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

6-21-04

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

June 18, 2004

Mr. Doug Herman
Port of Oakland
530 Water St.
P.O. Box 2064
Oakland, CA 94604-2064

Dear Mr. Herman:

Subject: Fuel Leak Site Case Closure, Port of Oakland, Embarcadero Cove, 1275 Embarcadero, Oakland, CA 94606; Case No. RO0002445

This letter confirms the completion of a site investigation and remedial action for the former gasoline underground storage tank formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung

Mee Ling Tung
Director
Alameda County Environmental Health

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June 18, 2004

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1211 Bc

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This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- 2300 ppm TPHg, 850 ppm TPHd, 300 ppm TPHmo, 1.8 ppm benzene, 3.7 ppm toluene, 48 ppm ethyl benzene, 7.2 ppm xylenes, 5.1 ppm MTBE, 2.2 ppm 2-methyl naphthalene and 2.2 ppm naphthalene remain in the soil at this site.

- 59 ppb TPHd, 0.58 ppb benzene and 0.32 ppb pyrene remain in groundwater at this site.

If you have any questions, please call Barney Chan at (510) 567-6765. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP Program Manager

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

cc: Ms. Betty Graham (w/enc)
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Toru Okamoto (w/enc)
State Water Resources Control Board
Underground Storage Tank Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Mr. Leroy Griffin, City of Oakland FD,(w/enc)
1605 MLK Jr. Way, Oakland, CA 94612

B. Chan (w/orig enc), D. Drogos (w/enc), R. Garcia-La Grille (w/enc)

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: May 3, 2004

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6765
Responsible Staff Person: Barney Chan	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Port of Oakland, Embarcadero Cove		
Site Facility Address: ~~1275~~ 1211 BC Embarcadero, Oakland, CA 94606		
RB Case No.: NA	Local Case No.: NA	LOP Case No.: RO0002445
URF Filing Date: ---	SWEEPS No.: ---	APN: 0000-0475-003-00

Responsible Parties	Addresses	Phone Numbers
Mr. Doug Herman Port of Oakland	530 Water St., P.O. Box 2064, Oakland 94604-2064	510-627-1184

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	Unknown	gasoline	Removed	Approx 1970
Piping			Removed	Approx 1970

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: unknown, UST removed in 1970s, No records of removal		
Site characterization complete? Yes	Date Approved By Oversight Agency: -----	
Monitoring wells installed? Yes	Number: 5	Proper screened interval? Yes, 4-15'
Highest GW Depth Below Ground Surface: 4.69'	Lowest Depth: 8.22'	Flow Direction: northeast
Most Sensitive Current Use: Oakland-Alameda estuary borders property, ~ 120' to the south of former UST		

Summary of Production Wells in Vicinity: No water supply wells were identified within ¼-mile of the subject site.	
Are drinking water wells affected? No	Aquifer Name: Oakland Sub Area, East Bay Plain
Is surface water affected? No	Nearest SW Name: Oakland-Alameda estuary 120' to the south
Off-Site Beneficial Use Impacts (Addresses/Locations): None identified	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Services Agency, OES

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	Not reported	Not reported	~ 1970
Piping	Not reported	Not reported	~1970
Soil	60 CY	Disposed to Forward Landfill, Manteca	7/16/2002

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments for additional information on contaminant locations and concentrations)

	Soil (ppm)		Water (ppb)	
Contaminant	Before [1]	After [2]	Before [3]	After [4]
TPH (Gas)	2300	2300	80,000	<50
TPH (Diesel)	850	850	5800	59
TPH (MO)	300	300	7200	<250
Benzene	1.8	1.8	8600	0.58
Toluene	3.7	3.7	8200	<0.5
Ethyl Benzene	48	48	3900	<0.5
Xylenes	7.2	7.2	14600	<0.5
Heavy Metals: Cd, Cr, Pb, Ni, Zn	NA, 56, 2.6, 64, 29	NA, 56, 2.6, 64, 29	NA	<5, <20, <5.3, <50, 50
MTBE (if not analyzed, explain below)	*5.1	*5.1	<5	<5
Other (8240/8270)	2.2 +	2.2 +	610 #	0.32 pyrene

1 Results from sample M-1-5, * MTBE reported in M-1-5 run by EPA Method 8020 NA= not analyzed

2 No soil samples collected after excavation of tank pit (& M-1-5 area) to a depth of 11'

3 Grab groundwater sample results from borings SB-1 and SB-A through SB-F.

4 Results from MW-4a (5/14/03)

+ volatile constituents of gasoline (naphthalene, n-butyl benzene, isopropyl benzene, n-propyl benzene, 1,2,4- tri-methyl benzene and 1,3,5-tri-methyl benzene) were detected at concentrations from 0.22-2.2 ppm.

2-methyl naphthalene and naphthalene detected in grab groundwater sample at 260 and 610 ppb, respectively

Site History and Description of Corrective Actions:

The site shown on Attachment 1 is located along the north side of the Oakland-Alameda estuary. Currently, the site was occupied with a vacant restaurant and its parking lot. This address is part of a larger parcel of which only this address is currently being considered for development A multi-story commercial building is proposed within the footprint of the former restaurant.

Historical site use:

1965-1969 occupied by Acme Pallet Co.
1970- a cooling tower and an UST (presumed gasoline tank) removed from site
1973- Barclay Jack's restaurant and later operated as a Hungry Hunter restaurant
The original Gray and Reynold's project considered development of the area from 1275-1363 Embarcadero. Later, developer decided to develop only 1275 Embarcadero for commercial use.

In 1970, an underground storage tank, assumed gasoline, and an associated pump were removed from the site, however, no records exist to confirm this, nor the exact location of the former tank and pump. Therefore, an initial subsurface investigation was performed to confirm the absence of the underground tank and to investigate other areas based upon past site usage.

5/01- Four borings (SB-1, SB-1A, SB-2 and SB-3) were completed to groundwater and four shallow borings where refusal was encountered (SB-1B, SB-1C, SB-2C and SB-2D) were advanced. In addition, six shallow random borings (RN-A1, RN-A2, RN-A3, RN-A4, RN-B1 and RN-B2) were advanced to assess the site. See Attachment 2 and 3. Soil and groundwater were analyzed for VOCs, SVOCs, TPHg, TPHd, PCBs and hexavalent chrome (in sample near former cooling tower). The random samples ranged from 0.5-1.5' in depth were analyzed for BTEX and MTBE. All of these samples were < detection limits for these analytes. In the borings advanced to groundwater, only the soil sample SB-1A, 5-5.5, exhibited significant contamination with 500 ppm TPHg and 22ppm cumulative TEX. The groundwater samples from SB-1 and SB-1A exhibited elevated TPHg and BTEX concentrations up to 80,000 ppb TPHg and 8,600, 8,200, 3,900, 14,600 ppb BTEX, respectively. These results are consistent with the former gasoline tank being located near these two borings. Groundwater was encountered at depths ranging from 4-7' bgs. Typical soils encountered beneath the asphalt cap were gravel and sand to the depth of groundwater, then gravelly, sandy clay to the depth of boring (10' bgs).

8/30/01- Six additional soil borings (SB-A through SB-F) were advanced to groundwater with exception of SB-C, which encountered obstructions in the borehole. Soil samples were collected at 3.5' bgs and exhibited up to 2.5 ppm for TPHg, 0.021, 0.01, <0.005, 0.026 ppm BTEX, respectively, <0.05 ppm MTBE, 16 ppm TPHmo and ND for SVOCs. Among the grab groundwater samples, only that from SB-E exhibited detectable TPHg where up to 39,000 ppb TPHg, and 3,200, 750, 1,200, 3,600 ppb BTEX, respectively, was reported. Up to 5,800 and 7,200 ppb of TPHd and TPHmo respectively, were exhibited in the groundwater samples. See Attachment 3.

Sanborn maps and aerial photos were used to attempt to determine the location of the former UST, however, results were inconclusive. From the Sanborn maps, no other areas of hazardous materials usage were identified. A prior request for services by the Port of Oakland was made to remove a gasoline pump and tank in a location consistent with where the UST is assumed to have been. Magnetometer and GPR surveys were performed to identify possible USTs or remnants. Four subsurface anomalies were identified. Anomaly 1 was excavated to approximately 6' bgs. Rebar, wires and concrete foundation was encountered and it appears this was the location of the former UST. Soil sample M-1-5 was taken from this pit at a depth of 5' bgs. This sample exhibited 2,300 ppm TPHg and 1.89, 3.7, 48, 7.2, 5.1 ppm, BTEX and MTBE, respectively. The MTBE result was run using EPA Method 8020. Given the absence of detection of MTBE in all other soil and groundwater samples, it is the consultant's opinion that this result is anomalous.

10/9/01- Four monitoring wells, MW-1 through MW-4, were installed next to and at locations assumed up and down-gradient of the former tank and northwest of the former UST where elevated groundwater samples were observed. Soil samples were taken from depths of 5' and 8' bgs. Up to 34 ppm TPHg, 0.7, 0.068, 0.7, 0.97 ppm BTEX, respectively, <0.05 ppm MTBE, 300 ppm TPHmo, 74 ppm TPHd and ND for semi-volatiles was exhibited in soil samples. MW-1, located within the former tank pit, and MW-4, located north of MW-1, exhibited the highest contamination where up to 44,000 ppb TPHg, 1,900, 300, 1, 500, 3,300 ppb BTEX was reported. Contamination, while expected near the former UST (MW-1), is less explainable in the area of MW-4. Groundwater gradient has been to the northeast, the opposite direction of what would be expected ie southwest towards the estuary. See Attachment 4.

4/26/02- MW-5 was installed northeast (down-gradient) of the former tank pit. Soil samples were collected from 7 and 10' bgs from the boring for MW-5. These samples reported ND for TPHg and BTEX, 14 ppm TPHd and 26 ppm TPHmo. The depth to water in MW-5 , 4.69', produced a gradient consistent with that previously determined, northeast.

5/15/02- Approximately 60 cubic yards of soil from a 10' by 10' by 11' bgs area was excavated in an area centered around MW-1. The excavation area also included the location of former boring M-1. MW-1 was properly destroyed at this time. One hundred twenty pounds of Oxygen Release Compound (ORC) was distributed across the floor of the excavation prior to backfilling. No soil sampling was done as the excavation extended beyond the depth to groundwater.

10/10/02- To allow for the future development of the site, monitoring wells MW-2, MW-3 and MW-4 were properly destroyed. MW-4a, the replacement well for MW-4, was installed just north of the original well. Soil samples were collected from 6.5 and 10' bgs from the boring for MW-4a. Up to 5 ppm TPHd, 11 ppm TPHmo, 0.034 benzene was exhibited in these samples. TPHg and MTBE were ND.

11/22/02- As part of the preferential pathway investigation, four temporary monitoring wells were advanced within the utility backfills. Temporary wells TW-1 and TW-2 were located at the up-gradient property boundary within the backfill of the storm drain and sanitary sewer backfills, respectively and temporary wells TW-3 and TW-4 were located down-gradient of MW-5 within the same respective utility backfills. No TPHg, BTEX or MTBE was detected in any of the groundwater samples from the temporary wells. TPHd and TPHmo ranging from ND to 470 ppb were found in these water samples. Because the concentrations of TPHd and TPHmo in the up and down-gradient water samples were similar, either the site is not adding to the influent TPH concentration and/or the utilities are not acting as preferential pathways. See Attachment 4.

The remaining wells, MW-4a and MW-5 have been sampled for four events from 6/02 to 5/03 for TPHg, BTEX, MTBE, TPHd, TPHmo and PAHs with results being ND to just slightly above detection limits. See Attachment 6.

A Screening-Level Risk Assessment was performed evaluating all soil and groundwater data to date (1/02). The site specific assessment assumed the proposed development would be located within the footprint of the former restaurant building, therefore, the only complete soil and groundwater contamination exposure scenario would be to future commercial and construction workers. Ecological exposure to aquatic life and terrestrial flora and fauna was also evaluated.

