

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
Agency Director



1077 DCB

470-27th Street, Third Floor
Oakland, California 94612
(415)

April 9, 1986

Mr. Dale Bowyer
Regional Water Quality Control Board
1111 Jackson Street
Oakland, CA 94612

*BCase
Needs a w*
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
APR 14 1986

Dear Mr. Bowyer:

Referring to our earlier conversation regarding the Garrett Freight Lines, Emeryville Site at 64th Street and LaCoste in Emeryville, please find enclosed, the following documents:

1. Draft of soils contamination characterization and plans prepared by Earth Metric Incorporated.
2. Boring Logs
3. Site and boring location plan.

We are currently evaluating the Garrett Freight Lines, Emeryville Site, in light of reports submitted by Earth Metrics Incorporated and any other information available. We would appreciate it if you would evaluate the enclosed documents and correlate it with any other material available to you. Your input will be instrumental in developing the necessary plans for a remedial action. Thank you for your cooperation.

Very truly yours,

Rafat A. Shahid, Manager
Hazardous Materials Program

RAS:mn-c

Enclosures (3)

DEC 14 2005

DRAFT
SOILS CONTAMINATION CHARACTERIZATION PLAN
FOR
GARRETT FREIGHT LINES EMERYVILLE SITE
64TH STREET AND LACOSTE
EMERYVILLE, CALIFORNIA

Prepared For:
The Martin Company

March 14, 1986

Prepared By:
EARTH METRICS INCORPORATED
859 Cowan Road
Burlingame, California 94010
(415) 697-7103

Alameda County
DEC 27 2005

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1. EXECUTIVE SUMMARY

This report was prepared to document potential soils contamination conditions of the proposed office building site located in the northeast quadrant of 64th Street/Lacoste Street in Emeryville, California. Archival research and directed telephone inquiries were used to document historical site reclamation from the San Francisco Bay and historical uses of the site. Exploratory soils borings were made to determine the presence or absence of industrial wastes and heavy metals (lead, zinc, chromium, and iron) in site soils.

Generally, fill overlying the Bay Mud is encapsulated by asphaltic pavement and aggregate base. Archival research revealed that the site previously was used by the City of Emeryville, sometime during 1940 to 1960, as a municipal disposal site. Fill overlying the Bay Mud consists of a layer of mixed materials including clean fill, demolition spoils, and industrial waste materials, approximately six or seven feet in depth.

The subject site has been used as a truck terminal by Garrett Freight Lines since circa 1960. Redevelopment of the site with an office use is proposed by The Martin Company.

Soils contamination was of potential concern to The Martin Company, owing to known soils contamination on the adjacent "Emeryville Marketplace" site. The adjacent site was occupied until 1964 by PABCO/Fibreboard, a building materials and paint manufacturer. Directed inquiries to former PABCO/Fibreboard personnel indicate that the subject site may not have been used privately by PABCO/Fibreboard for systematic disposal of industrial wastes. Materials used by the City of Emeryville to fill the subject site, however, probably contain random industrial by products, as well as clean fill, as evidenced in the archival research and soils borings.

Eight soils borings were made at random site locations in 1985, using hollow stem augers. Boring logs revealed the presence of wood, brick, glass, metal, tar paper, and burnt materials, and also clayey soil, in the fill layer. Laboratory tests of the samples revealed relatively high lead, zinc, and iron levels in the fill layer above the original Bay Mud.

An action plan is recommended in Section 5 of this report to prevent human exposure to potentially toxic lead and zinc levels. The action plan addresses guidelines for disposal of excavated soils. "Excavated soils" means any soils, presently encapsulated by existing structures or asphalt pavement, that are disturbed (unencapsulated) during construction. Excavated soils that cannot be reencapsulated in place will be tested for toxicity and then will be placed in the holes left from underground storage tank removal, subject to their structural suitability as determined by a qualified soils engineer. Excess excavated soils that cannot be reencapsulated will be disposed in a suitable Class I, II or III land disposal site. If determined by testing to be hazardous, these excess excavated soils will be disposed in a Class I land disposal site. The nearest Class I site is located in Solano County near Benicia and is operated by IT Corporation. Disposal fees are \$150 per cubic yard and are in addition to the extractability testing fee and transportation fee. If determined not to be hazardous, excavated soils could be disposed in a Class III site. Other undisturbed soil is recommended to be left in place, encapsulated by asphaltic pavement in the proposed parking areas or by concrete in the built areas.

