sample located on Residential Parcel

File No. NFE-4392-01
November 18, 1999

TABLE 1B
Soil Analytical Results - Polynuclear Aromatic Compounds
Mariner Square, Alameda, California
(in parts per million)

Boring	Sample Date	Depth (feet)	Acenaphthene	Acenaphthylene	Anthracene	Benzo [a] - Anthracene	Benzo [a] - Pyrene	Benzo [b] - Fluoranthene	Benzo [g,h,i] - Perylene	Benzo [k] - Fluoranthene	Chrysene	Dibenzo [a,h] - Anthracene	Fluoranthene	Fluorene	Indeno [1,2,3-cd] - Pyrene	2-Methylnapthalene	Naphthalene	Phenanthrene	Pyrene
PL1-1	11/21/98	2.0	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4	<3.4
PL1-2	11/21/98	2.0	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	260	230	<34	<34
PL1-3	11/21/98	2.2	0.86	<0.67	0.83	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	1.2	1.2	<0.67	2.6	0.99	2.9	0.9
PL1-4	11/21/98	2.0	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	1.3	<0.67
PL1-5	11/21/98	1.8	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
PL1-6	11/21/98	1.8	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	1.0	<0.67	<0.67	1.2	1.7	1.9	1.1
PL1-7	11/21/98	2.0	<3.4	<3.4	8.6	5.8	<3.4	3.7	<3.4	<3.4	4.3	<3.4	19	4.3	<3.4	<3.4	9.0	24	14
PL2-1	11/21/98	2.3	4.3	<0.67	2.0	0.92	0.82	1.1	<0.67	<0.67	0.76	<0.67	3.5	5.2	<0.67	<0.67	5.3	9.2	2.6
PL2-2	11/21/98	2.2	0.86	<0.67	0.91	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	1.2	1.3	<0.67	3.5	2.2	3.6	1.1
PL2-3	11/21/98	1.9	<0.67	<0.67	<0.67	<0.67	0.73	1.26	<0.67	<0.67	0.70	<0.67	1.4	<0.67	<0.67	0.81	<0.67	1.2	1.2
PL2-4	11/21/98	2.0	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
PL2-5	11/21/98	2.0	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	0.8	<0.67	<0.67	<0.67	1.2	1.8	1.5
DP1	12/07/98	4.0	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	-	<0.67	<0.67	<0.67
DP2	**12/07/98**	**4.0**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	**<0.67**	-	**<0.67**	**<0.67**	**<0.67**

Notes:
Shading indicates levels above detection limits.
Bold indicates samples located on the Residential Parcel
Polynuclear Aromatic Compounds analyzed using EPA Method 8310.
< Not detected at or above the specified laboratory detection limit.
- Not analyzed

File No. NFE-4392-01
November 18, 1999

TABLE 1C

Soil Analytical Results -- Inorganics

Mariner Square, Alameda, California

Boring/ Well	Depth (feet)	Date	Total Threshold Limit Concentration Metals (ppm)																STLC (ppb)
			Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn	Pb
T-1	5.0	12/16/86	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-
T-2	5.0	12/16/86	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	-
D-1	1.0	12/16/86	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-
MW-1	**4.0**	**7/21/88**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.10**
MW-2	1.5	7/21/88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.0
MW-3	4.5	7/21/88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.79
MW-4	4.5	7/21/88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.09
MW-5	**1.5**	**7/21/88**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**20.0**
SB-A	**1.5**	**9/15/94**	**29**	**7.2**	**410**	**0.32**	**<0.50**	**44**	**6.7**	**28**	**250**	**0.33**	**1.7**	**26**	**<0.25**	**<1.0**	**<0.50**	**33**	**370**	-
	3.0	9/15/94	-	-	-	-	-	-	-	-	4.2	-	-	-	-	-	-	-	-	-
SB-B	**1.5**	**9/16/94**	**<2.5**	**1.8**	**88**	**<0.25**	**1.2**	**40**	**7.3**	**17**	**250**	**0.20**	**<1.0**	**36**	**<0.25**	**<1.0**	**<0.50**	**28**	**580**	-
	3.0	9/16/94	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-
SB-C	1.5	9/16/94	<2.5	3.4	120	<0.25	<0.50	52	8.5	25	1,000	0.26	1.4	47	<0.25	<1.0	<0.50	38	210	-
	3.0	9/16/94	-	-	-	-	-	-	-	-	5.7	-	-	-	-	-	-	-	-	-
SB-D	1.5	9/16/94	<2.5	3.3	36	<0.25	<0.50	35	3.8	18	8.0	<0.10	<1.0	25	<0.25	<1.0	<0.50	20	18	-
SB-E	1.5	9/16/94	<2.5	1.4	82	<0.25	<0.50	35	4.3	14	38	<0.10	<1.0	28	<0.25	<1.0	<0.50	25	51	-
SB-F	1.5	9/16/94	<2.5	1.2	31	<0.25	<0.50	31	3.1	6.2	12	<0.10	<1.0	20	<0.25	<1.0	<0.50	18	34	-
SB-G	1.5	9/16/94	<2.5	2.2	69	<0.25	<0.50	39	4.9	13	59	<0.10	<1.0	31	<0.25	<1.0	<0.50	25	150	2.7
	3.0	9/16/94	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-
SB-H	1.5	9/16/94	<2.5	3.0	76	<0.25	<0.50	46	5.1	47	68	<0.10	<1.0	35	<0.25	<1.0	<0.50	28	160	2.8
	3.0	9/16/94	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-
SB-I	1.5	9/16/94	<2.5	<5.0	48	<0.25	<0.50	36	10	90	38	<0.10	1.1	29	<0.25	<1.0	<0.50	24	100	-
SB-J	1.5	9/16/94	170	11	570	<0.25	1.9	54	11	300	5,700	0.16	2.0	43	<0.25	<1.0	<0.50	31	2,700	-
	3.0	9/16/94	<2.5	-	-	-	-	-	-	5.4	4.6	-	-	-	-	-	-	-	16	-
SB-K	1.5	9/16/94	<2.5	5.0	96	<0.25	<0.50	44	5.6	4,200	30	<0.10	1.3	33	<0.25	1.0	<0.50	28	150	21
	3.0	9/16/94	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-
T1-5.5	5.5	8/6/97	-	-	-	-	<2.0	22	-	-	-	-	-	18	-	-	-	-	19.0	-
T2-4.5	4.5	8/6/97	-	-	-	-	<2.0	40	-	-	-	-	-	33	-	-	-	-	190.0	-

File No. NFE-4392-01
November 18, 1999

TABLE 1C

Soil Analytical Results -- Inorganics

Mariner Square, Alameda, California

Boring/ Well	Depth (feet)	Date	Total Threshold Limit Concentration Metals (ppm)																STLC (ppb)
			Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn	Pb
PL1-1	2.0	11/21/98	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-	-
PL1-2	**2.0**	11/21/98	-	-	-	-	-	-	-	-	130	-	-	-	-	-	-	-	-	-
PL1-3	2.2	11/21/98	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	-	-
PL1-4	**2.0**	11/21/98	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	-
PL1-5	1.8	11/21/98	-	-	-	-	-	-	-	-	<5.0	-	-	-	-	-	-	-	-	-
PL1-6	1.8	11/21/98	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-
PL1-7	2.0	11/21/98	-	-	-	-	-	-	-	-	63	-	-	-	-	-	-	-	-	-
PL2-1	**2.3**	11/21/98	-	-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-
PL2-2	2.2	11/21/98	-	-	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-
PL2-3	**1.9**	11/21/98	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	7.8
PL2-4	2.0	11/21/98	-	-	-	-	-	-	-	-	58	-	-	-	-	-	-	-	-	-
PL2-5	2.0	11/21/98	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-	-
DP-1	1.5	12/7/98	-	-	-	-	-	-	-	-	<5.0	-	-	-	-	-	-	-	-	1.6
DP-1	4.0	12/7/98	-	-	-	-	-	-	-	-	7.5	-	-	-	-	-	-	-	-	0.64
DP-2	**4.0**	**12/7/98**	-	-	-	-	-	-	-	-	**<5.0**	-	-	-	-	-	-	-	-	**<0.25**