The exposure pathways of direct contact and potential indoor air impact from soil and groundwater exposure through volatilization to indoor air for commercial workers are considered incomplete. Soil concentrations are below RBSLs for construction workers. Groundwater concentrations in all wells at the site are below aquatic RBSLs established by the Water Board. Residual soil and groundwater contamination within area of the former UST has been treated with ORC and impacted soil removed.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes No		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes No		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for the fuel leak site is granted for commercial land use. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated.		
Should corrective action be reviewed if land use changes? Yes		
Monitoring Wells Decommissioned: yes	Number Decommissioned: 4	Number Retained: 2
List Enforcement Actions Taken: none		
List Enforcement Actions Rescinded: none		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

- No records exist for the tank removal presumed to have occurred in 1970, however, a GPR and magnetometer survey did not identify any USTs. Excavation revealed an area likely to have been the former tank pit where TPHg impacted soil and groundwater was observed.
- Confirmation soil sampling was not done after excavation near MW-1, however, the pit was excavated to 11' bgs, below depth to groundwater and 120 pounds of ORC added to the bottom of the pit.
- Residual petroleum hydrocarbon contamination in soil and groundwater remains in place at this site, however, ORC has been added to the capillary zone to enhance bio-degradation. The residual contamination resides beneath the parking lot of the proposed development.
- The groundwater gradient is contrary to what is assumed, however, monitoring wells indicate the petroleum plume is limited to the site boundary and at 220 ppb TPHg near the proposed commercial building.
- Analysis for EDB, EDC, TAME, ETBE, DIPE and TBA were not done on water and soil samples in the vicinity of the former gasoline UST, however, no MTBE has been reported in groundwater and the only soil that reported MTBE was run using EPA Method 8020 and not confirmed by GC/MS.
- No source or explanation for the petroleum contamination found in groundwater north of the former UST is given.

Conclusion:

Alameda County Environmental Health staff believes that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the proposed future commercial land use. The source area (10'x10'x 11'deep) was over-excavated and 120 pounds of ORC added on the excavation floor. Residual pollution is expected to biodegrade over time. This area is proposed as a paved parking lot in the future. A risk assessment prepared by Iris-Cambria for the site indicates that the site does not appear to pose a significant threat to the public and the environment under the current use. It is anticipated that bioremediation and attenuation process over time will be effective in reducing residual pollution remaining at this site. ACEH staff recommends closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Barney Chan	Title: Hazardous Materials Specialist
Signature: Barney Chan	Date: 5/3/04
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature:	Date: 05/03/04

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Betty Graham	Title: Associate Water Resources Control Engineer
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature:	Date:

Attachments:
1. Vicinity Map
2. Soil Boring Location Map
3. Soil Boring Location Map
4. Monitoring and Temporary Well Location Map
5. Soil Analytical Data-Light Range and MTBE, Heavy Range and SVOCs , 4 pages
6. Groundwater Analytical Data, Borings, Temporary and Permanent Wells, 7 pages
7. Boring Logs, Soil Borings, Temporary and Permanent Wells, 16 pages

This document and the related CASE CLOSURE LETTER, shall be retained by the lead agency as part of the official site file.

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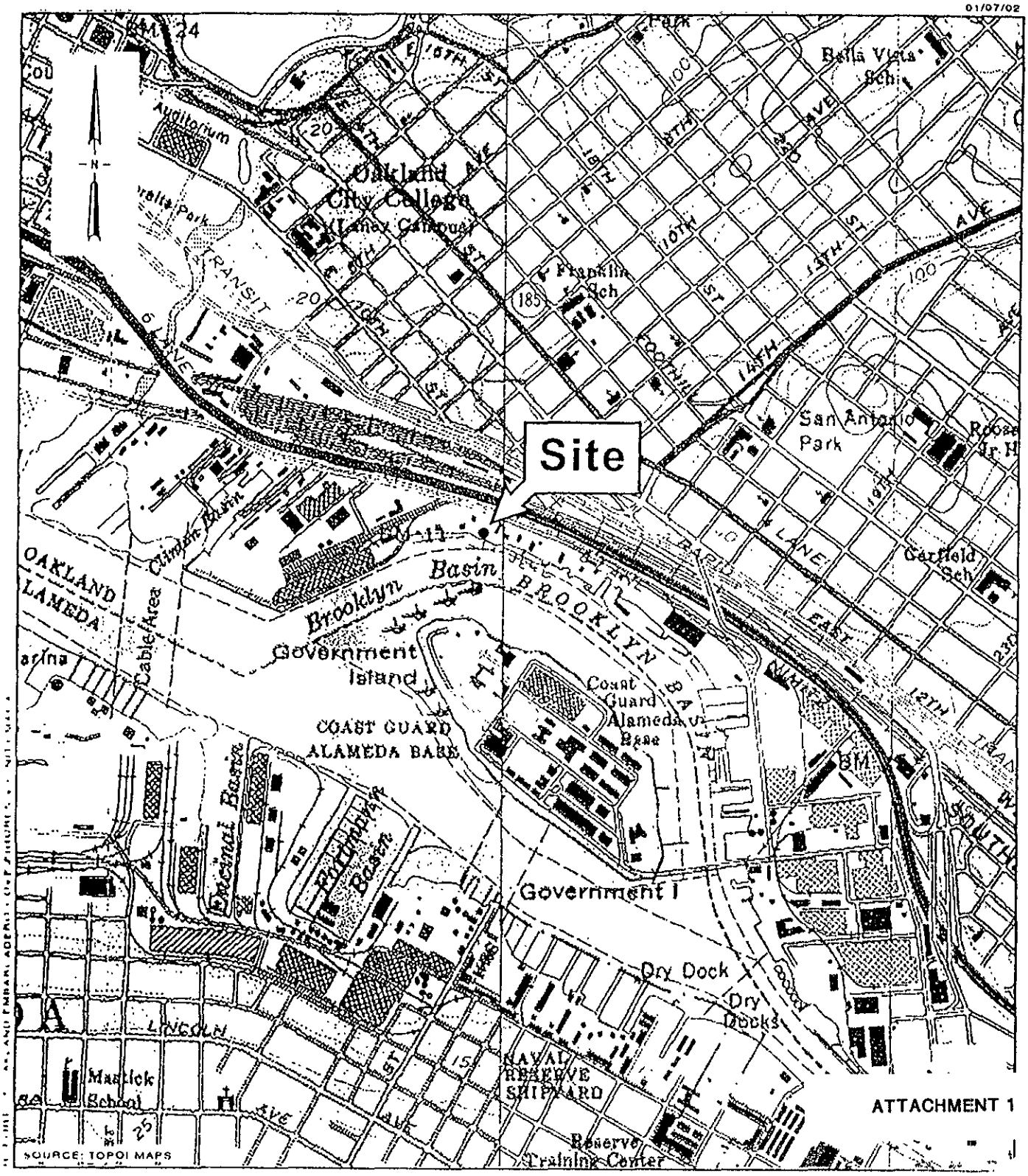
Post-it® Fax Note 7671		Date 5/11/04	# of pages ▶
To Barney Chan		From Betty Graham	
Co./Dept.		Co.	
Phone #		Phone #	
Fax # 337-9335		Fax #	

01/07/02



ATTACHMENT 1

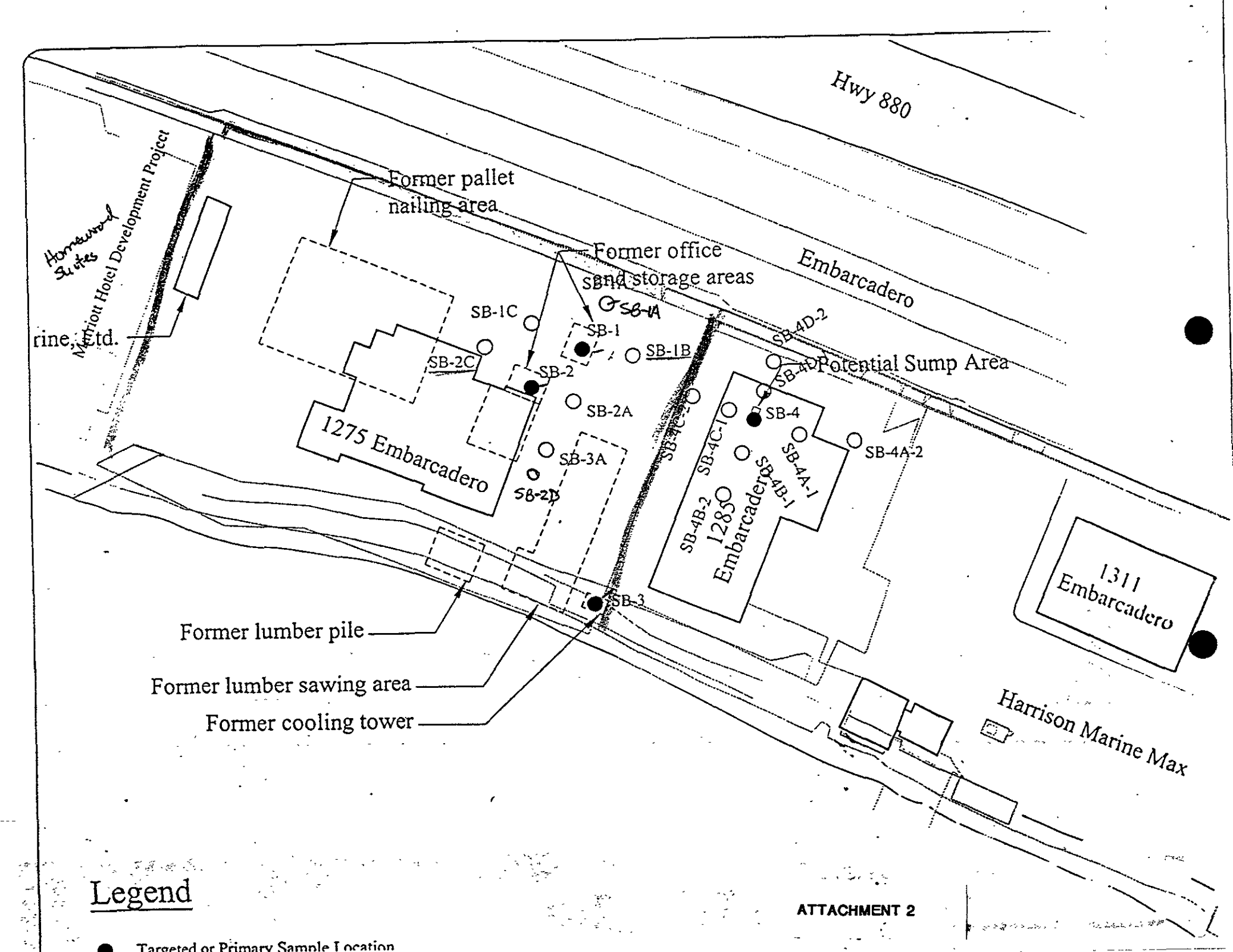
0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