2. SITE HISTORY

2.1 EXISTING USE OF THE SITE

The subject site is located in the City of Emeryville west of Bay Street, east of Lacoste Street and Highway 80, north of 64th Street and south of 65th Street (see Figure 1).

The site is presently used as a truck terminal by Garrett Freight Lines. Three buildings exist on site. In addition, there are two fuel pump islands and eleven underground storage tanks. The site is nearly 100 percent paved with the exception of minor unpaved areas (e.g., ground cover along 64th Street). No obvious cracks in the pavement exist.

At the 64th Street boundary, the site is elevated approximately four feet above the grade of 64th Street pavement. The site slopes toward the north, with a high elevation of approximately 14.8 feet (MSL) at 64th Street to a low elevation of 10.8 feet (MSL) at 65th Street.

2.2 HISTORIC LAND RECLAMATION AND DEVELOPMENT

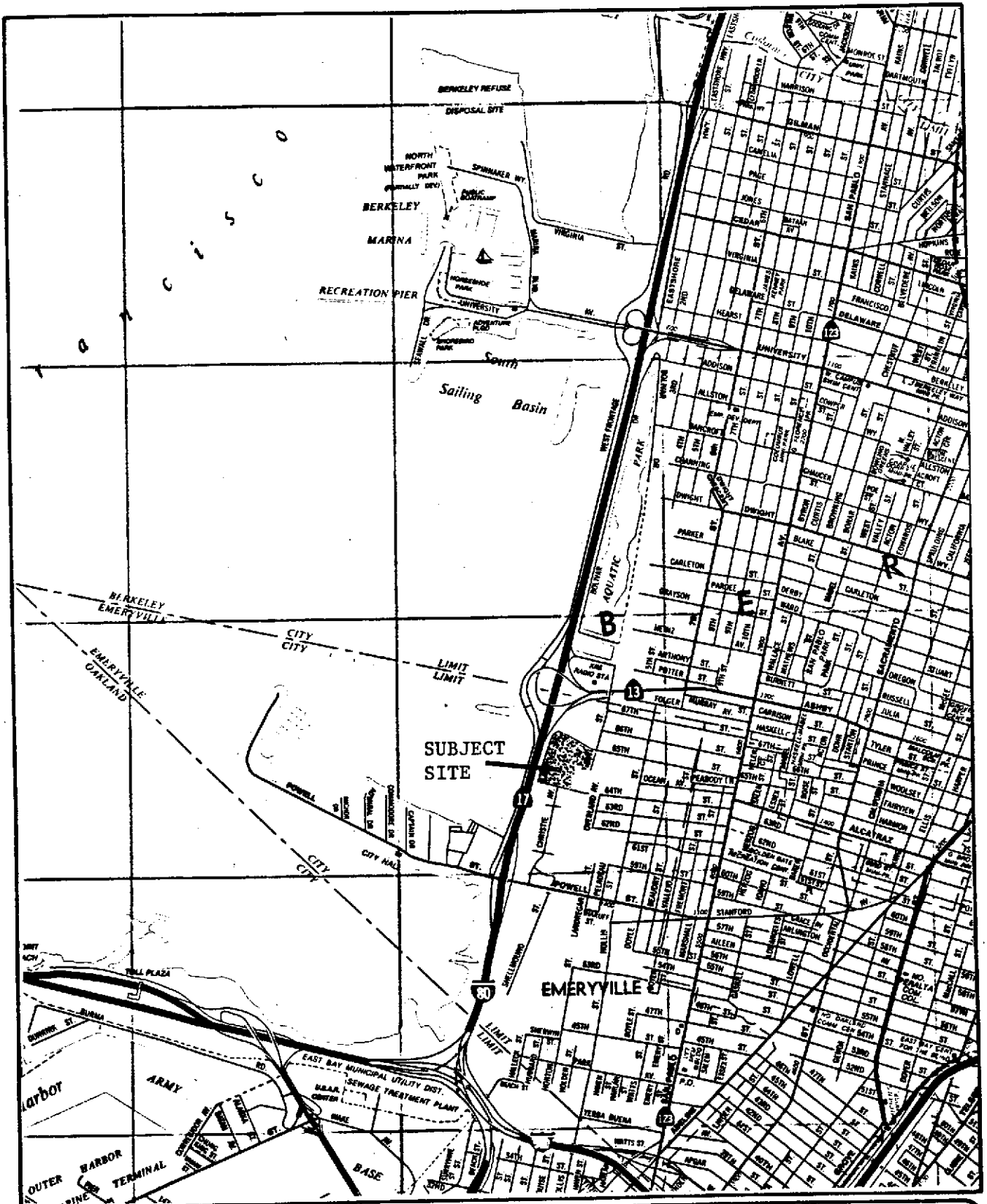
Table 1 summarizes the chronology of reclamation and development of the subject site and adjacent sites in Emeryville, California. Reclamation refers here to the creation of land protected from tidal flooding.