<	Analyte not detected at or above specified reporting limit
ppm	parts per million
ppb	parts per billion
-	Not Analyzed
Sb	Antimony
As	Arsenic
Ba	Barium
Be	Beryllium
Cd	Cadmium
Cr	Chromium
Co	Cobalt

STLC	Soluble threshold limit concentration (CCR Title 22)
Bold	Indicates sample located on Residential Parcel
Cu	Copper
Pb	Lead
Hg	Mercury
Mo	Molybdenum
Ni	Nickel
Se	Selenium
Ag	Silver
Tl	Thallium
V	Vanadium
Zn	Zinc

File No. NFE-4392-01
November 18, 1999

TABLE 2A
Groundwater Analytical Results – Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MS-1	04/07/92	**<1.0**	-	-	-	**<5**	**<5**	**<5**	**<10**	-	**ND**	-
MS-7	04/07/92	<1.0	-	-	-	<5	<5	<5	<10	-	ND	-
MS-13	04/07/92	**23**	-	-	-	**<5**	**<5**	**<5**	**<10**	-	**ND**	-
MS-18	04/07/92	1200	-	-	-	<50	<50	<50	<100	-	ND	-
MW-1	08/03/92	-	-	**580**	**<5,000**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	-	-	-
	11/20/92	-	**<50**	**600**	**<5,000**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	-	-	**<2**
	09/27/94	-	**<50**	**530**	**<50**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	-	-	-
	06/28/96	-	**<100**	**<50**	**<200**	**<0.5**	**<1.0**	**<1.0**	**<2.0**	-	-	**<0.5**
	10/31/96	-	**<100**	**93**	**<200**	**<0.5**	**<1.0**	**<1.0**	**<2.0**	**<10**	-	**<1.0**
	09/30/97	-	**120**	**<50**	**<200**	**4.7**	**<1.0**	**3.7**	**21**	**<10**	-	**<0.8**
	12/12/97	-	**<50**	**<50**	**<200**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<5**	-	**<2**
	02/18/98	-	**<50**	**<50**	**<200**	**1.5**	**0.6**	**1.8**	**8**	**<5**	-	**<2**
	05/08/98	-	**<50**	**<50**	**<200**	**1.0**	**<0.5**	**0.7**	**5**	**<5**	-	**<2**
	06/24/99	-	**<50**	**<50**	**110**	**<0.50**	**<0.50**	**<0.50**	**<1.5**	**<5.0**	-	**<0.50**
	09/09/99	**Sampling discontinued**										
MW-2	08/03/92	-	-	2,200	<5,000	<0.5	6.5	3.2	5.3	-	-	-
	11/20/92	-	340	2,100	<5,000	<0.5	<0.5	<0.5	2.4	-	-	<2
	09/26/94	-	320	<50	240	<3.0	<3.0	<3.0	<3.0	-	-	-
	06/28/96 (1)	-	980	100 (2,3)	<200	0.5	<1.0	2.3	3.1	-	-	<0.5
	10/31/96	-	220	180	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	900	150 (2)	<200	0.8	<1.0	2	6.2	<10	-	<0.8
	12/12/97	-	360	<50	<200	1.1	<0.5	2.2	3	<5	-	<2
	02/18/98	-	90	<50	<200	<0.5	<0.5	1.1	2	<5	-	<2
	05/08/98	-	170	<50	<200	<0.5	<0.5	1.7	3	<5	-	<2
	06/24/99	-	<50	<50	<100	<0.50	0.66	<0.50	<1.5	<5.0	-	<0.50
	09/09/99	-	120	130	<100	<0.50	<0.50	<0.50	<0.50	<5.0	-	-
MW-3	08/03/92	-	-	1,000	<5,000	<0.5	1	<0.5	2.4	-	-	-
	11/20/92	-	98	2,000	<5,000	<0.5	<0.5	0.9	1	-	-	<2
	09/27/94	-	<50	720	<50	<3.0	<0.3	<0.3	<0.3	-	-	-

File No. NFE-4392-01
November 18, 1999

TABLE 2A
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-3 continued	06/28/96	-	<100	120 (2)	<200	<0.5	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	<100	160	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	<100	70	<200	0.8	<1.0	<1.0	3.3	<10	-	<0.8
	12/12/97	-	80	<50	<200	0.7	<0.5	0.7	4	9	-	<2
	02/18/98	-	60	<50	<200	<0.5	<0.5	<0.5	4	7	-	<2
	05/08/98	-	<50	<50	<200	0.5	<0.5	0.5	4	<5	-	<2
	06/24/99	-	<50	<50	<100	<0.50	1.1	<0.50	2.6	5.0	-	<0.50
	09/09/99	-	64	100	<100	<0.50	<0.50	<0.50	0.65	<5.0	-	-
MW-4	08/05/92	-	-	1,300	<5,000	16	2.6	0.6	2.7	-	-	9.0
	11/20/92	-	330	2,400	<5,000	31	5.2	0.7	2	-	-	13
	09/27/94	-	<50	890	<50	12	0.43	<0.3	<0.3	-	-	8.0
	06/28/96	-	180	170 (2,3)	<200	4	<1.0	<1.0	<2.0	-	-	2.5
	10/31/96	-	110	330	<200	6.2	<1.0	<1.0	<2.0	<10	-	4.3
	09/30/97	-	650	170 (2)	<200	3.9	<1.0	<1.0	<2.0	460	-	3.1
	12/12/97	-	260	<50	<200	4.9	0.9	<0.5	<2.0	320	-	3
	02/18/98	-	240	<50	<200	1.0	1.0	2.1	10	290	-	2
	05/08/98	-	90	<50	<200	0.5	0.5	0.8	5	30	-	<2
	08/10/99	-	93	270 (4)	320	0.59	1.4	<0.5	4.2	11	-	<0.5
	09/09/99	-	72	250	<100	<0.50	<0.50	<0.50	<0.50	25	-	-
MW-5	08/03/92	-	-	**2,200**	**<5,000**	**9**	**6**	**49**	**11**	-	-	-
	11/20/92	-	**4,800**	**1,500**	**<5,000**	**7.6**	**12**	**5.8**	**26**	-	-	**<2**
	09/26/94	-	**3,100**	**780**	**<500**	**7.9**	**11**	**8.7**	**14**	-	-	-
	06/28/96	-	**5,000**	**610 (2,3)**	**790**	**1.2**	**6.8**	**21**	**14**	-	-	**<0.5**
	10/31/96	-	**6,800**	**4,900**	**860**	**20**	**5.9**	**15**	**19**	**<10**	-	**<1.0**
	09/30/97	-	**9,000**	**4,100 (2)**	**520**	**35**	**5.3**	**36**	**32**	**12**	-	**<0.8**
	12/12/97	-	**3,400**	**90**	**<200**	**26**	**4.6**	**5.9**	**13**	**11**	-	**<2**
	02/18/98	-	**3,200**	**<50**	**<200**	**7.9**	**1.4**	**14**	**12**	**<5**	-	**<2**