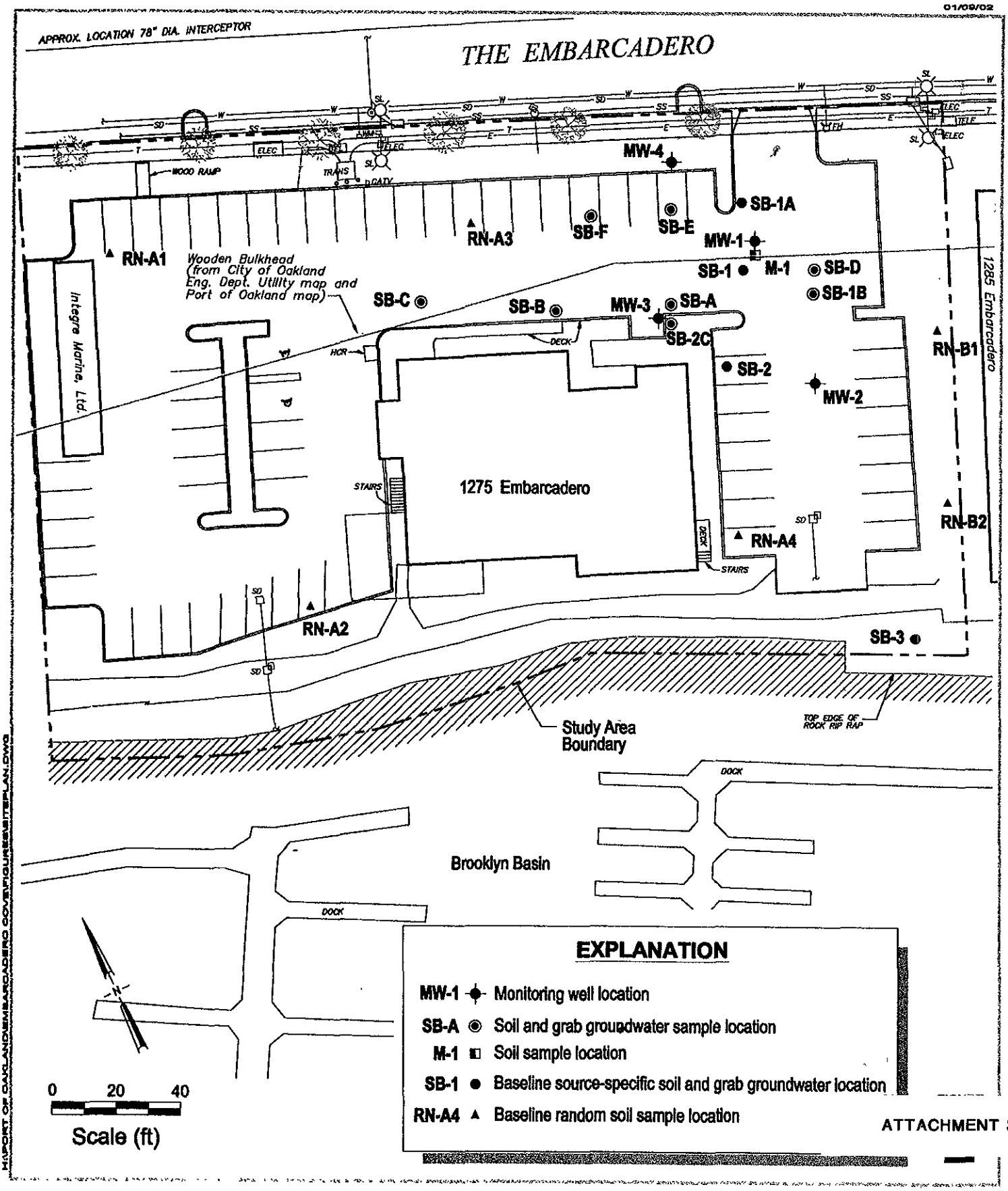
Port of Oakland
1275 Embarcadero
Embarcadero Cove Project
Oakland, California