The subject site was in the tidal plain of the San Francisco Bay until construction of East Shore Highway in 1954 (Deasy, CALTRANS, 1986) created a levee protecting inland parcels. The subject site was filled by the City of Emeryville in the late 1950s. Fill materials probably included clayey/sandy clean fill and industrial wastes.

No records of previous site occupancy, prior to occupancy by Garrett Freight Lines, were discovered. Historic development of contiguous and adjacent parcels was researched to confirm presence or absence of previous development.

Adjacent and contiguous parcels were reclaimed from the effect of San Francisco Bay tidal flooding at much earlier dates. Since the late 1800s the Emeryville shoreline has been progressively extended baywards by imported fill. Approximately one third of the land area of the City of Emeryville presently consists of fill placed over bay mud. The composition of the fill is highly variable, and in general it appears to consist of imported clayey and/or sandy soils combined with construction and industrial waste materials (City of Emeryville, Emeryville Redevelopment Project Draft EIR, 1977). Figure 2 illustrates the shoreline circa 1915.

The parcel contiguous with the subject site, south of 64th Street, was leased/operated by the City of Emeryville as a municipal disposal site. This parcel, bounded by 64th Street on the north, East Shore Freeway on the west, SPRR on the east, and 63rd Street on the south, was filled during 1935 to 1937 (DOHS, Winter 1980). Later (circa 1957) Fibreboard (jointly owned by PABCO and Zellerbach) constructed resin, paint, and insulation manufacturing facilities on the contiguous parcel. All buildings except for the main 50,000 square foot building were demolished around 1964, to make way for a new industrial park. Demolition spoils could not have been disposed on the subject site which had already been occupied by Garrett Freight Lines by 1960.



SCALE
1" = 2666'

FIGURE 1. LOCATION OF THE SUBJECT SITE

TABLE 1. CHRONOLOGY OF RECLAMATION AND DEVELOPMENT OF THE SUBJECT SITE AND ADJACENT SITES IN EMERYVILLE, CALIFORNIA

Late 1800s:	Emeryville shoreline has been extended baywards by artificial fill over bay mud. The composition of the fill is highly variable imported clayey and/or sandy soils combined with construction spoils and industrial waste. (1)
1884:	The first of the Paraffine Companies, Inc. plants was started. (6)
1902 to 1904:	The Paraffine Companies, Inc. initiated the manufacture of roofing felt, roofing paper and linoleum. Asphalt was refined on the manufacturing plant property at the foot of Powell Street. The manufacturing site consisted of less than 30 acres. (2,3,4)
1915:	Map of Berkeley/Emeryville indicates bay shoreline immediately west of SPRR tracks. The subject site is in the San Francisco Bay tidal plain.
1920s:	The Paraffine Companies, Inc. changed its name to PABCO. (5)
1927:	Aerial view of PABCO indicates facilities on a site of approximately 30 acres. (4) The PABCO site does not overlap the subject property north of 64th Street, the subject property being underwater.
1929:	PABCO leased from the City of Emeryville a 400 foot wide strip of municipally owned tidelands in the San Francisco Bay to be used as a shipping lane/harbor. (7)
1932:	The PABCO property has expanded to encompass a land area of 30 acres. PABCO owned property also includes 140 acres in the San Francisco Bay, adjoining the 30 acres. (6)
1935 to 1937:	The site contiguous with the subject property, which is bounded by 64th Street on the north, 63rd Street on the south, East Shore Freeway on the west, and SPRR on the east, was filled by the City of Emeryville. (2)