File No. NFE-4392-01
November 18, 1999

TABLE 2A
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-5	05/08/98	-	3,900	<50	<200	8.0	22	19	10	<5	-	<2
continued	06/24/99	-	290	60	<100	48	8.8	8.6	33	<5.0	-	<0.50
	09/09/99	-	5,000	8,800	<100	32	16	20	14	12	-	-
MW-6	05/25/93	-	460	2,700,000	-	<5.0	<5.0	<5.0	<5.0	-	-	<10
	9/27/94	-	1,100	9,900	3,200	<3.0	<3.0	<3.0	<3.0	-	-	<1.0
	06/28/96	Not Sampled--Sheen Present										
	09/30/97	Not Sampled--Sheen Present										
	12/12/97	-	21,000	1,900,000	43,000	5	<0.5	8	19	<50	-	<2
	02/18/98	-	70,000	<50	<200	20	20	20	70	<100	-	<2
	04/28/98	-	800	920	<200	<0.5	<0.5	<0.5	<2	<5	-	<2
	04/28/98	Well Destroyed										
MW-6A	08/10/99	-	770	5,400 (4)	3,900 (4)	1.7	<0.5	<0.5	1.9	<5.0	-	<0.5
	09/09/99	-	670	180,000	<5,000	<0.50	0.61	0.66	<0.50	<5.0	-	-
MW-7	09/27/94	-	<250	1,800	<250	<0.3	<0.3	<0.3	<0.3	-	-	<1.0
	06/28/96	-	560	490 (2,3)	<200	0.6	<1.0	<1.0	2.7	-	-	<0.5
	10/31/96	-	200	420	<200	1.1	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	750	190 (2)	<200	8.1	5.3	<1.0	6.9	<10	-	<0.8
	12/12/97	-	420	<50	<200	7.9	<0.5	<0.5	5	<5	-	<2
	02/18/98	-	650	<50	<200	9.5	0.6	<0.5	6	16	-	<2
	05/08/98	-	710	<50	<200	3.4	4.8	0.8	7	34	0.9 (5)	<2
	06/24/99	-	620	<250	<100	89	16	16	64	<5.0	-	<0.50
	09/09/99	-	420	400	<100	1.1	0.85	1.1	3.4	<5.0	-	-
MW-8	09/27/94	-	<50	320	<50	<0.3	<0.3	<0.3	<0.3	-	-	-
	06/28/96	-	<100	58 (2)	<200	<0.5	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	<100	120	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	110	70 (2)	<200	4.2	<1.0	3.4	16	<10	-	<0.8
	12/12/97	-	<50	<50	<200	<0.5	<0.5	<0.5	<2.0	15	-	<2
	02/18/98	-	<50	<50	<200	0.9	<0.5	0.8	3	<5	-	<2

File No. NFE-4392-01
November 18, 1999

TABLE 2A
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-8	05/08/98	-	**<50**	**<50**	**<200**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<5**	-	**<2**
continued	06/24/99	-	**350**	**<50**	**<100**	**64**	**11**	**12**	**45**	**<5.0**	-	**<0.50**
	09/09/99	-	**56**	**120**	**130**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	-	-
MW-9	09/26/94	-	<500	2,200	<500	<0.3	<0.3	<0.3	<0.3	-	-	<1.0
	06/28/96	-	390	550 (2,3)	<200	5.2	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	300	590	720	5.9	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	150	460 (2)	<200	0.6	<1.0	<1.0	2.7	<10	-	<0.8
	12/12/97	-	180	<50	<200	<0.5	<0.5	<0.5	<2.0	<5	-	<2
	02/18/98	-	100	<50	<200	<0.5	0.5	<0.5	<2.0	6	-	<2
	05/08/98	-	70	130	<200	<0.5	<0.5	<0.5	<2.0	16	-	<2
	06/24/99	-	380	140	<100	51	10	11	39	<5.0	-	<0.50
	09/09/99	-	140	340	<100	<0.50	<0.50	<0.50	1.0	<5.0	-	-
MW-10	08/10/99	-	**1,300**	**3,000 (4)**	**8,200 (4)**	9.2	1.9	12	46	<5.0	-	NA
	09/09/99	-	**890**	**8,600**	**210,000**	5.2	<0.50	13	37	<5.0	-	-
T1-D	08/06/97	-	-	9,800	-	-	-	-	-	-	-	-
T1-G	08/06/97	-	230	**78,000**	3,000	4.3	9	12	84	<0.5	-	ND
HP-1	09/03/98	-	**10,000**	**410,000**	12,000	<0.5	18	8	63	<0.5	-	<5.0
HP-2	09/03/98	-	**1,400**	**230,000**	10,000	<0.5	4	2	24	<0.5	-	<5.0
HP-3	09/03/98	-	230	**78,000**	3,000	1.0	<0.5	<0.5	<1.0	<0.5	-	<5.0

All results reported in parts per billion

< Analyte not detected at or above stated detection limit

Bold indicates sample located on Residential Parcel.

TRPH Total Recoverable Petroleum Hydrocarbons

TPHg Total Petroleum Hydrocarbons as gasoline

THPd Total Petroleum Hydrocarbons as diesel

TPHmo Total Petroleum Hydrocarbons as motor oil

VOCs Volatile Organic Compounds

MTBE Methyl Tert-Butyl Ether

(1) Water sample also analyzed for Freon 113 by EPA Method 8010A. Results were below the detection limit of 1.0 ppb.

(2) Qualitative identification is uncertain because the material present does not match laboratory standards.

(3) Quantitation uncertain due to matrix interferences

(4) Results within quantitation range; chromatographic pattern not typical of fuel

(5) Tetrochloroethene reported by lab on vinyl chloride sample unedited run.

File No. NFE-4392-01
November 18, 1999

TABLE 2B

Groundwater Analytical Results - Polynuclear Aromatic Compounds

Mariner Square, Alameda, California

Well	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo [a] - Anthracene	Benzo [a] - Pyrene	Benzo [b] - Fluoranthene	Benzo [g,h,i] - Perylene	Benzo [k] - Fluoranthene	Chrysene	Dibenzo [a,h] - Anthracene	Fluoranthene	Fluorene	Indeno [1,2,3-cd] - Pyrene	Naphthalene	Phenanthrene	Pyrene
MW-1	06/27/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	10/30/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	09/29/93	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	12/11/93	<0.5	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1
	02/17/94	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<1.0
	05/07/94	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	06/24/99	<6.3	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.63	<0.25	<1.3	<0.25	<6.3	<1.3	<0.25
MW-2	06/27/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.82	<2.0	<0.5	<2.0	<1.0	0.7
	10/30/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	09/29/93	3.3	12.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<2.0	<0.5	<2.0	<1.0	1.0
	12/11/93	<0.5	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.5	<0.1	0.3
	02/17/94	5.0	8.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	05/07/94	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	06/24/99	<5.0	<2.0	<0.2	<0.2	0.13 J	0.21	0.2	<0.2	0.13 J	0.21	0.11 J	<1.0	<0.2	<5.0	<1.0	0.2
MW-3	06/27/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	10/30/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	09/29/93	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	12/11/93	<0.5	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1
	02/17/94	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	05/07/94	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	06/24/99	<5.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.0	<0.2	<5.0	<1.0	<0.2
MW-4	06/27/92	2.3	2.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<2.0	<0.5	<2.0	<1.0	2.1
	10/30/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.92	<2.0	<0.5	<2.0	<1.0	1.6
	09/29/93	3.7	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<2.0	<0.5	<2.0	<1.0	1.9
	12/11/93	<0.5	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.84	<0.1	<0.1	0.8	<0.1	0.4
	02/17/94	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	05/07/94	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	06/24/99	<5.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.0	<0.2	<5.0	<1.0	0.2