CAMBRIA

Vicinity Map

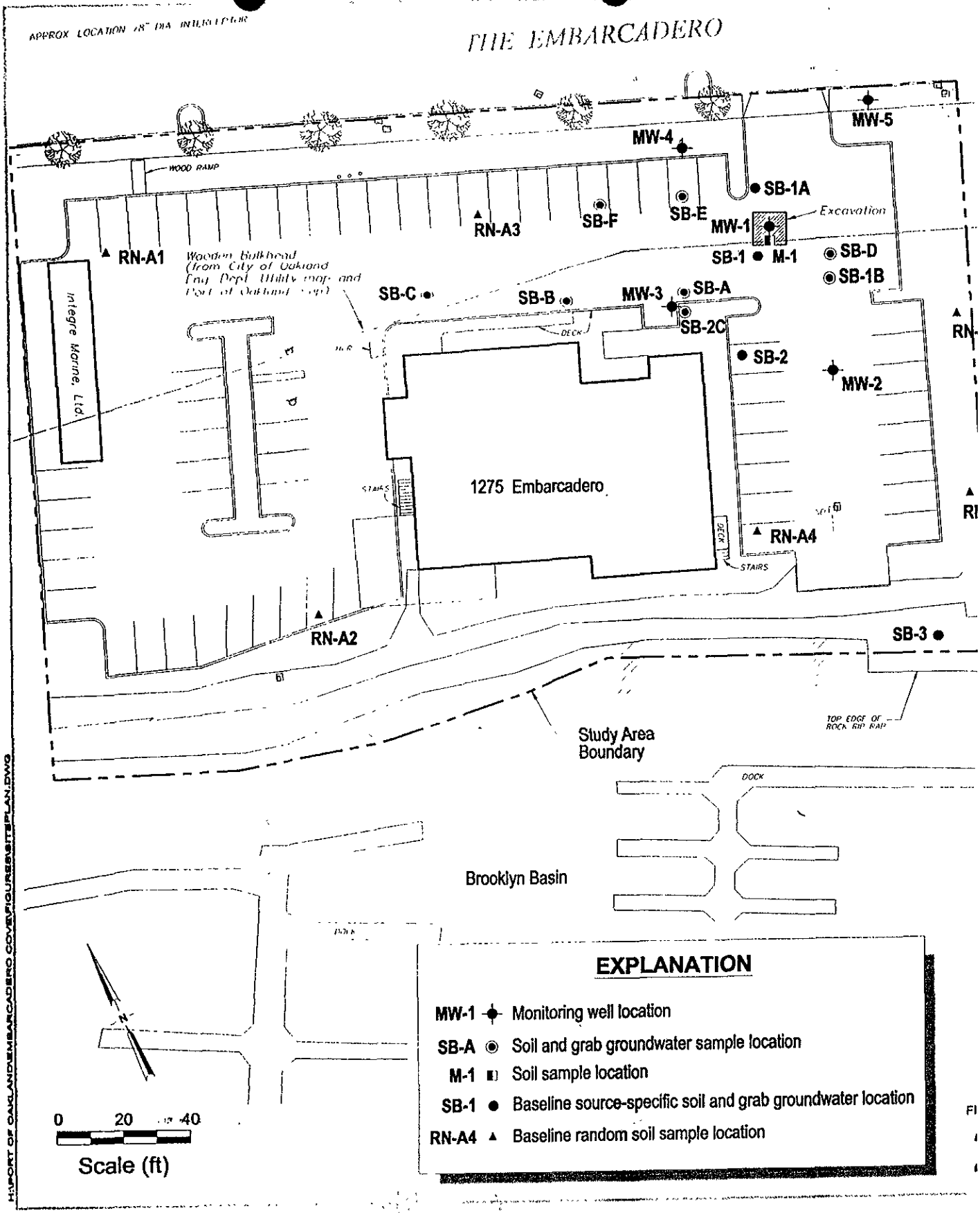


ATTACHMENT 2



Port of Oakland

Site Plan

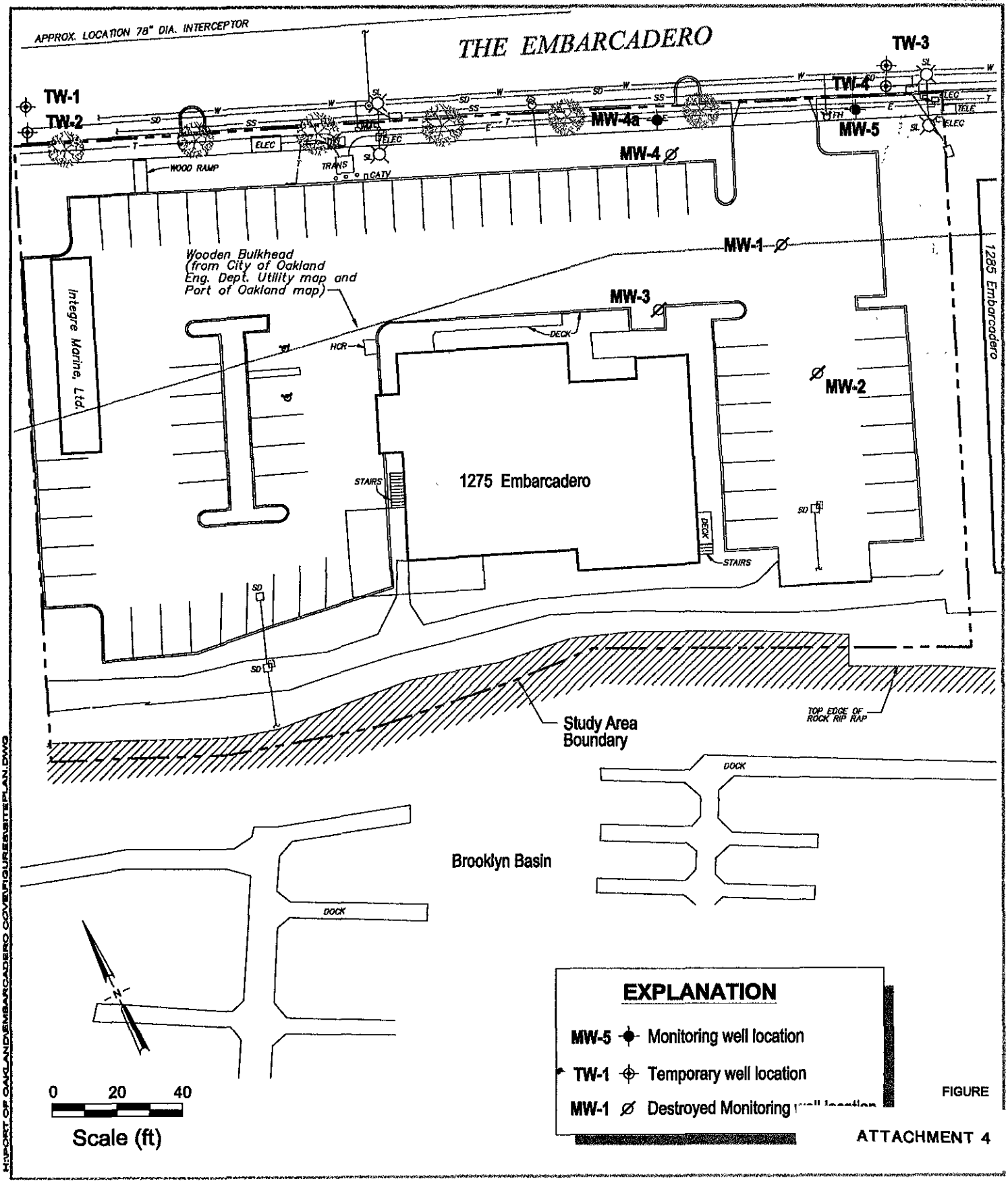


Port of Oakland
1275 Embarcadero
Embarcadero Cove Project
Oakland, California

CAMBRIA

Site P

12/06/02



H:\PORT OF OAKLAND\EMBARCADERO COVE\FIGURE\SITEPLAN.DWG

FIGURE

ATTACHMENT 4

Port of Oakland
1275 Embarcadero
Embarcadero Cove Project

Iris - Cambria

Site Plan

CAMBRIA

Table 1: Soil Analytical Data - Light-Range Petroleum Hydrocarbons and MTBE - 1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	Sample Depth (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
			← mg/kg →					
Baseline Samples								
RN-A1;1.5-2	05/01/01	1.5	--	< 0.005	< 0.005	< 0.005	< 0.005	< 1.0
RN-A2;1-1.5	05/01/01	1.0	--	< 0.005	< 0.005	< 0.005	< 0.005	< 1.0
RN-A3;0.5-1	05/01/01	0.5	--	< 0.005	< 0.005	< 0.005	< 0.005	< 1.0
RN-A4;1.0-1.5	05/01/01	1.0	--	< 0.005	< 0.005	< 0.005	< 0.005	< 1.0
RN-B1;1-1.5	05/01/01	1.0	--	< 0.005	< 0.005	< 0.005	< 0.005	< 1.0
RN-B2;1-1.5	05/01/01	1.0	--	< 0.005	< 0.005	< 0.005	< 0.005	< 1.0
SB-1;0.75-1.25	05/01/01	0.75	< 1.1	< 0.0056	< 0.0056	< 0.0056	< 0.0056	--
SB-1;3-3.5	05/01/01	3.0	< 1.0	0.013	< 0.0052	< 0.0052	< 0.0052	--
SB-1A;0-0.5	05/02/01	0.0	< 1.1	< 0.0054	< 0.0054	< 0.0054	< 0.0054	--
SB-1A;5-5.5	05/02/01	5.0	500	< 0.130	1.1	5.0	16.1	--
SB-1B;1-1.5	05/02/01	1.0	< 1.0	< 0.005	< 0.005	< 0.005	0.0074	--
SB-2;1-1.5	05/01/01	1.0	< .98	< 0.0049	< 0.0049	< 0.0049	< 0.0049	--
SB-2;4-4.5	05/01/01	4.0	< 1.1	< 0.0054	< 0.0054	< 0.0054	< 0.0054	--
SB-2C;0-0.5	05/02/01	0.0	< 0.96	< 0.0048	< 0.0048	< 0.0048	< 0.0048	--
SB-2C;3-3.5	05/02/01	3.0	< 1.0	< 0.0052	< 0.0052	< 0.0052	< 0.0052	--
Cambria Samples								
SB-A-3.5	08/30/01	3.5	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05
SB-B-3.5	08/30/01	3.5	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05
SB-D-3.5	08/30/01	3.5	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05
SB-E-3.5	08/30/01	3.5	1.4	0.014	0.0080	< 0.005	0.026	< 0.05
SB-F-3.5	08/30/01	3.5	2.5	0.021	0.010	< 0.005	0.005	< 0.05
M-1-5	09/17/01	5.0	2,300	1.8	3.7	48	7.2	5.1
MW-1-8.3	10/09/01	8.3	30	0.48	0.067	0.70	0.52	<0.05
MW-2-5.0	10/09/01	5.0	7.5	0.027	0.051	0.041	0.087	<0.05
MW-3-5.0	10/09/01	5.0	1.6	< 0.005	< 0.005	< 0.005	< 0.005	<0.05
MW-4-5.3	10/09/01	5.3	34	0.70	0.068	0.41	0.97	<0.05

ATTACHMENT 5

CAMBRIA

Table 2: Soil Analytical Data - Heavy-Range Petroleum Hydrocarbons and SVOCs - 1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	Sample Depth (ft)	TPHd	TPHmo	bis(2-ethylhexyl) phthalate	Fluoranthene	2 - methyl naphthalene	Naphthalene	Pyrene
			←			mg/kg			→
Baseline Samples[1]									
RN-A1;1.5-2	05/01/01	1.5	--	--	--	--	--	< 0.0046	--
RN-A2;1-1.5	05/01/01	1.0	--	--	--	--	--	< 0.005	--
RN-A3;0.5-1	05/01/01	0.5	--	--	--	--	--	< 0.005	--
RN-A4;1.0-1.5	05/01/01	1.0	--	--	--	--	--	< 0.0046	--
RN-B1;1-1.5	05/01/01	1.0	--	--	--	--	--	< 0.0049	--
RN-B2;1-1.5	05/01/01	1.0	--	--	--	--	--	< 0.0047	--
SB-1;0.75-1.25	05/01/01	0.75	62[2]	--	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
SB-1;3-3.5	05/01/01	3.0	13[2]	--	0.61	< 0.33	< 0.33	< 0.33	< 0.33
SB-1A;0-0.5	05/02/01	0.0	240[2]	--	< 6.60	< 6.60	< 6.60	< 6.60	< 6.60
SB-1A;5-5.5	05/02/01	5.0	40[2]	--	< 0.33	< 0.33	2.2	2.2	< 0.33
SB-1B;1-1.5	05/02/01	1.0	60[2]	--	--	--	--	--	--
SB-2;1-1.5	05/01/01	1.0	43[2]	--	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
SB-2;4-4.5	05/01/01	4.0	43[2]	--	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
SB-2C;0-0.5	05/02/01	0.0	25[2]	--	--	--	--	--	--
SB-2C;3-3.5	05/02/01	3.0	37[2]	--	--	--	--	--	--
Cambria Samples									
SB-A-3.5	08/30/01	3.5	1.4	5.2	--	< 0.25	--	< 0.25	< 0.25
SB-B-3.5	08/30/01	3.5	< 1.0	< 5.0	--	< 0.062	--	< 0.062	< 0.062
SB-D-3.5	08/30/01	3.5	< 1.0	< 5.0	--	< 0.062	--	< 0.062	< 0.062
SB-E-3.5	08/30/01	3.5	2.4	6.1	--	< 0.062	--	< 0.062	< 0.062
SB-F-3.5	08/30/01	3.5	4.6	16	--	< 0.25	--	< 0.25	< 0.25
M-1-5	09/17/01	5.0	850	97	--	--	--	--	--
MW-1-8.3	10/09/01	8.3	5.7	< 5.0	< 0.33	< 0.33	< 0.33	< 0.33 / 0.58[3]	< 0.33
MW-2-5.0	10/09/01	5.0	74	300	< 1.0	< 1.0	< 1.0	< 1.0 / < 0.005[3]	< 1.0
MW-3-5.0	10/09/01	5.0	17	160	< 0.33	< 0.33	< 0.33	< 0.33 / < 0.005[3]	< 0.33
MW-4-5.3	10/09/01	5.3	8.3	10	< 0.33	< 0.33	< 0.33	0.62 / 0.62[3]	< 0.33
Soil Screening Values									
Surface Soil (<3 m) Commercial Worker [non-drinking water source][4]									
Human Health Risk-Based			11,000	11,000	180	6,000	280	5.7	11,000
Soil Leaching-Based for Protection of Aquatic Life			500	1,000	530	60	0.25	4.9	55
Urban Area Ecotoxicity-Based			--	--	--	40	--	40	--
Construction Worker[5]									
Human Health Risk-Based			16,000	16,000	1,200	12,000	18,000	450	16,000

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Table 1: Soil Analytical Data - Light-Range Petroleum Hydrocarbons and MTBE - 1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	Sample Depth (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
			mg/kg					
MW-5-7.0	04/26/02	7.0	<1	< 0.005	< 0.005	< 0.005	< 0.005	<0.05
MW-5-10.0	04/26/02	10.0	<1	< 0.005	< 0.005	< 0 005	< 0 005	<0.05
MW-5-10.5D*	04/26/02	10.5	<1	< 0.005	< 0.005	< 0.005	< 0.005	<0.05
Current Cambria Investigation								
MW-4a-6.5	11/22/02	6.5	<1	< 0.005	< 0.005	< 0 005	< 0.005	<0.05
MW-4a-10.0	11/22/02	10.0	<1	0.034	< 0.005	< 0.005	< 0.005	<0.05
Soil Screening Values								
Surface Soil (<3 m) Commercial Worker [non-drinking water source][1]								
Human Health Risk-Based			11,000	0.39	89	220	210 sat	69
Soil Leaching-Based for Protection of Aquatic Life			400	2.1	8.4	24	1	1
Urban Area Ecotoxicity-Based			--	25	150	--	--	--
Construction Worker[2]								
Human Health Risk-Based			16,000	16	520 sat	230 sat	210 sat	4900

Abbreviations and Methods:

ft = feet

mg/kg = milligrams per kilogram

-- = not available, not analyzed, or does not apply

MTBE = methyl tert-butyl ether by EPA Method 8020

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020 or 8021B

TPHg = total petroleum hydrocarbons as gasoline by EPA Methods modified 8015, 5030, and 8020 or 602

sat = saturation limit

Notes:

*Duplicate Sample.

[1] Soil screening values from RWQCB's (2000) Table B-2.

[2] Soil screening values from RWQCB's (2000) Table K-3.

Bolded values indicate exceedance of soil screening values.

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Table 2: Soil Analytical Data - Heavy-Range Petroleum Hydrocarbons and SVOCs - 1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	Sample Depth (ft)	TPHd	TPHmo	bis(2-ethylhexyl) phthalate	Fluoranthene	2 - methyl naphthalene	Naphthalene	Pyrene
			←			mg/kg			→
MW-5-7.0	04/26/02	7.0	8.6	15	--	--	--	--	--
MW-5-10.0	04/26/02	10.0	14	22	--	--	--	--	--
MW-5-10.5D*	04/26/02	10.5	12	26	--	--	--	--	--
Current Cambria Investigation									
MW-4a-6.5	11/22/02	6.5	5.0	11					
MW-4a-10.0	11/22/02	10.0	2.9	< 5.0	--	--	--	--	--
Soil Screening Values									
Surface Soil (<3 m) Commercial Worker [non-drinking water source] [4]									
Human Health Risk-Based			11,000	11,000	180	6,000	280	5.7	11,000
Soil Leaching-Based for Protection of Aquatic Life			500	1,000	530	60	0.25	4.9	55
Urban Area Ecotoxicity-Based			--	--	--	40	--	40	--
Construction Worker [5]									
Human Health Risk-Based			16,000	16,000	1,200	12,000	18,000	450	16,000

Abbreviations and Methods:

ft = feet

mg/kg = milligrams per kilogram

-- = not available, not analyzed, or does not apply

TPHd = total petroleum hydrocarbons as diesel by EPA method 8015

TPHd analyses with silica gel clean-up prior to extraction unless otherwise noted

TPHmo = total petroleum hydrocarbons as motor oil by EPA method 8015

SVOC = semi-volatile organic compounds by EPA Method 8270 (modified 8100) and 3550 or 625 and 3510 unless otherwise noted

Notes:

Only those compounds above laboratory reporting limits are shown

*Duplicate sample.

[1] Baseline samples analyzed for SVOCs by EPA Method 8260 or 8270

[2] No silica gel cleanup performed, prepared by shaker table.

[3] Analyzed by EPA Method 8270 and additionally by EPA Method 8260

[4] Soil screening values from RWQCB's (2000) Table B-2.

[5] Soil screening values from RWQCB's (2000) Table K-3.

Bolded values indicate exceedance of soil screening values.

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Table 3: Groundwater Analytical and Elevation Data - Light-Range Petroleum Hydrocarbons and MTBE - 1275 Embarcadero, Oakland, CA

Sample ID *TOC* (ft)	Date Sampled	Groundwater Elevation (ft [1])	Depth to Water (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				µg/L					
Baseline Grab Samples									
SB-1	05/01/01	--	--	80,000	8,600	8,200	3,900	14,600	--
SB-1A	05/02/01	--	--	25,000	260	170	760	2,290	--
SB-2	05/01/01	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	--
Cambria Grab Samples									
SB-A	08/30/01	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
SB-B	08/30/01	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
SB-D	08/30/01	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
SB-E	08/30/01	--	--	39,000	3,200	750	1,200	3,600	< 200
SB-F	08/30/01	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-1	11/22/02	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-2	11/22/02	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-3	11/22/02	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-4	11/22/02	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
Cambria Monitoring Well Samples									
MW-1	10/12/01	4.88	7.15	--	--	--	--	--	--
12.03	10/19/01	4.81	7.22	11,000	900	300	470	1,000	--
	12/05/01 [2]	5.33	6.70	13,000	1,300	180	1,200	860	< 20
	12/05/01 [3]	4.74	7.29	3,100	270	12	150	74	< 5.0
	12/19/01 [4]	4.95	7.08	--	--	--	--	--	--
	05/03/02	6.12	5.91	20,000	1,400	160	580	630	<500
MW-2	10/12/01	5.71	5.75	--	--	--	--	--	--
11.46	10/19/01	5.52	5.94	< 50	< 0.5	< 0.5	< 0.5	< 0.5	--
	12/05/01 [2]	6.11	5.35	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	12/05/01 [3]	5.66	5.80	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	12/19/01 [4]	5.65	5.81	--	--	--	--	--	--
	05/03/02	6.46	5.00	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	6/10/2002 [7]	6.57	4.89	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0

ATTACHMENT 6

Table 4: Groundwater Analytical and Elevation Data - Heavy-Range Petroleum Hydrocarbons, SVOCs and PAHs
1275 Embarcadero, Oakland, CA