(CONTINUED)

TABLE 1 (CONTINUED). CHRONOLOGY OF RECLAMATION AND DEVELOPMENT OF THE SUBJECT SITE AND ADJACENT SITES IN EMERYVILLE, CALIFORNIA

	<p>The fill material is presumed to be a combination of clean fill and industrial waste. (1) The subject site has not been reclaimed.</p> <p>Mr. Frank Thomas, who had worked for the City of Emeryville Public Works Department since the 1930s, verified use of the subject site and adjacent sites as municipal fill sites. (8)</p>
1957:	<p>PABCO sold its property to Fibreboard, a company owned jointly by PABCO and Zellerbach. (2) In addition to continuing the original manufacturing plants, Fibreboard added resin, paint, and insulation manufacturing plants. The above manufacturing plants were constructed on the filled site bounded by 64th Street on the north, 63rd Street on the south, East Shore Freeway on the west and SPRR tracks on the east.</p>
Late 1950s:	<p>The existing Garrett Truck Lines site (subject site) was filled by the City of Emeryville. (11)</p>
1960:	<p>The Garrett Freight Company building was constructed. (11,12)</p>
Mid 1960s:	<p>Fibreboard began to divest the former PABCO land holdings. (2)</p>
1964:	<p>Van Bokkelen-Cole Construction Company of Oakland purchased 27.6 acres of the former PABCO land holdings from Fibreboard. The 27.6 acres are bounded generally by Powell Street on the south, East Shore Freeway on the west, SPRR tracks on the east, and the Garrett Truck Lines building on the north. All buildings except for a 50,000 square foot building were demolished, to make way for a new industrial park. (9) <u>Note:</u> The Garrett Truck Lines property mentioned above is the subject property.</p>
1968:	<p>Consolidated Equity Companies of Beverly Hills, new owners of the 27.6 acres purchased from Van Bokkelen-Cole, attempted to recondition the main 50,000 square foot PABCO warehouse for use as a commercial complex. Eighty percent of the retail project had been completed when Consolidated Equity Companies went bankrupt in 1975. (2,10)</p>
1975:	<p>Equity Financial and Management Corporation of Chicago acquired the "Emeryville Market" 27.6 acre site on January 1, 1976. (10)</p>

(CONTINUED)

TABLE 1 (CONTINUED). CHRONOLOGY OF RECLAMATION AND DEVELOPMENT OF THE SUBJECT SITE AND ADJACENT SITES IN EMERYVILLE, CALIFORNIA

- (1) City of Emeryville, Emeryville Redevelopment Project Draft EIR, 1977 (Pages 16 and 17).
- (2) DOHS, Internal Memorandum on "The Marketplace", 5800 Shellmound Avenue (undated, circa Winter 1980).
- (3) Emeryville Herald, Thirty Third Anniversary Edition, December 6, 1929, Supplement (Page 14).
- (4) "Oakland Outlook", December 1927, Advertisement (Page 21).
- (5) California Magazine of the Pacific, December 1937, "It Started From 'Black Paraffine'" by Stuart O. Blythe (Pages 4 through 7, 32 and 33).
- (6) "Oakland Outlook", November 1932 (Page 2).
- (7) Oakland Tribune, June 15, 1929, "Tideland Lease Insures Port at Emeryville".
- (8) DOHS, Memo of Call, January 3, 1980 (DOHS personnel taking or making call: JEC).
- (9) Oakland Tribune, September 17, 1964, "Industrial Park for Emeryville".
- (10) Oakland Tribune, September 12, 1976, "Rebirth for Market" by Lon M. Carlston.
- (11) Earth Metrics Incorporated, Contact Report, February 21, 1986 (Earth Metrics personnel taking or making call: SH).
- (12) Alameda, County of, Assessor's Office, microfiche for APN49-1491-3-3 and APN49-1491-3-4.

Researched by: Earth Metrics Incorporated, 1986.