File No. NFE-4392-01
November 18, 1999

TABLE 2B

Groundwater Analytical Results - Polynuclear Aromatic Compounds

Mariner Square, Alameda, California

Well	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo [a] - Anthracene	Benzo [a] - Pyrene	Benzo [b] - Fluoranthene	Benzo [g,h,i] - Perylene	Benzo [k] - Fluoranthene	Chrysene	Dibenzo [a,h] - Anthracene	Fluoranthene	Fluorene	Indeno [1,2,3-cd] - Pyrene	Naphthalene	Phenanthrene	Pyrene
MW-5	06/27/92	3.0	96 (1)	2.3	1.0	0.78	<0.5	0.57	<0.5	0.68	<0.5	8.6	<2.0	<0.5	2.0	9.5	8.4
	10/30/92	8.3	150	2.9	1.9	0.84	0.51	<0.5	<0.5	1.8	<0.5	11	2.4	<0.5	<2.0	14	15
	09/29/93	11	100	3.9	2.1	1.1	<0.5	<0.5	<0.5	2.5	<0.5	15	5.0	<0.5	2.6	16	16
	12/11/93	1.0	<1.0	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	0.8	<0.1	<0.5	2.9	1.2
	02/17/94	170	150	2.0	1.0	1.0	<1.0	<1.0	<1.0	2.0	<1.0	11	6.0	<1.0	<1.0	3.0	7.0
	05/07/94	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
	06/24/99	<5.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.0	<0.2	<5.0	<1.0	<0.2
MW-6	06/27/92	Not Sampled - Separate Phase Hydrocarbons															
	10/30/92																
	09/29/93																
	12/11/93	<100	<200	<20	25	<20	<20	<20	<20	<20	<20	250	90	<20	<100	80	40
	02/17/94	<20	<20	<20	<20	70	130	23	<20	190	62	90	<20	<20	<20	<20	110
	05/07/94	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	06/24/99	Well Destroyed															
MW-6A	08/10/99	<5.0	<2.0	0.2	3.2	0.3	<0.2	2.8	0.45	<0.2	0.8	2.4	<1.0	0.97	<5.0	<1.0	0.98
MW-7	06/27/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	10/30/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	09/29/93	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	<0.5
	12/11/93	<0.5	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	<0.1	<0.1
	02/17/94	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	05/07/94	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
	06/24/99	<5.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<1.0	<0.2	<5.0	<1.0	<0.2

File No. NFE-4392-01
November 18, 1999

TABLE 2B

Groundwater Analytical Results - Polynuclear Aromatic Compounds

Mariner Square, Alameda, California

Well	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo [a] - Anthracene	Benzo [a] - Pyrene	Benzo [b] - Fluoranthene	Benzo [g,h,i] - Perylene	Benzo [k] - Fluoranthene	Chrysene	Dibenzo [a,h] - Anthracene	Fluoranthene	Fluorene	Indeno [1,2,3-cd] - Pyrene	Naphthalene	Phenanthrene	Pyrene
MW-8	06/27/92	**<2.0**	**<2.0**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<0.5**	**<2.0**	**<1.0**	**<0.5**
	10/30/92	**<2.0**	**<2.0**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<0.5**	**<2.0**	**<1.0**	**<0.5**
	09/29/93	**<2.0**	**<2.0**	**<1.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2.0**	**<0.5**	**<2.0**	**<1.0**	**<0.5**
	12/11/93	**<0.5**	**<1.0**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.6**	**<0.1**	**<0.1**
	02/17/94	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**
	05/07/94	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**	**<3.0**
	06/24/99	**<5.0**	**<2.0**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.2**	**<0.5**	**<0.2**	**<1.0**	**<0.2**	**<5.0**	**<1.0**	**<0.2**
MW-9	06/27/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.73	<2.0	<0.5	<2.0	<1.0	<0.5
	10/30/92	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.69	<2.0	<0.5	<2.0	<1.0	1.10
	09/29/93	<2.0	<2.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<2.0	<1.0	0.56
	12/11/93	<0.5	<1.0	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	1.4	<0.1	0.5
	02/17/94	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	05/07/94	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	06/24/99	<6.3	<2.5	0.1J	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.63	0.3	<1.3	<0.25	<6.3	<1.3	0.3
MW-10	08/10/99	60	5.8	<0.2	7.06	1.6	0.3	5.21	0.48	1.2	<0.5	5.42	2.0	<0.2	28	5.4	8.47
HP-1(2)	09/02/94	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<62	<25	<25	27	<25
HP-2	09/02/94	<25	<25	26	<25	<25	<25	<25	<25	<25	<25	<25	<62	<25	<25	<25	<25
HP-3	09/02/94	<42	<42	<42	<42	<42	<42	<42	<42	<42	<42	<42	<110	<42	<42	<42	<42

Notes:

Shading indicates levels above detection limits.

Bold indicates sample located on the Residential Parcel

Polynuclear Aromatic Compounds analyzed using EPA Method 8310.

< Not detected at or above the specified laboratory detection limit.

(1) The qualitative identification for Acenaphthylene is uncertain due to matrix interference.

(2) Reporting limits raised and surrogates out of control limits due to matrix inference.

File No. NFE-4392-01
November 18, 1999

TABLE 2C
Groundwater Analytical Results -- Inorganics
Mariner Square, Alameda, California

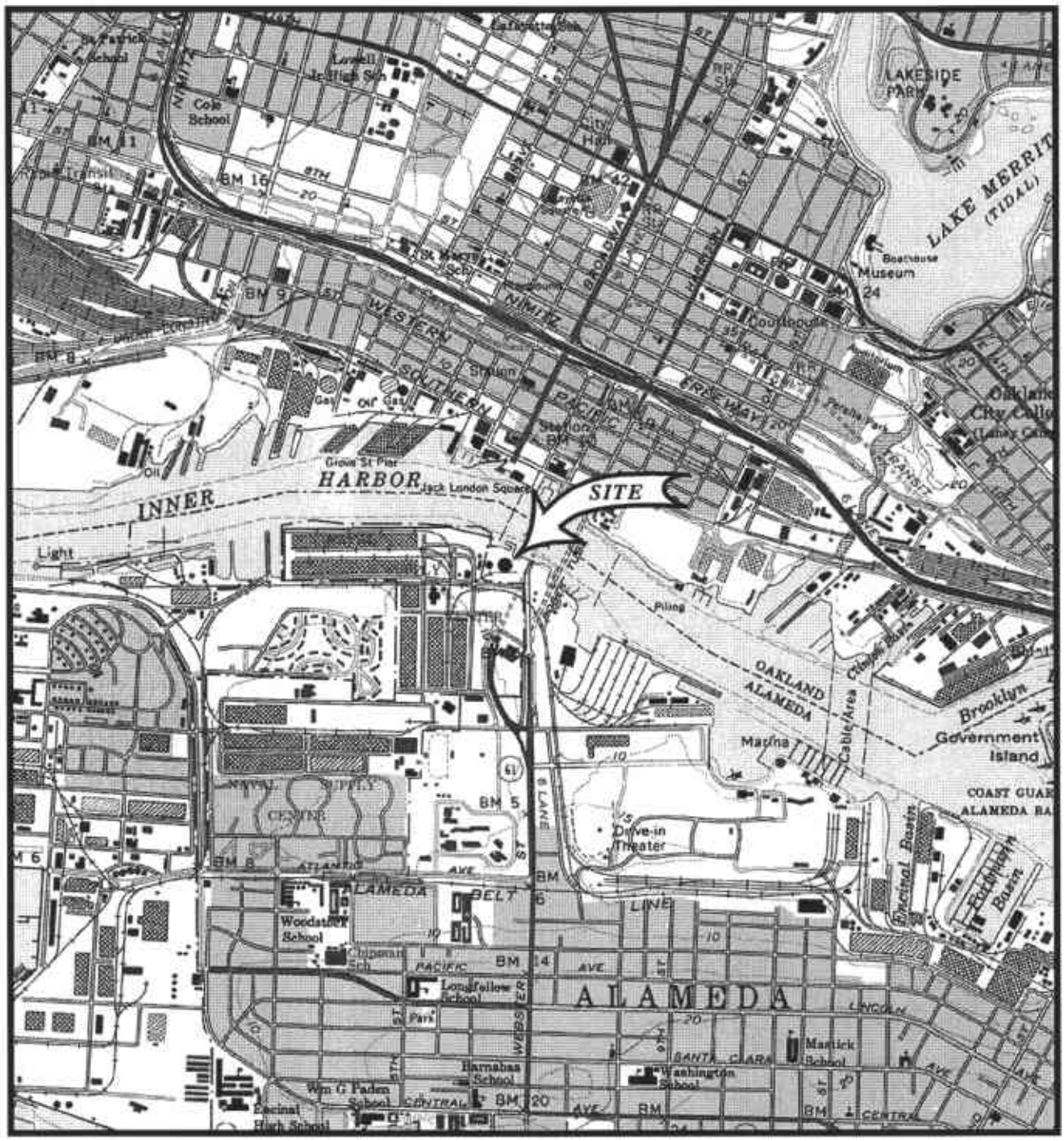
Well	Date	Priority Polutant Metals (parts per billion)												
		Sb	As	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
MW-1	9/26/90	**<50**	**22**	**<5**	**<10**	**<10**	**<20**	**<3**	**<0.2**	**<20**	**<5**	**<10**	**<10**	**<20**
MW-2	9/25/90	<50	<10	<5	<10	<10	<20	<3	<0.2	<20	<5	<10	<10	<20
MW-3	9/26/90	<50	<10	<5	<10	<10	<20	<3	<0.2	<20	<5	<10	<10	<20
MW-4	9/26/90	<50	<10	<5	<10	<10	<20	<3	<0.2	<20	<5	<10	<10	<20
MW-5	5/24/89	**<60**	**10**	**<2**	**<5**	**10**	**30**	**[redacted]**	**<0.2**	**<30**	**<5**	**<10**	**<5**	**60**
	9/26/94	**<50**	**<10**	**<5**	**<10**	**<10**	**<20**	**<3**	**<0.2**	**<20**	**<5**	**<10**	**<10**	**<20**
MW-6	5/25/93	<60	<5	<2	<5	30	30	<3	<0.2	50	<5	<10	<5	40
	9/27/94	<50	<10	<5	<10	<10	<20	<3	<0.2	<20	<5	<10	<10	<20
MW-7	9/27/94	**<50**	**20**	**<5**	**<10**	**<10**	**<20**	**<3**	**<0.2**	**<20**	**<5**	**<10**	**<10**	**<20**
MW-8	9/27/94	**<50**	**13**	**<5**	**<10**	**<10**	**<20**	**<3**	**<0.2**	**<20**	**<5**	**<10**	**<10**	**<20**
MW-9	9/26/94	<50	<10	<5	<10	<10	<20	<3	<0.2	<20	<5	<10	<10	<20