Sample ID *TOC* *(ft)*	Date Sampled	Groundwater Elevation (ft [1])	Depth to Water (ft)	TPHd (µg/L)	TPHmo (µg/L)	Acenaphthalene (µg/L)	bis(2-ethylhexyl) phthalate (µg/L)	Fluoranthene (µg/L)	1 - methyl-naphthalene (µg/L)	2 - methyl naphthalene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
Baseline Grab Samples													
SB-1	05/01/01	--	--	**2,900**	--	< 94	< 94	< 94	--	**260**	610	< 94	< 94
SB-1A	05/02/01	--	--	**800**	--	<9.6	<9.6	<9.6	--	**130**	170	<9 6	<9.6
SB-2	05/01/01	--	--	180	--	< 9.7	< 9.7	< 9.7	--	< 9.7	< 9 7	< 9 7	< 9.7
Cambria Grab Samples													
SB-A	08/30/01	--	--	**1,500**	**7,200**	< 10	--	< 10	--	--	< 10	< 10	< 10
SB-B	08/30/01	--	--	63	550	< 10	--	< 10	--	--	< 10	< 10	< 10
SB-D	08/30/01	--	--	**1,100**	**3,400**	< 10	--	11	--	--	< 10	< 10	11
SB-E	08/30/01	--	--	**5,800**	350	< 50	--	< 50	--	--	370	< 50	< 50
SB-F	08/30/01	--	--	480	**1,400**	< 10	--	< 10	--	--	< 10	< 10	< 10
TW-1	11/22/02	--	--	78	470	--	--	--	--	--	--	--	--
TW-2	11/22/02	--	--	< 50	< 250	--	--	--	--	--	--	--	--
TW-3	11/22/02	--	--	120	350	--	--	--	--	--	--	--	--
TW-4	11/22/02	--	--	< 50	< 250	--	--	--	--	--	--	--	--
Cambria Monitoring Well Samples													
MW-1	10/12/01	4.88	7.15	--	--	--	--	--	--	--	--	--	--
12.03	10/19/01	4.81	7.22	**3,300**	< 250	< 10	< 10	< 10	--	**54**	66	< 10	< 10
	12/05/01 [2]	5.33	6.70	**3,800**	< 250	72	--	< 10	**150**	**220**	360	< 10	< 10
	12/05/01 [3 4]	4.74	7.29	**680**	< 250	9.6	--	< 1.0	**18**	**14**	22	1.3	< 1.0
	12/19/01 [5]	4.95	7.08	--	--	--	--	--	--	--	--	--	--
	5/3/2002 [8]	6.12	5.91	**5,300**	450	--	--	--	--	--	--	--	--

Table 3: Groundwater Analytical and Elevation Data - Light-Range Petroleum Hydrocarbons and MTBE - 1275 Embarcadero, Oakland, CA

Sample ID *TOC* (ft)	Date Sampled	Groundwater Elevation (ft [1])	Depth to Water (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
						µg/L			
MW-3	10/12/01	5.89	6.60	--	--	--	--	--	--
12.49	10/19/01 [5]	5.84	6.65	290	2.0	6.6	0 54	1.2	--
	12/05/01 [2 5]	6 69	5.8	310	0.72	2.2	< 0.5	< 0.5	< 5.0
	12/05/01 [3.5]	5.54	6.95	320	0.84	2.6	< 0.5	0.76	< 5 0
	12/19/01 [4]	6.10	6.39	--	--	--	--	--	--
	05/03/02	7.29	5.20	280	0.74	0.87	< 0.5	0.76	< 5.0
	6/10/2002 [7]	7.44	5.05	220	< 0.5	1	< 0.5	< 0.5	< 5.0
MW-4	10/12/01	4.98	8.15	--	--	--	--	--	--
13.13	10/19/01	4.91	8.22	**44,000**	**1,900**	270	**1,500**	**3,300**	--
	12/05/01 [2]	5.61	7.52	**13,000**	**120**	28	170	**380**	< 10
	12/05/01 [3]	5.08	8.05	**20,000**	**420**	78	390	**870**	< 20
	12/19/01 [4]	5.09	8.04	--	--	--	--	--	--
	05/03/02	6.93	6.20	**19,000**	**1,500**	240	**730**	**1,400**	<1,000
	6/10/2002 [7]	7.15	5.98	**28,000**	**1,700**	230	**930**	**2,100**	<500
MW-4a	12/03/02	Not yet surveyed	5.90	< 50	5.7 [8]	< 1 0 [8]	< 0.5 [8]	0.58 [8]	< 0.5 [8]
MW-5	05/03/02	5.50	4.69	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
10.19	6/10/2002 [7]	5.58	4.61	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	12/03/02	5.22	4.97	< 50	< 0.5 [8]	< 1 0 [8]	< 0.5 [8]	< 0.5 [8]	< 0.5 [8]
Trip Blank				--	--	--	--	--	--
TB	12/05/01	--	--	< 50	< 0.5	< 0.5	< 0.5	< 0 5	< 5.0
				--	--	--	--	--	--
Groundwater Screening Values[6]									
Indoor Air Impacts				--	84	76,000	170,000 sol	150,000	290000
Aquatic Life Protection				3,700 [a]	700 [b]	5,000 [b]	430 [c]	13 [d]	8,000 [c]

Table 4: Groundwater Analytical and Elevation Data - Heavy-Range Petroleum Hydrocarbons, SVOCs and PAHs
1275 Embarcadero, Oakland, CA

Sample ID *TOC* *(ft)*	Date Sampled	Groundwater Elevation (ft [1])	Depth to Water (ft)	TPHd	TPHmo	Acenaphthalene	bis(2-ethylhexyl) phthalate	Fluoranthene	1 - methyl-naphthalene	2 - methyl naphthalene	Naphthalene	Phenanthrene	Pyrene
				µg/L									
MW-2	10/12/01	5.71	5.75	--	--	--	--	--	--	--	--	--	--
11.46	10/19/01	5.52	5.94	210	460	< 10	< 10	< 10	--	< 10	< 10	< 10	< 10
	12/5/01 [2]	6.11	5.35	150	560	< 0.5	--	< 0.25	< 1.0	< 1.0	< 0.25	< 0.25	< 0.25
	12/05/01 [3,4]	5.66	5.80	75	270	< 0.5	--	< 0.25	< 1.0	< 1.0	< 0.25	< 0.25	< 0.25
	12/19/01 [5]	5.65	5.81	--	--	--	--	--	--	--	--	--	--
	5/3/2002 [8]	6.46	5 00	440	440	--	--	--	--	--	--	--	--
	6/10/2002 [9]	6.57	4.89	220	370	<10*	--	<10*	--	--	<10*	<50*	<10*
MW-3	10/12/01	5.89	6.60	--	--	--	--	--	--	--	--	--	--
12.49	10/19/01 [6]	5.84	6.65	**1,600**	**1,300**	< 25	< 25	< 25	--	**670**	420	< 25	< 25
	12/05/01 [2,6]	6.69	5.80	480	480	< 0.5	--	< 0.25	< 1.0	< 1.0	< 0.25	< 0.25	< 0.25
	12/05/01 [3,6]	5.54	6.95	530	550	< 0.5	--	< 0.25	< 1.0	< 1.0	< 0.25	< 0.25	0.31
	12/19/01 [5]	6.10	6.39	--	--	--	--	--	--	--	--	--	--
	5/3/2002 [8]	7.29	5.2	**770**	430	--	--	--	--	--	--	--	--
	6/10/2002 [9]	7.44	5.05	390	470	<10*	--	<10*	--	--	<10*	<50*	<10*
MW-4	10/12/01	4.98	8.15	--	--	--	--	--	--	--	--	--	--
13.13	10/19/01	4.91	8.22	**33,000**	**900**	< 50	< 50	< 50	--	< 50	< 50	< 50	< 50
	12/05/01 [2]	5.61	7.52	**6,400**	430	24	--	< 10	**99**	**190**	60	**18**	< 10
	12/05/01 [3]	5.08	8.05	**5,400**	450	21	--	< 10	**100**	**180**	96	**12**	< 10
	12/19/01 [5]	5.09	8.04	--	--	--	--	--	--	--	--	--	--
	5/3/2002 [8]	6.93	6.20	**3,600**	300	--	--	--	--	--	--	--	--
	6/10/2002 [9]	7.15	5.98	**4,500**	<250	<50*	--	<50*	--	--	250*	<250*	0.12*
MW-4a	12/3/2002	Not yet surveyed	5.90	<50	<250	<0.5*	--	<0.062*	<1.0*	<1.0*	<0.2*	<0.05*	<50*
MW-5	5/3/2002 [8]	5.50	4.69	74	<250	--	--	--	--	--	--	--	--
10.19	6/10/2002 [9]	5.58	4.61	110	330	<10*	--	<10*	--	--	<10*	<50*	<10*
	12/03/02	5.22	4.97	<50	<250	<0.5*	--	0 24*	<1.0*	<1.0*	<0.2*	<0.05*	1.0*

Table 4: Groundwater Analytical and Elevation Data - Heavy-Range Petroleum Hydrocarbons, SVOCs and PAHs
1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	Groundwater Elevation	Depth to Water	TPHd	TPHmo	Acenaphthalene	bis(2-ethylhexyl) phthalate	Fluoranthene	1 - methyl-naphthalene	2 - methyl naphthalene	Naphthalene	Phenanthrene	Pyrene
TOC (ft)		(ft [1])	(ft)	µg/L									
Groundwater Screening Values [7]													
Indoor Air Impacts				--	--	--	--	--	26,000 sol	26,000 sol	9,200	--	135 sol
Aquatic Life Protection				640 [a]	640 [a]	310 [g]	32 [b]	11 [c]	2.1 [d]	2.1 [d]	2,350 [e]	4.6 [f]	300 [e]

Abbreviations and Methods:

ft = feet

µg/L = micrograms per liter

-- = not available, not analyzed, or does not apply

msl = mean sea level

TOC Elev (ft) = top of casing elevation in feet (Port of Oakland datum)

TPHd analyses with silica gel clean-up prior to extraction unless otherwise noted

TPHmo = total petroleum hydrocarbons as motor oil by EPA method 8015

SVOC = semi-volatile organic compound analyses performed by EPA Method 8270 (modified 8100) and 3550 unless otherwise noted

PAH = polynuclear aromatic hydrocarbon analyses performed by EPA Method 8270D

TPHd = total petroleum hydrocarbons as diesel by EPA method 8015, and 3550 or 3510

Only those compounds above laboratory reporting limits are shown

Depth to water in monitoring wells is ft below TOC.

sol = solubility threshold

Notes:

[1] Elevation in feet, Port of Oakland datum

[2] Wells gauged between 6:00 am and 6:30 am on 12/5 near lower high tide.

[3] Wells gauged between 11.40 am and 12:00 pm on 12/5 near higher high tide.

[4] SVOC extraction performed past standard 7day hold time per SW-846 Table 2-36 Revision 3, 1

[5] Wells gauged between 9:00 pm and 9:15 pm on 12/19 at lower low tide.

[6] Sample was collected pre-purge

[7] Goundwater screening values from RWQCB's (2000) Table F-2, F-4a, b, and c.

[8] Sample was analyzed without silica gel clean-up.

[9] Depth to water measurement collected on July 2, 2002.