ASSESSOR'S MAP 49

Code Area Nos. 14-003

1492

Scale: 1" = 100'

(A) Record of Survey (R.S. Bk 5 Pg. 43)
(B) P.M. 5303 174/91

Drawn: 7-66 H.L. Revised: 6-2-78 P.B.
5-9-88 B.V.
6-6-88 P.B.

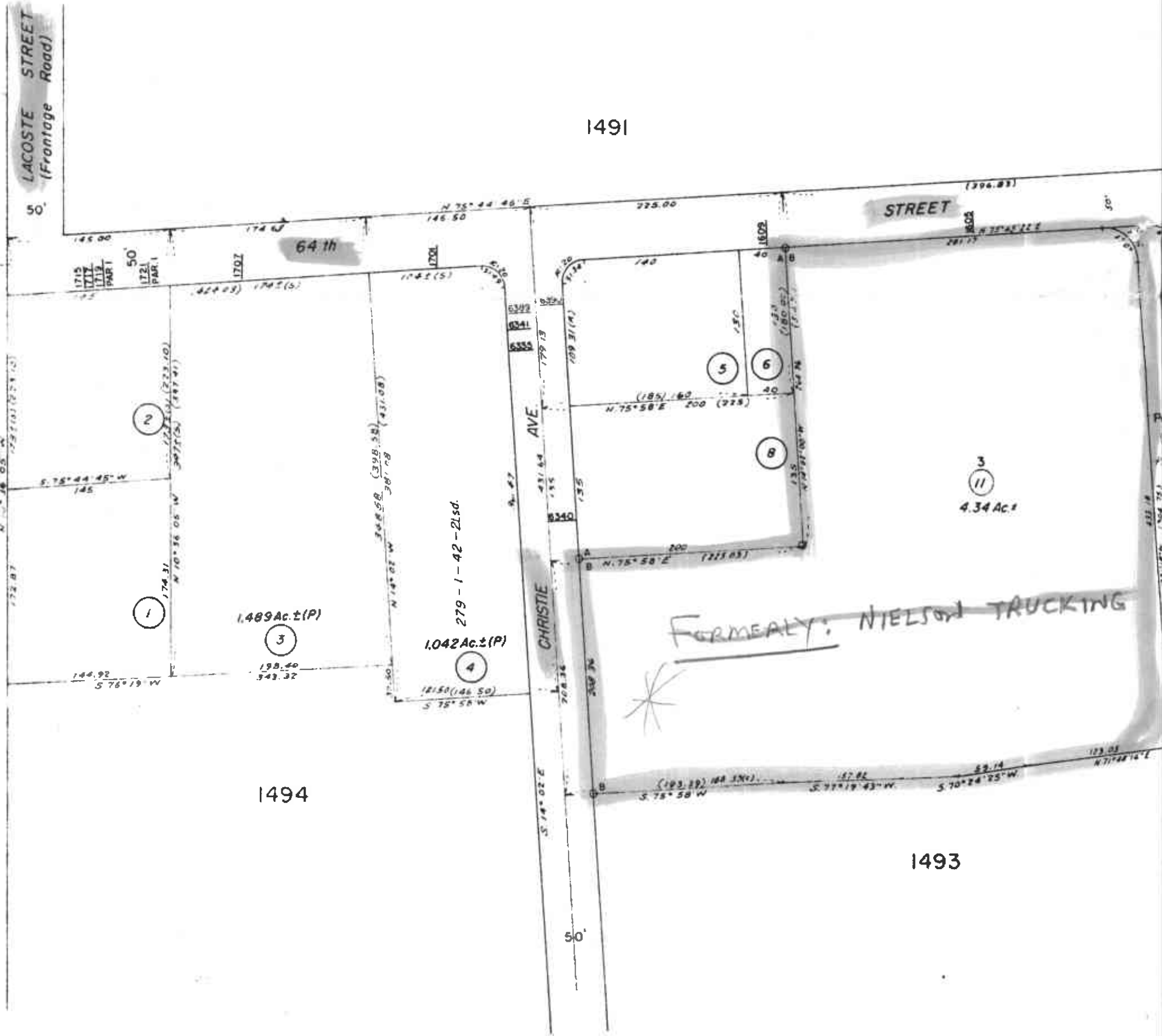
FREEWAY (R-89)