Shading indicates levels above detection limits.
Bold indicates sample located on Residential Parcel.

<	Analyte not detected at or above specified reporting limit
Sb	Antimony
As	Arsenic
Be	Beryllium
Cd	Cadmium
Cr	Chromium
Cu	Copper
Pb	Lead
Hg	Mercury
Ni	Nickel
Se	Selenium
Ag	Silver
Tl	Thallium
Zn	Zinc

FIGURES

File No. NFE-4392-01
November 1999



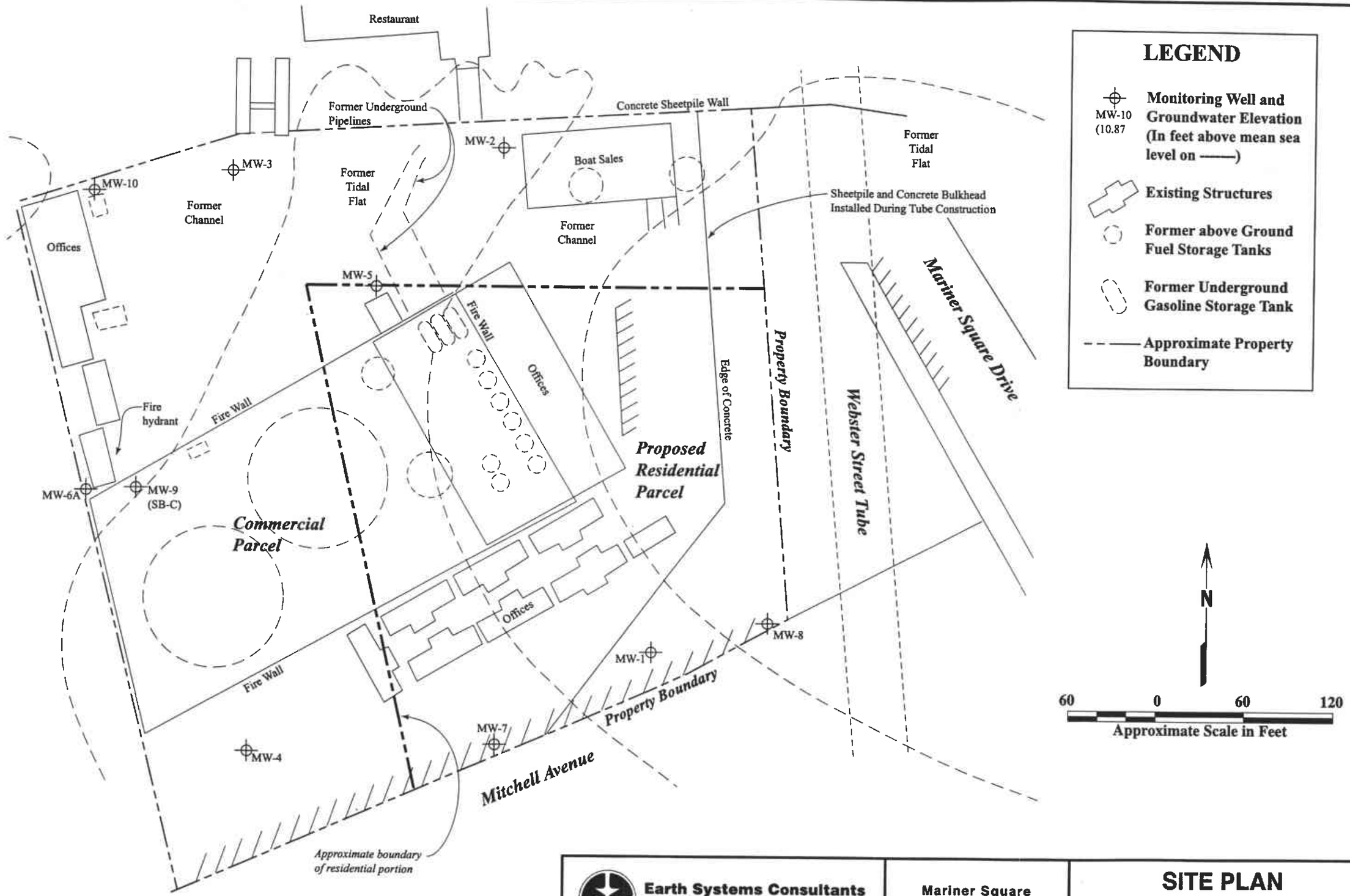
Approximate Scale 1: 24,000

1 0 1 Mile

1 0 1 Kilometer

Base: U.S.G.S. 7.5 minute Oakland West Quadrangle (1980)
Printed from TOPO!™ ©1997 Wildflower Productions (415) 558-8700, www.topo.com

Earth Systems Consultants **Northern California**	Mariner Square Alameda, California	**SITE LOCATION** **Figure 1**