* PAH analysis

Bolded values indicate exceedance of groundwater screening values

[a] RWQCB Saltwater and Freshest Water Criteria

[b] USEPA Freshwater Chronic Ecotoxicity Criteria

[c] USEPA Saltwater Chronic Ecotoxicity Criteria

[d] USDOE Freshwater Chronic Preliminary Remedial Goal

[e] USEPA Saltwater Acute Lowest Observable Effect Level

[f] USEPA Saltwater Criterion for Continuous Concentration

[g] Ontario Ministry of Environment and Energy Drinking Water Screening Level

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Table 1: Groundwater Analytical Data - Light-Range Petroleum Hydrocarbons and MTBE - 1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
		← µg/L →					
TW-1	11/22/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-2	11/22/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-3	11/22/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
TW-4	11/22/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
MW-2	06/10/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
MW-3	06/10/02	220	< 0.5	1	< 0.5	< 0.5	< 5.0
MW-4	06/10/02	28,000	1,700	230	930	2,100	<500
MW-4a	12/03/02	< 50	5.7	< 1.0	< 0.5	0.58	< 0.5
	02/20/03	< 50	1.6	<0.5	< 0.5	< 0.5	< 5 0
	05/14/03	**<50**	**0.58**	**<0.5**	**<0.5**	**<0.5**	**<5.0**
MW-5	06/10/02	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	12/03/02	< 50	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5
	02/20/03	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	05/14/03	**< 50**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**< 5.0**

Abbreviations and Methods:

NOTE: 12/03/02 benzene, toluene, ethylbenzene, xylenes, and methyl tertiary butyl ether by EPA Method 8260

All other benzene, toluene, ethylbenzene, xylenes, and methyl tertiary butyl ether by EPA Method 8020

TPHg = total petroleum hydrocarbons as gasoline by EPA Methods modified 8015, 5030, and 8020 or 602

µg/L = micrograms per liter

Table 2: Groundwater Analytical Data - Heavy-Range Petroleum Hydrocarbons and PAHs
1275 Embarcadero, Oakland, CA

Sample ID	Date Sampled	TPHd (µg/L)	TPHmo (µg/L)	Acenaphthalene (µg/L)	Fluoranthene (µg/L)	1 - methyl-naphthalene (µg/L)	2 - methyl naphthalene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)
TW-1	11/22/02	78	470	--	--	--	--	--	--	--
TW-2	11/22/02	< 50	< 250	--	--	--	--	--	--	--
TW-3	11/22/02	120	350	--	--	--	--	--	--	--
TW-4	11/22/02	< 50	< 250	--	--	--	--	--	--	--
MW-2	06/10/02	220	370	<10*	<10*	--	--	<10*	<50*	<10*
MW-3	06/10/02	390	470	<10*	<10*	--	--	<10*	<50*	<10*
MW-4	06/10/02	4,500	<250	<50*	<50*	--	--	250*	<250*	0.12*
MW-4a	12/03/02	<50	<250	<0.5*	<0.062*	<1.0*	<1.0*	<0.2*	<0.05*	<50*
	02/20/03	<50	<250	<10*	<10*	<10*	<10*	<10*	<10*	<10*
	05/14/03	**59**	**<250**	**<10***	**<10***	**<10***	**<10***	**<10***	**<10***	**0.23***
MW-5	06/10/02	110	330	<10*	<10*	--	--	<10*	<50*	<10*
	12/03/02	<50	<250	<0.5*	0.24*	<1.0*	<1.0*	<0.2*	<0.05*	1.0*
	02/20/03	<50	<250	<10*	<10*	<10*	<10*	<10*	<10*	<10*
	05/14/03	**<50**	**<250**	**<10***	**<10***	**<10***	**<10***	**<10***	**<10***	**0.32***

Abbreviations and Methods:

ft = feet

µg/L = micrograms per liter

-- = not available, not analyzed, or does not apply

TPHd = total petroleum hydrocarbons as diesel by EPA method 8015, and 3550 or 3510

TPHmo = total petroleum hydrocarbons as motor oil by EPA method 8015

PAH = polynuclear aromatic hydrocarbon analyses performed by EPA Method 8270D

Notes:

* PAH analysis

TABLES

APPENDICES

BASELINE

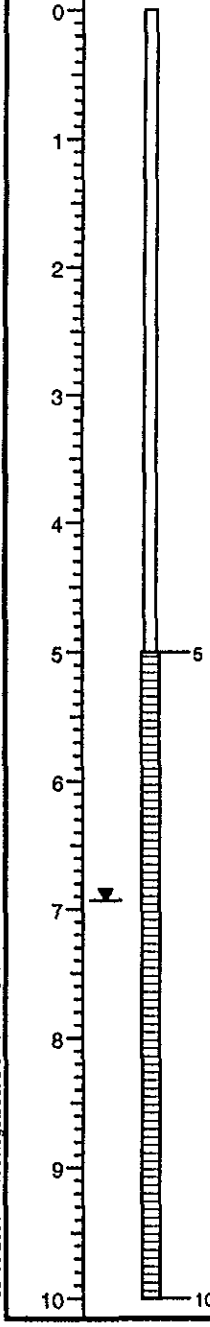
DRILL LOG NO.: SB-1

5900 Hollis Street, Suite D
Emeryville, California 94608
(510) 420-8686 voice
(510) 420-1707 fax

Location	: Embarcadero Cove	Boring no	: SB-1
Driller	: Precision Sampling	Project no.	: 98379-30
Method	: Direct push	Date	: 5/1/01
Logger	: WKS	Casing size	: 1-inch
Datum	: N/A	Bore size	: 4-inch

Water Levels
▼ Water level observed during drilling
▽ Water level measured

Hydropunch:



Depth in feet	Samples	USCS	GRAPHIC	PID (ppm)	DESCRIPTION	NOT
0					Asphalt cover 4 inches	
1	X	GW		0.2	Yellowish brown GRAVEL with sand, 1/3- to 3/4-inch diameter subangular clasts, fine grained sand, moist (Baserock)	
2		SP			Very dark gray to gray SAND, some gravel, fine grained, moist (Fill)	Slight petroleum c
3	X			154	Decrease in gravel, some clay	
4						
5		CH		210	Greenish gray gravelly CLAY, 1/3- to 2-inch diameter angular clasts, high, wet (~~Bay Mud~~ Fill)	Strong petroleum diesel-gas
6						
7						
8		CH		416	Light greenish gray silty CLAY, high plasticity, large lenses sand lenses 8.5 and 9 feet few inches thick, shell fragments (Bay Mud)	Very strong petrol
9						NTU 114 of water Product seen on F when pulled
10					Total depth 10.0 feet	Grouted hole to su neat cement

05-16-2001 f:\Baselogs\98379-30\SB-1.BOR

ATTACHMENT 7

BASELINE

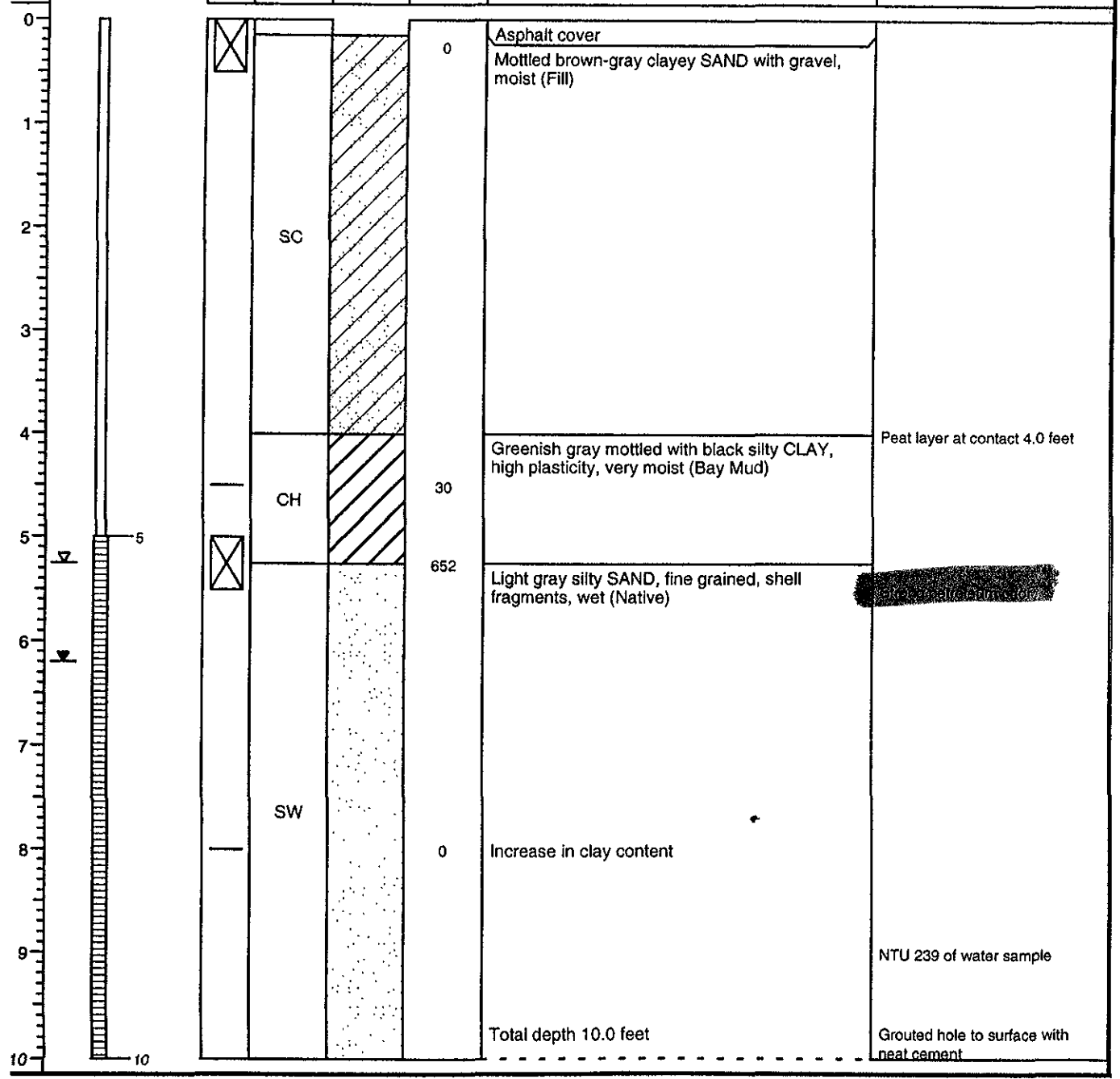
DRILL LOG NO.: SB-1A

(Page 1 of 1)

5900 Hollis Street, Suite D
Emeryville, California 94608
(510) 420-8686 voice
(510) 420-1707 fax

Location	: Embarcadero Cove	Boring no.	: SB-1A
Driller	: Precision Sampling	Project no.	: 98379-30
Method	: Direct push	Date	: 5/2/01
Logger	: WKS	Casing size	: 1-inch
Datum	: N/A	Bore size	: 4-inch

Water Levels
▼ Water level observed during drilling
▽ Water level measured



BASELINE

DRILL LOG NO.: SB-2

(Page 1 of 1)

5900 Hollis Street, Suite D
Emeryville, California 94608
(510) 420-8686 voice
(510) 420-1707 fax

Location	: Embarcadero Cove	Boring no.	: SB-2
Driller	: Precision Sampling	Project no.	: 98379-30
Method	: Direct push	Date	: 5/1/01
Logger	: WKS	Casing size	: 1-inch
Datum	: N/A	Bore size	: 4-inch

Water Levels
▼ Water level observed during drilling
▽ Water level measured

Hydropunch:

Depth in feet	Samples	USCS	GRAPHIC	PID (ppm)	DESCRIPTION	NOTES
0					Asphalt cover	
		GW			Yellowish brown GRAVEL with sand, 1/3- to 1-inch diameter angular clasts, moist (Baserock)	First attempt hit concrete at 2.0 moved 5.0 feet east
1	X	SW		0	Reddish brown SAND with gravel, trace of clay, 1/3- to 1 1/2-inch diameter subangular to angular clasts, fine to very fine grained, moist (Fill)	
2					Brown SAND, fine grained, rootlets, moist (Fill)	
3		SP			Increase in gravel to sand with gravel, 1/3- to 1 1/2-inch diameter subangular to angular clasts at 3.0 feet	No recovery
4	X			0		
5		CH			Greenish gray CLAY, trace of gravel, shell fragments (Bay Mud?) (not in place?)	
6						
7		SW		0.2	Black SAND with trace gravel, 1/3- to 1/2-inch diameter well-rounded clasts, medium to coarse grained (Bay Mud?)	Slight petroleum odor
8		CH			Pale brown silty CLAY, high plasticity, wet (Bay Mud)	
9		SP			Lenes of sand, coarse grained at 8.5-9.25 feet, rounded to well-rounded grains	
		CH				
		SP				
10		CH			Total depth 10.0 feet	NTU 640 of water sample Grouted hole to surface with neat cement