EASTSHORE

1491

1494

1493



ASSESSOR'S MAP 49

Code Area Nos. 14-003

1491

Scale: 1"=100'

Sale Map No. 11 - Salt Marsh & Tidelands (Case 1-9-2) (Portion Section 15, T. 1 S., R. 4 W.)
Map of the Ranchos of Vicente & Domingo Peralta (Por. Plots 42 & 54) (Bk. 17 Pg. 12)

P.M. 4664 159/16
P.M. 4947 165/96

- 10-3-84 AH
- 3-24-86 BV
- 5-1-87 BV
- 3-1-88 BV
- 6-6-88 PB

EASTSHORE

FREEWAY (R-89)

(Frontage Road)

LACOSTE

CHRISTIE AVE.

STREET

STREET

STREET

BAY

A
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2.29 Ac.±

2
8
2.52 Ac.±

1
7
2.82 Ac.±

Lot 11
1.40 Ac.± (P)

Lot 22
1.03 Ac.± (P)

1533
thru
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1492

1492

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14-006
14-003

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PM 4947
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PM 4664
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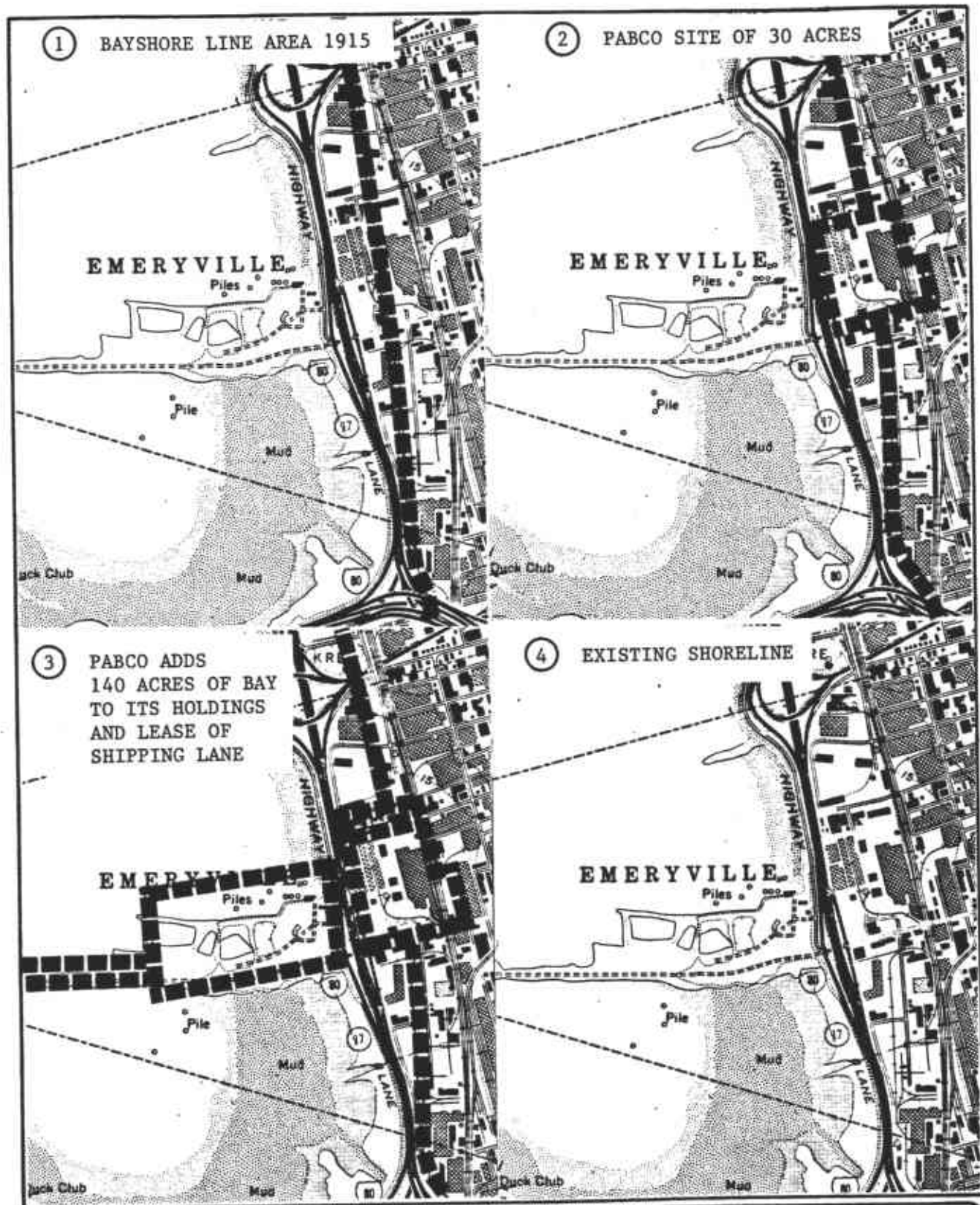
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earth metrics