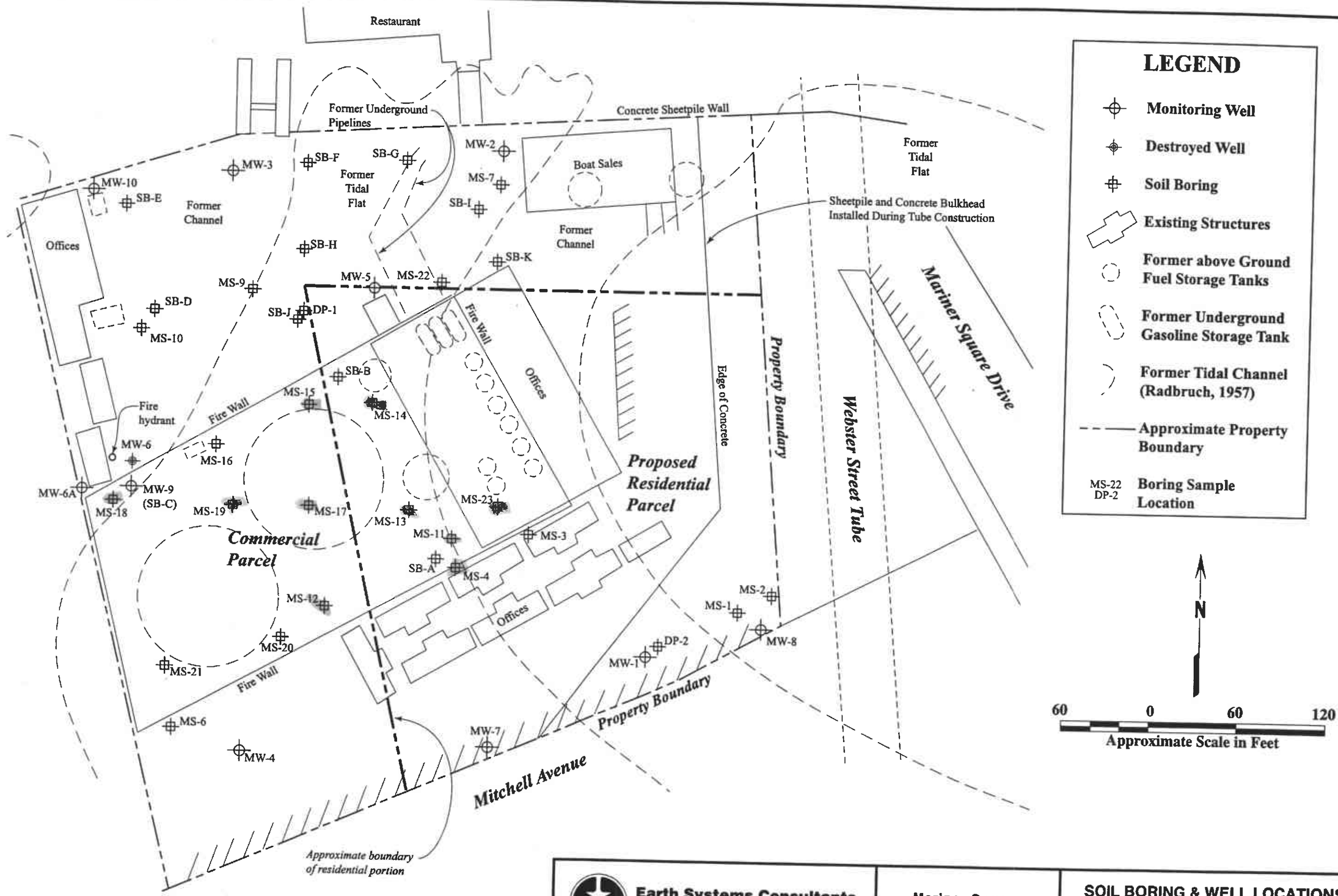
Earth Systems Consultants
Northern California

Mariner Square
Alameda, California

SITE PLAN

Date: November 1999
File No: NFE-4392-01

Figure 2



LEGEND

- Monitoring Well
- Destroyed Well
- Soil Boring
- Existing Structures
- Former above Ground Fuel Storage Tanks
- Former Underground Gasoline Storage Tank
- Former Tidal Channel (Radbruch, 1957)
- Approximate Property Boundary
- MS-22 / DP-2 Boring Sample Location

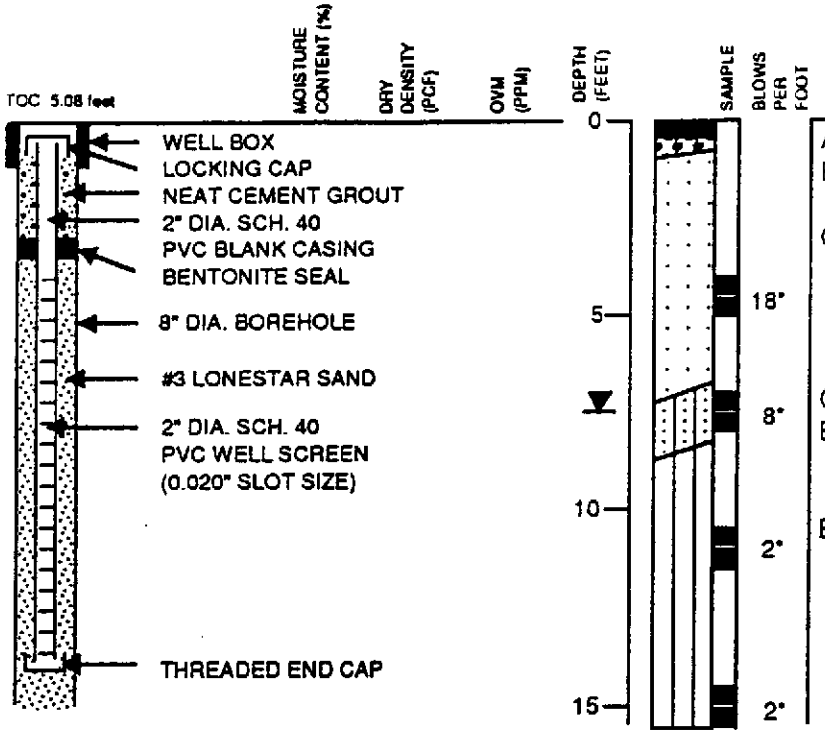
Earth Systems Consultants Northern California	Mariner Square Alameda, California	SOIL BORING & WELL LOCATIONS	
		Date: November 1999 File No: NFE-4392-01	Figure 3

APPENDIX A

Boring/Well Construction Logs for Wells MW-1, MW-5, MW-7, MW-8, SB-A, and SB-B

LOG OF TEST BORING 1

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 7/22/92
ELEVATION 5.6 feet



ASPHALTIC CONCRETE - 4" thick
BROWN SANDY GRAVEL (GM)
medium dense, moist, base rock
GRAY BROWN SAND (SP)
loose, moist, medium grained sand, well sorted, with occasional coarse grained sand and shell fragments (fill)

GROUNDWATER LEVEL DURING DRILLING
BLUE GRAY SILTY SAND (SM)
loose, wet, sand fine to medium grained, with some clay and shell fragments
BLUE GRAY CLAYEY SILT (MH)
soft, wet (Bay Mud)
contains lenses of fine grained sand

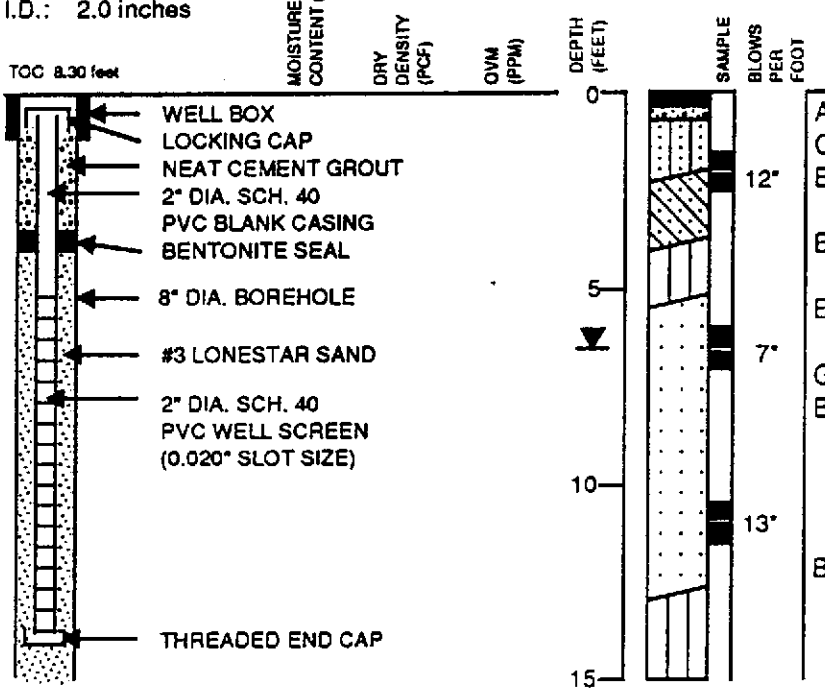
TOC = Top of Casing Elevation
MSL Datum

HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

SAMPLER TYPES:
MODIFIED CALIFORNIA DRIVE
O.D.: 3.0 inches
I.D.: 2.5 inches
*CALIFORNIA DRIVE
O.D.: 2.5 inches
I.D.: 2.0 inches