5 — 10

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BASELINE

DRILL LOG NO.: SB-3

(Page 1 of 1)

5900 Hollis Street, Suite D
Emeryville, California 94608
(510) 420-8686 voice
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Location	: Embarcadero Cove	Boring no.	: SB-3
Driller	: Precision Sampling	Project no.	: 98379-30
Method	: Direct push	Date	: 5/1/01
Logger	: WKS	Casing size	: 1-inch
Datum	: N/A	Bore size	: 4-inch

Water Levels
▼ Water level observed during drilling
▽ Water level measured

Hydropunch:

Depth in feet	Samples	USCS	GRAPHIC	PID (ppm)	DESCRIPTION	NOTES
0		CL			Brown silty CLAY with sand, medium plasticity, abundant rootlets, dry (Fill)	
1	X	SW/ML		0	Brown silty SAND-sandy SILT, very fine grained concrene grained, dry (Fill)	
2		GC			Yellowish brown GRAVEL with silt and sand, up to 2-inch diameter angular to subangular clasts (Fill)	
3	X	GC/CL		0	Brown mottled with greenish gray clayey GRAVEL-gravelly CLAY, 1/3- to 1 1/2-inch diameter subangular to angular clasts, moderate plasticity, brick pieces, very moist (Fill)	
4						
5 ▼	5					
6		CL/CH			Greenish gray to black silty CLAY with gravel, 1/3- to 3/4-inch diameter subangular clasts, moderate to high plasticity, brick pieces (Fill)	
7						
8					Abundant plant pieces at 8 feet	
9						
10					Total depth 10.0 feet	NTU 240 of water sample Grouted hole to surface with neat cement

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Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
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Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Port of Oakland	**BORING/WELL NAME**	SB-A
JOB/SITE NAME	Embarcadero Cove	**DRILLING STARTED**	29-Aug-01
LOCATION	1275 Embarcadero, Oakland, CA	**DRILLING COMPLETED**	30-Aug-01
PROJECT NUMBER	458-1705	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	K. Cejka	**DEPTH TO WATER (First Encountered)**	8.0 ft (30-Aug-01) ▽
REVIEWED BY	R. Schultz, RG# 7012	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 3 ft bgs; located 66 ft WNW of eastern planter, 40 ft SSW of northern planter		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	Portland Type I/II Cement
							FILL: Sandy fill; greyish brown; dry; 20% silt, 80% fine grained sand; very high estimated permeability		
							CONCRETE	2.0	
							ASPHALT	2.5	
							CONCRETE	2.7	
3		SB-A- 3.5					**FILL**: Silty gravelly fill; light brown; 10% clay, 30% silt, 60% fine to coarse grained gravel; high estimated permeability	3.0	
					CL		**Silty CLAY** (CL): Brown; dry; 60% clay, 25% silt, 15% sand; medium plasticity; very low estimated permeability	4.0	
				5			**Sandy CLAY** (CH): Grey; damp; 65% clay, 30% sand, 5% fine grained gravel; high plasticity; very low estimated permeability	5.0	
					CH				
4		SB-A- 7.5					@ 8 ft: Brown; wet; 70% clay, 5% silt, 25% sand ▽		
6		SB-A- 9.5			CL		**Silty CLAY** (CL): Grey; wet; 65% clay, 35% silt; medium plasticity; very low estimated permeability; shell fragments	9.0	
				10				10.0	Bottom of Boring @ 10 ft

BORING/WELL LOG

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IT NAME	Port of Oakland	BORING/WELL NAME	SB-B
ITE NAME	Embarcadero Cove	DRILLING STARTED	29-Aug-01
TION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	30-Aug-01
ECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	NA
.ER	Vironex	GROUND SURFACE ELEVATION	Not Surveyed
.ING METHOD	Hydraulic push	TOP OF CASING ELEVATION	NA
NG DIAMETER	2"	SCREENED INTERVAL	NA
GED BY	K. Cejka	DEPTH TO WATER (First Encountered)	7.0 ft (30-Aug-01) ▽
EWED BY	R. Schultz, RG# 7012	DEPTH TO WATER (Static)	NA ▼

ARKS: Hand augered to 3.5 ft bgs; located 102 ft WNW of eatern planter, 40 ft SSW of northern planter

BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
						ASPHALT	0.5	Portland Type I/II Cement
						FILL: Sandy fill; grey; dry; 20% silt, 80% fine grained sand; very high estimated permeability; cobble	2.0	
						CONCRETE	2.5	
						ASPHALT	2.7	
						CONCRETE	3.0	
	SB-B- 3.5					**FILL**: Silty gravelly fill; brown; 15% clay, 20% silt, 5% sand, 60% fine to coarse grained gravel; low plasticity, medium estimated permeability		
			5				5.5	
				SM		**Silty SAND** (SM): Grey; damp; 40% silt, 60% fine grained sand; high estimated permeability		
	SB-B- 6.5						7.0 ▽	
				CH		**Silty CLAY** (CH): Grey; wet; 60% clay, 40% silt; medium plasticity; low estimated permeabilitiy		
			10					
	SB-B- 10.5						11.0	Bottom of Boring @ 11 ft

BORING/WELL LOG

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NT NAME	Port of Oakland	BORING/WELL NAME	SB-C
SITE NAME	Embarcadero Cove	DRILLING STARTED	29-Aug-01
ATION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	29-Aug-01
JECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	NA
LER	Vironex	GROUND SURFACE ELEVATION	Not Surveyed
LING METHOD	Hand auger	TOP OF CASING ELEVATION	NA
ING DIAMETER	4"	SCREENED INTERVAL	NA
GED BY	K. Cejka	DEPTH TO WATER (First Encountered)	NA ▽
IEWED BY	R. Schultz, RG# 7012	DEPTH TO WATER (Static)	NA ▼

ARKS: Hand augered to 4 ft bgs; 143 ft WNW of eastern planter, 36 ft SSW of northern planter

BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
						ASPHALT	0.5	
						FILL: Sandy fill; grey; dry; 10% silt, 90% fine grained sand; very high estimated permeability	2.0	
						CONCRETE	2.5	
						ASPHALT	2.7	
						CONCRETE	3.0	
						FILL: Gravel fill; Grey; 10% clay, 90% fine to coarse grained gravel; very high estimated permeability	4.0	Bottom of Boring @ 4 ft

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	BORING/WELL NAME	SB-D
JOB/SITE NAME	Embarcadero Cove	DRILLING STARTED	29-Aug-01
LOCATION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	30-Aug-01
PROJECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vironex	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hydraulic push	TOP OF CASING ELEVATION	NA
BORING DIAMETER	2"	SCREENED INTERVAL	NA
LOGGED BY	K. Cejka	DEPTH TO WATER (First Encountered)	6.5 ft (30-Aug-01) ▽
REVIEWED BY	R. Schultz, RG# 7012	DEPTH TO WATER (Static)	NA ▼
REMARKS	Hand augered to 3 ft bgs; located 20 ft WNW of eastern planter, 30 ft SSW of northern planter		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	Portland Type I/II Cement
							FILL: Gravelly sandy fill; brown; moist; 70% sand, 30% gravel; high estimated permeability	2.0	
							CONCRETE	2.5	
4		SB-D- 3.5					**FILL**: Silty gravelly fill; brownish black; moist; 5% clay, 20% silt, 75% fine to coarse grained gravel; high estimated permeability	5.0	
				5	CL		**Silty CLAY** (CL): Dark brown; damp; 65% clay, 35% silt; low plasticity; very low permeability ▽		
3		SB-D- 6.5						7.0	
					CH		**Clayey SILT** (CL): Grey; wet; 40% clay, 60% silt; medium plasticity; low estimated permeability		
				10					
2		SB-D- 10.5						11.0	Bottom of Boring @ 11 ft

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	**BORING/WELL NAME**	SB-E
JOB/SITE NAME	Embarcadero Cove	**DRILLING STARTED**	29-Aug-01
LOCATION	1275 Embarcadero, Oakland, CA	**DRILLING COMPLETED**	30-Aug-01
PROJECT NUMBER	458-1705	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	K. Cejka	**DEPTH TO WATER (First Encountered)**	6.0 ft (30-Aug-01) ▽
REVIEWED BY	R. Schultz, RG# 7012	**DEPTH TO WATER (Static)**	NA ▼
REMARKS	Hand augered to 3.5 ft bgs; 63 ft WNW of eastern planter, 12 ft SSW of northern planter		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
							FILL: Sandy fill; brown; damp; 10% silt, 90% fine grained sand; very high estimated permeability	2.0	
							CONCRETE: dyed	2.5	
							FILL: Sandy gravelly fill; brown; damp; 20% sand 80% fine to coarse gravel; very high estimated permeability		
14		SB-E- 3.5							◄ Portland Type I/II Cement
				5				5.0	
					SM		**Silty SAND** (SM): Brown; wet; 30% silt, 50% sand, 20% fine gravel; medium to high estimated permeability; shell fragments ▽		
356		SB-E- 6						6.5	
					CL		**Silty CLAY** (CL): Brown; wet; 60% clay, 40% silt; medium plasticity; low estimated permeability		
78		SB-E- 7.5						8.0	Bottom of Boring @ 8 ft

WELL LOG (PID) H:\PORTOF~1\EMBARC~1\GINT\EMBCOVE.GPJ DEFAULT.GDT 1/10/02

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	**BORING/WELL NAME**	SB-F
JOB/SITE NAME	Embarcadero Cove	**DRILLING STARTED**	29-Aug-01
LOCATION	1275 Embarcadero, Oakland, CA	**DRILLING COMPLETED**	30-Aug-01
PROJECT NUMBER	458-1705	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vironex	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hydraulic push	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	2"	**SCREENED INTERVAL**	NA
LOGGED BY	K. Cejka	**DEPTH TO WATER (First Encountered)**	6.5 ft (30-Aug-01) ▽
REVIEWED BY	R. Schultz, RG# 7012	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 3.5 ft bgs; located 90 ft WNW of eastern planter, 12 ft SSW of northern planter

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							ASPHALT	0.5	
							FILL: Sandy fill; grey; damp; 80% sand, 20%gravel; very high estimated permeability		
							CONCRETE: dyed	2.0	
							FILL: Clayey gravelly fill; brown; wet; 30% clay, 10% sand, 60% gravel; high estimated permeability	2.5	
9		SB-F- 3.5			GM		**Silty GRAVEL** (GM): Brown; damp; 10% clay, 30% silt, 60% gravel, very low estimated permeability	3.5	◄ Portland Type I/II Cement
				5				5.5	
6		SB-F- 5.5			CH		**CLAY** (CH): Black; damp; 90% clay, 10% silt; high plasticity; very low estimated permeability	6.0	
					SM		**Silty SAND** (SM): Grey; wet; 40% silt, 60% sand; high plasticity; high estimated permeability ▽		
5		SB-F- 7.5						8.0	Bottom of Boring @ 8 ft

WELL LOG (PID) H:\PORTOF~1\EMBARC~1\GINT\EMBCOVE.GPJ DEFAULT.GDT 1/10/02

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	BORING/WELL NAME	MW-1
JOB/SITE NAME	Embarcadero Cove	DRILLING STARTED	09-Oct-01
LOCATION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	09-Oct-01
PROJECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	12-Oct-01
DRILLER	V&W Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	8.83 ft above msl
BORING DIAMETER	8"	SCREENED INTERVAL	4 to 15 ft bgs
LOGGED BY	K. Cejka	DEPTH TO WATER (First Encountered)	8.6 ft (09-Oct-01)
REVIEWED BY	R. Schultz, RG# 7012	DEPTH TO WATER (Static)	7.15 ft (12-Oct-01)
REMARKS	Located in previous test pit area to 6 ft bgs; located 37.7 ft WNW of eastern planter, 22.5 ft SSW of northern planter		