LOG OF TEST BORING 2

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 7/22/92
ELEVATION 8.6 feet



ASPHALTIC CONCRETE - 2" thick
CONCRETE SLAB - 8" thick
BROWN SILTY SAND (SM)
loose, moist
BROWN CLAYEY SAND (SC)
medium dense, moist
BLUE GRAY CLAYEY SILT (ML)
soft, moist (fill)
GROUNDWATER LEVEL DURING DRILLING
BLUE GRAY SAND (SP)
loose, wet, with shell fragments (fill)
contains clayey lenses
heaving sands

BLUE GRAY CLAYEY SILT (MH)
soft, wet (Bay Mud)

Subsurface Consultants

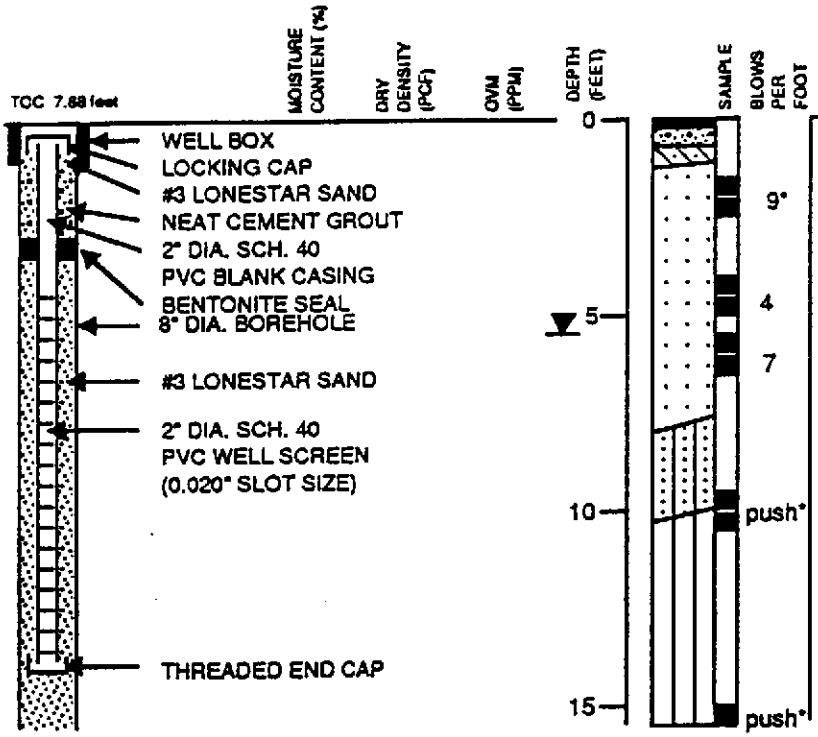
2415 MARINER SQUARE - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
554.005	7/31/92	

PLATE 2

LOG OF TEST BORING 5

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 7/23/92
ELEVATION 8.0 feet



ASPHALTIC CONCRETE - 2" thick
CONCRETE SLAB - 8" thick
BROWN CLAYEY SAND (SC)
medium dense, moist
GRAY SAND (SP)
loose, moist, with some clayey lenses (fill)
GROUNDWATER LEVEL DURING DRILLING

BLACK SILTY SAND (ML/SM)
soft, wet

BLUE GRAY CLAYEY SILT (MH)
soft, wet, with abundant peat (Bay Mud)

Subsurface Consultants	2415 MARINER SQUARE - OAKLAND, CA			PLATE 4
	JOB NUMBER 554.005	DATE 7/31/92	APPROVED	

SOIL DRILLING LOG

McLaren Hart

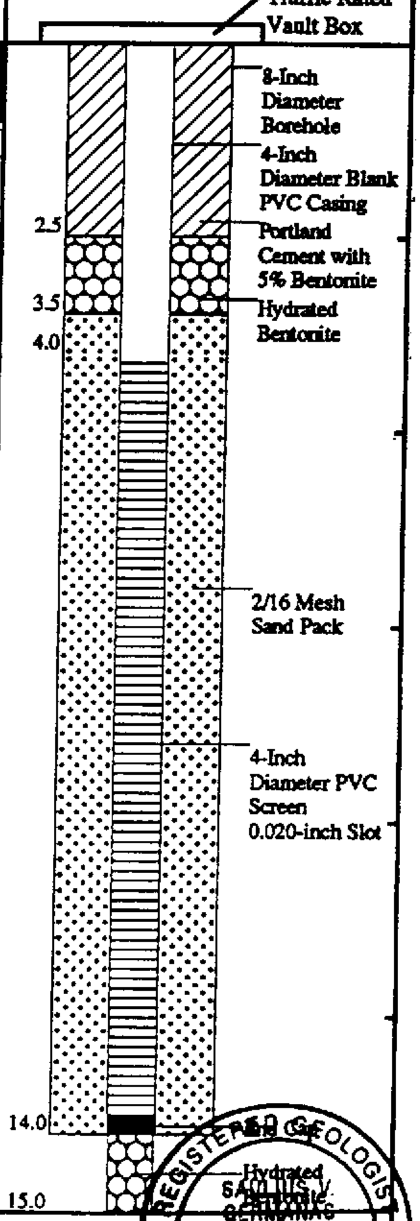
SB/MW #: MW-7
\# D- 23467
Page 1 of 1
Geologist: E.C. Warwick

SIGNATURE OF GEOLOGIST

PROJECT: Mariner Square and Associates LOCATION: 2415 Mariner Square Drive, Alameda, CA
TOC ELEVATION: 13.61' (MSL) DATE(S): 9/15/94 TOTAL DEPTH: 15.0'
MONITORING DEVICE: OVM SCREENED INTERVAL: 4 - 14'
SAMPLING METHOD: Split Spoon SUBCONTRACTOR & EQPT: SES/CME-75HT
PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO: ⊻ =First Water ▼ =Static Water
MEMO

Depth Below Surface (ft.)	Penetration Results: Blows 6"-6"-6"	Penetration Results: BPF	Sample ID #	PID reading (ppm)	Soil Description: Color, Texture, Moisture, Etc.	Unified Classification
					0.0 - 1.0' ASPHALT and ROADBASE	RB
	8, 8, 8, 8	16		0.0	1.0 - 4.25' SILTY SAND (0,65,30,5):brown (7.5YR4/4); loose; fine to medium grained sand; slightly moist.	SM
2.5						
	4, 14, 15, 8	23		0.0		
			52507	28	4.25 - 5.0' SILTY CLAY (0,0,75,25): very dark gray (N3/);soft to slightly stiff; medium to low plastic; slightly moist. Numerous shell fragments; high organic content. Moderate hydrocarbon odor.	CL
5.0	1, 1, 2, 14	16		6	5.0 - 6.5' SANDY CLAY (0,20,50,30): brown (7.5YR4/3);soft to slightly stiff; medium to low plastic; slightly moist.	
7.5	23, 32, 24, 11	35		0.0	6.5 - 9.5' SILTY SAND with GRAVEL (10,60,25,5): very dark gray (7.5YR3/1); loose to medium dense; fine to coarse subrounded sand; saturated.	SM
	2, 1	3		0.0		
10.0	1	1		0.0	9.5 - 15.0' SILTY CLAY (0,10,50,40):very dark gray (N3/): soft to slightly stiff; medium to high plastic; fine grained sand; saturated; increasing organic matter with depth.	CH
	1, 1, 1	2		0.0		
12.5						
	1, 1, 1	2		0.0		
15.0						