PID (ppm)	BLOW COUNTS	SAMPLE ID	DEPTH (ft bgs)	U.S.C.S.	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
			0		**FILL**: Gravelly sandy fill; light brown; dry; 20% silt, 50% fine to coarse grained sand, 30% gravel; high estimated permeability	
39	2 2 2	MW-1-5.0	5		**Clayey SILT**(MH): Black to grey; damp; 20% clay, 80% silt; low to medium plasticity; low estimated permeability; shell fragments	5.0
316		MW-1-8.3			@ 8.0 ft: Grey; wet; medium plasticity; shell fragments	
			10	MH		
0	1 2 3				@ 13.5 ft: Light yellowish brown; wet; 10% clay, 85% silt, 5% fine grained sand; medium plasticity	
			15			15.0

WELL DIAGRAM

- Portland Type I/II Cement
- Bentonite Seal
- Monterey Sand #2/12
- 2"-diameter, 0.010" Slotted Schedule 40 PVC
- Bottom of Boring @ 15 ft

WELL LOG (PID) H:\PORTOF-1\EMBARC-1\GINT\ECOVEMW.GPJ DEFAULT.GDT 1/10/02

BORING/WELL LOG

Cambria Environmental Technology, Inc.
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Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

IT NAME	Port of Oakland	BORING/WELL NAME	MW-2
ITE NAME	Embarcadero Cove	DRILLING STARTED	08-Oct-01
TION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	09-Oct-01
ECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	12-Oct-01
ER	V&W Drilling	GROUND SURFACE ELEVATION	Not Surveyed
ING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	8.26 ft above msl
NG DIAMETER	8"	SCREENED INTERVAL	4 to 15 ft bgs
GED BY	K. Cejka	DEPTH TO WATER (First Encountered)	10.0 ft (09-Oct-01)
EWED BY	R. Schultz, RG# 7012	DEPTH TO WATER (Static)	5.75 ft (12-Oct-01)

ARKS: Hand augered to 4 ft bgs; located 28 ft WNW of eastern planter, 68 feet SSW of norther planter

BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
						ASPHALT	0.5	Portland Type I/II Cement
						FILL: Gravelly sandy fill; grey to brown; dry; 20% silt, 40% sand, 40% medium to coarse grained gravel; high estimated permeability	1.5	
						CONCRETE	2.4	Bentonite Seal
						FILL: Gravelly sandy fill; brown; dry; 20% silt, 50% sand, 30% gravel; high estimated permeability		Monterey Sand #2/12
							4.5	
3 3 4	MW-2-5.0		5			**Clayey SILT**(MH): Grey to brown; moist; 20% clay, 80% silt; low to medium plasticity; low estimated permeability ▼		
.6 1 3 5	MW-2-10.0		10	MH		@ 10.0 ft: Wet; shell fragments ▽		2"-diameter, 0.010" Slotted Schedule 40 PVC
			15	SM		**Silty SAND**(SM): Grey to brown; wet; 15% clay, 35% silt, 45% fine to coarse grained sand, 5% gravel; low to moderate estimated permeability; rust-colored staining	14.4 15.0	Bottom of Boring @ 15 ft

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	Embarcadero Cove	**DRILLING STARTED**	08-Oct-01
LOCATION	1275 Embarcadero, Oakland, CA	**DRILLING COMPLETED**	09-Oct-01
PROJECT NUMBER	458-1705	**WELL DEVELOPMENT DATE (YIELD)**	12-Oct-01
DRILLER	V&W Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	9.29 ft above msl
BORING DIAMETER	8"	**SCREENED INTERVAL**	4 to 13 ft bgs
LOGGED BY	K. Cejka	**DEPTH TO WATER (First Encountered)**	7.9 ft (09-Oct-01) ▽
REVIEWED BY	R. Schultz, RG# 7012	**DEPTH TO WATER (Static)**	6.60 ft (12-Oct-01) ▼

REMARKS Hand augered to 3.2 ft bgs; located 69 ft WNW of eastern planter, 44.5 ft SSW of northern planter

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							CONCRETE	0.5
							FILL: Sandy fill; brown; dry; 20% silt, 70% sand, 10% gravel; high estimated permeability	
								2.5
							CONCRETE	2.8
							ASPHALT	3.0
							CONCRETE	3.3
							FILL: Gravelly sandy fill; brown; dry; 20% silt, 50% sand, 30% gravel; high estimated permeability	
								5.0
0	2 3 5	MW-3-5.0		5			**Clayey SILT**(MH): Dark greenish grey; moist; 25% clay, 70% silt, 5% gravel; medium plasticity; very low estimated permeability; roots	
6	2 3 4	MW-3-6.5			MH		@ 8.5 ft: Dark yellowish brown; wet; 20% clay, 80% silt; low plasticity; roots	
				10			@ 11.0 ft: Greenish grey; wet; 20% clay, 70% silt, 10% fine grained sand; low estimated permeability; roots	
	1 1 1	MW-3-12.5						13.0

Note: Well cap dislodged from bottom. Surge block remains in well.

WELL DIAGRAM

- Portland Type I/II Cement
- Bentonite Seal
- Monterey Sand #3
- 2"-diam., 0.020" Slotted Schedule 40 PVC
- Bottom of Boring @ 13 ft

WELL LOG (PID) H:\PORTOF~1\EMBARC~1\GINT\ECOVEMW.GPJ DEFAULT GDT 1/10/02

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BORING/WELL LOG

T NAME	Port of Oakland	BORING/WELL NAME	MW-4
ITE NAME	Embarcadero Cove	DRILLING STARTED	08-Oct-01
TION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	09-Oct-01
ECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	12-Oct-01
ER	V&W Drilling	GROUND SURFACE ELEVATION	Not Surveyed
NG METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	9.93 ft above msl
G DIAMETER	8"	SCREENED INTERVAL	4 to 15 ft bgs
ED BY	K. Cejka	DEPTH TO WATER (First Encountered)	11.4 ft (09-Oct-01)
WED BY	R. Schultz, RG# 7012	DEPTH TO WATER (Static)	8.15 ft (12-Oct-01)
IKS	Hand augered to 4 ft bgs; located 18.7 ft WNW of entrance way, 3 ft NNW of northern planter		

BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
						FILL: Gravelly sandy fill; light brown; dry; 20% silt, 50% fine to coarse grained sand, 30% fine to coarse grained gravel; high estimated permeability		Portland Type I/II Cement
								Bentonite Seal
								Monterey Sand #3
2			5			@ 4.5 ft: Sandy silty fill; black; moist; 5% clay, 75% silt, 20% sand; medium plasticity	4.5	
3	MW-4-5.3			MH		**Clayey SILT**(MH): Grey; moist; 20% clay, 80% silt; medium plasticity; low estimated permeability	5.3	
4						**Silty SAND**(SM): Grey; wet; 45% silt, 55% fine grained sand; moderate estimated permeability	6.0	
				SM				
1			10					2"-diam., 0.020" Slotted Schedule 40 PVC
3				MH		**Clayey SILT**(MH): Grey; wet; 20% clay, 80% silt; medium plasticity; low estimated permeability	10.3	
5	MW-4-10.5						10.5	
2				SM		**Silty SAND**(SM): Grey; wet; 45% silt, 55% fine grained sand; moderate estimated permeability		
2							11.8	
3						**Clayey SILT**(MH): Grey; wet; 20% clay, 75% silt, 2% sand, 3% gravel; medium plasticity; low estimated permeability; roots		
4				MH		@ 13.0 ft: 20% clay, 80% silt		
4								
6			15				15.0	Bottom of Boring @ 15 ft

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	**BORING/WELL NAME**	MW-4a
JOB/SITE NAME	Embarcadero Cove	**DRILLING STARTED**	22-Nov-02
LOCATION	1275 Embarcadero, Oakland, CA	**DRILLING COMPLETED**	22-Nov-02
PROJECT NUMBER	458-1705	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Woodward Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	NA
BORING DIAMETER	8"	**SCREENED INTERVAL**	4 to 12 ft bgs
LOGGED BY	I. Young	**DEPTH TO WATER (First Encountered)**	6.9 ft (22-Nov-02) ▽
REVIEWED BY	R. Marinai, RG# 5479	**DEPTH TO WATER (Static)**	NA ▼

REMARKS Hand augered to 5 ft bgs; located in sidewalk approximately 22 ft north of driveway.

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
							CONCRETE	0.3	Portland Type I/II Cement
							FILL: Baserock/gravelly fill; high estimated permeability.		
							@ 1.0 ft: **Sandy Gravelly FILL**: Brown; dry; 20% silt, 50% medium to coarse grained sand, 30% coarse gravel.		Bentonite Seal
							@ 2.0 ft: **Baserock and Sandy Gravelly FILL**		
							@ 3.0 ft: **Clayey Silty FILL**: Brown; dry; 40% clay, 35% silt, 35% fine to medium grained sand; low estimated permeability.		Monterey Sand #2/12
							Silty CLAY (CL): Dark grey; stiff; dry; 60% clay, 40% silt; low plasticity; low estimated permeability.	4.0	
	3			5	CL		@ approximately 5.5 ft: **CLAY** (CL): Damp; 80% clay, 20% silt; moderate plasticity.		
	5								
	6								
	7	MW-4a-6.5					@ 6.9 ft: Wet. ▽		
	3						**Silty SAND** (SM): Greenish grey; loose; wet; 5% clay, 30% silt; 65% fine to medium grained sand; high estimated permeability.	7.0	
	3								
	4				SM				2"-diameter, 0.010" Slotted Schedule 40 PVC
	6								
	2								
	2						**Silty CLAY** (CL): Greenish grey; loose; wet; 70% clay, 30% silt; slight plasticity; low estimated permeability.	9.5	
	2	MW-4a-10.0		10					
	3				CL				
	2								
	3							12.0	Bottom of Boring @ 12 ft

WELL LOG (TPH-G) H:\PORTOF~1\EMBARC~1\GINT\ECOVEMW.GPJ DEFAULT.GDT 12/5/02

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BORING/WELL LOG

CLIENT NAME	Port of Oakland	BORING/WELL NAME	MW-5
JOB/SITE NAME	Embarcadero Cove	DRILLING STARTED	26-Apr-02
LOCATION	1275 Embarcadero, Oakland, CA	DRILLING COMPLETED	26-Apr-02
PROJECT NUMBER	458-1705	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	Not Surveyed
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	8"	SCREENED INTERVAL	4 to 12 ft bgs
LOGGED BY	I. Young	DEPTH TO WATER (First Encountered)	7.5 ft (26-Apr-02) ▽
REVIEWED BY	R. Marinai, RG# 5479	DEPTH TO WATER (Static)	NA ▼

REMARKS: Hand augered to 5 ft bgs; located in sidewalk approximately 9 ft south of driveway.

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
							CONCRETE	0.3
0.0							**FILL**: Baserock/gravelly fill; high estimated permeability. @ 0.5 ft: **Sandy Gravelly FILL**: Brown; dry; 15% silt, 65% medium to coarse grained sand, 20% coarse gravel; brick fragments present.	2.5
					CL		**Silty CLAY** (CL): Mottled light and dark brown; stiff; dry; 50% clay, 40% silt, 10% fine grained sand; low plasticity; low estimated permeability.	3.5
							Silty Sandy FILL: Dark brown; dry; 10% clay, 40% silt, 50% fine to medium grained sand; moderate estimated permeability.	4.0
				5	CL		**CLAY** (CL): Interbedded grey and black; stiff; dry; 80% clay, 20% silt; high plasticity; low estimated permeability.	5.5
0.0		MW-5-7.0			ML		**Clayey SILT** (ML): Grey; very loose; wet; 30% clay, 70% silt; slight plasticity; moderate estimated permeability. ▽	9.5
0.0		MW-5-10.0		10	CL		**Silty CLAY** (CL): Greenish grey; loose; wet; 70% clay, 30% silt; low plasticity; low estimated permeability; occasional thin sand lenses and shell fragments present.	12.0

WELL DIAGRAM