Borehole Abandonment/ Well Construction Details



SIGNATURE OF FIELD SUPERVISOR AND REVIEWER
SR. ASSOC. GEOLOGIST
TITLE

SIGNATURE OF REVIEWER
SR. ASSOC. GEOLOGIST
TITLE

SOIL DRILLING LOG

SB/MW #: MW-8
D- 23466
Page 1 of 1
Geologist: E.C. Warwick

SIGNATURE OF GEOLOGIST

PROJECT Mariner Square and Associates LOCATION 2415 Mariner Square Drive, Alameda, CA
TOC ELEVATION 12.64' (MSL) DATE(S) 9/15/94 TOTAL DEPTH 15.0'
MONITORING DEVICE OVM SCREENED INTERVAL 4 - 14'
SAMPLING METHOD Split Spoon SUBCONTRACTOR & EQPT SES/CME-75HT
PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO ▽ =First Water ▼ =Static Water
MEMO

Depth Below Surface (ft.)	Penetration Results: Blows 6"-6"-6"	Penetration Results: BPF	Sampler Interval/ Recovery	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log
0						0.0 - 1.0' ASPHALT and ROADBASE	RB	
	0 7 8 8	16			0.0	1.0 - 3.0' CLAYEY SAND (5,80,10,5): brown (7.5YR4/3); loose; fine to coarse grained sand; moist. Trace shell fragments.	SM	
2.5								
	8 8 8 8	16			0.0	3.0 - 9.0' SAND (0,90,5,5) brown (7.5YR4/3); loose to medium dense; fine to coarse grained sand; moist. Trace shell fragments.	SP	
5.0	4 3 4 4	8			0.0	saturated @ 6.5'		
7.5	4 5 5 6	11			0.0			
	0 3 3 2 2 3	6			0.0	9.0 - 15.0' SILTY SAND (5,80,10,5): dark gray (7.5YR4/1); loose; fine to medium grained sand; saturated. Shell fragments are finer.	SM	
10.0		5			0.0			
	1 2 1 1 1	2			0.0			
12.5								
	2 3 6	9			0.0			
15.0								

Borehole Abandonment/ Well Construction Details

- Traffic Rated Vault Box
- 8-Inch Diameter Borehole
- 4-Inch Diameter Blank PVC Casing
- 2.5: Portland Cement with 5% Bentonite
- 3.5: Hydrated Bentonite
- 4.0
- 2/16 Mesh Sand Pack
- 4-Inch Diameter PVC Screen 0.020-inch Slot
- 14.0
- Hydrated Bentonite Seal
- 15.0

MARSQ-10T85.XLC/F1

SIGNATURE OF FIELD SUPERVISOR AND REVIEWER

SR. ASSOC. GEOLOGIST
TITLE

SIGNATURE OF REVIEWER

SR. ASSOC. GEOLOGIST
TITLE

REGISTERED GEOLOGIST
SAUNDRA M. GERMANO
No. 5328
Exp. 12/96
STATE OF CALIFORNIA

SOIL DRILLING LOG

McLaren Hart

SB/MW #: SB-A
D- 23468
Page 1 of 1
Geologist: E.C. Warwick

SIGNATURE OF GEOLOGIST

PROJECT Mariner Square and Associates LOCATION 2415 Mariner Square Drive, Alameda, CA
TOC ELEVATION _____ (MSL) DATE(S) 9/15/94 TOTAL DEPTH 15.0'
MONITORING DEVICE OVM SCREENED INTERVAL _____
SAMPLING METHOD Split Spoon SUBCONTRACTOR & EQPT SES/CME-75HT
PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO ▽ =First Water
MEMO _____

Depth Below Surface (ft.)	Penetration Results: Blows 6"-6"-6"	Penetration Results: BPF	Sampler Interval/ Recovery	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
						0.0 - 1.0 ASPHALT and ROADBASE	RB		
	7 10 11 8	19		52501 52467	0.0	1.0 - 11.0' SILTY SAND (0,85,10,5): brown (7.5YR4/2); loose; fine to medium subrounded sand; slightly moist.	SM		
2.5					0.0				7.5-inch diameter borehole
	6 7 7 9	16		52473 52475	0.0				
5.0	4 4 3 2	5		52502 52468	46	Color change @ 5.0' dark gray (7.5YR4/1); slight hydrocarbon odor. SATURATED @ 6.0'			
	3 7 7	14				1-inch thick silt lenses from 7.0 - 8.5'.			
7.5					200	@ 8.0'- 1.5 to 2-inch thick very dark gray (N3/) silt layer; high organic content; slight hydrocarbon and hydrogen sulfide odor.			
	1 1 4	5			0.0				
10.0	0 1 1	2			0.0				Portland Cement with 5% Bentonite
	1 1 1 1 1	2			0.0	11.0 - 15.0' SILTY CLAY (0,10,50,40): very dark gray (N3/); soft to slightly stiff; medium to high plastic; fine grained sand; increased organic matter with depth.	CH		
12.5									
	1 1 1	2			0.0				13.5
15.0									15.0

MARQUIS AUGER

SIGNATURE OF FIELD SUPERVISOR AND REVIEWER

Sr. Assoc. Geologist
TITLE

SIGNATURE OF REVIEWER

Sr. Assoc. Geologist
TITLE

REGISTERED GEOLOGIST
GAULIUS V. GERMANAS
No. 5328
Exp. 12/96
STATE OF CALIFORNIA

SOIL DRILLING LOG

McLaren Hart

SB/MW #: SB-B
D- 23470
Page 1 of 1
Geologist: E. C. Warwick

SIGNATURE OF GEOLOGIST

PROJECT Mariner Square and Associates LOCATION 2415 Mariner Square Drive, Alameda, CA
TOC ELEVATION _____ (MSL) DATE(S) 9/16/94 TOTAL DEPTH 15.0'
MONITORING DEVICE OVM SCREENED INTERVAL _____
SAMPLING METHOD Split Spoon SUBCONTRACTOR & EQPT SES/CME-75HT
PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO ▽ =First Water
MEMO _____

Depth Below Surface (ft.)	Penetration Results: Blows 6"-6"-6"	Penetration Results: BPF	Sampler Interval/ Recovery	Sample ID #	PID reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
0						0.0 - 1.0 ASPHALT and ROADBASE	RB		
	3 3 3 5	8		52503	0.0	1.0 - 7.0' CLAYEY SAND with GRAVEL (25,35,20,20): brown (7.5YR4/4); loose; fine to coarse subangular to subrounded sand; fine subangular gravel; slight to low plastic fines; slightly moist.	SC		
				52469					
2.5					0.0				
	2 4 4 5	9			0.0				7.5-inch diameter borehole
				52476					
				52504					
5.0	3 4 4 3	7			0.0	Color change @ 5.0' dark gray (7.5YR4/1).			
				52470					
▽					0.0				
7.5	1 6 9	15				7.0 - 10.0' SILTY SAND (0,80,10,10): gray (7.5YR5/1); loose; fine grained sand; saturated; slight hydrocarbon odor.	SM		
	1 1 3	4			0.0				
10.0	0 1 1	2			0.0	10.0 - 15.0' SILTY CLAY (0,10,50,40): very dark gray (N3/); soft to slightly stiff; medium to high plastic; fine grained sand; increased organic matter with depth.	CH		Portland Cement with 5% Bentonite
	0 1 1 1	2			0.0				
12.5									
	1 1 0	1			0.0				
13.5									
15.0									15.0

MARQUIS AUCPS

SIGNATURE OF FIELD SUPERVISOR AND REVIEWER

SR. ASSOC. GEOLOGIST
TITLE

SIGNATURE OF REVIEWER

SR. ASSOC GEOLOGIST
TITLE

REGISTERED GEOLOGIST
BAULIUS V. GERMANAS
No. 5328
Exp. 12/96
STATE OF CALIFORNIA