SCALE
1" = 2000'

FIGURE 2. SEQUENCE OF RECLAMATION AND DEVELOPMENT IN EMERYVILLE, CALIFORNIA

No record of lease of the contiguous parcel from PABCO to the City of Emeryville, for use as a disposal site, was discovered during this research. An aerial view of the PABCO development in 1927 and information contained in the Oakland Tribune and "Oakland Outlook" indicate that the extent of PABCO land holdings from 1932 to 1964 probably encompassed all of the contiguous parcel consisting of approximately ten acres. Divestiture in 1964 transferred these ten acres and an additional 17.6 acres to Van Bokkelen-Cole Construction Company (Oakland Tribune, 9/17/64). These combined 27.6 acres are sometimes called the "Emeryville Market".

PABCO/Fibreboard was a building materials manufacturing concern at the foot of Powell Street, founded circa 1884. By 1927, it had expanded from a site of approximately three acres to a site of approximately 30 acres bounded by the San Francisco Bay on the west, Landregan Street and the SPRR on the east, 63rd Street on the north, and Powell Street on the south (refer to Figure 2). Much of the land west of the SPRR represents reclaimed land relative to the 1915 shoreline (refer to Figure 2). By 1929 PABCO/Fibreboard land holdings included the above 30 acres plus 140 acres in the San Francisco Bay (Emeryville Herald, 12/6/29). In addition, PABCO/Fibreboard leased from the City of Emeryville a 400 foot by 4,000 foot strip for use as a shipping lane/harbor (Oakland Tribune, 6/15/29).

2.3 EVIDENCE OF SYSTEMATIC DISPOSAL OF POTENTIALLY HAZARDOUS MATERIALS

Directed inquiries were made by Earth Metrics Incorporated with regard to PABCO/Fibreboard and potential systematic land disposal of raw materials and waste by products. Inquiries were made owing to the known historic presence of paint and resin manufacturing on land contiguous with the subject site, south of 64th Street. Findings were negative, meaning that if any land disposal of waste by products or finished products on the subject site have occurred, then the disposal was random disposal by the City of Emeryville of a variety of heterogeneous fill materials which may or may not have included materials used or made by PABCO/Fibreboard. Figure 3 summarizes the "chain" of inquiries made with regard to PABCO.

Municipal fill sites were operated by the City of Emeryville during the 1930s, 1940s, and 1950s. Figure 4 illustrates locations of municipal fill sites. Records of City of Emeryville municipal fill sites were obtained from DOHS. The fill sites were located in a strip of land located below the elevation of the tidal plain, between the East Shore Freeway and SPRR, north and south of the PABCO/Fibreboard site. Generally, the sites were used for disposal of clean fill, demolition spoils, and industrial wastes. Municipal solid waste may also have been disposed.

The subject site itself was identified by former Public Works Department personnel as a municipal fill site. However, the former personnel and additional investigation by Earth Metrics Incorporated revealed no evidence of systematic use of the site for disposal of potentially hazardous materials including paint, resins, roofing paper and raw materials related to PABCO/Fibreboard. Instead, the fill materials came from a variety of locations and varied in nature.



 <p>earth metrics</p>	 <p>SCALE 1" = 2000'</p>	<p>FIGURE 4. LOCATIONS OF MUNICIPAL FILL SITES IN EMERYVILLE, CALIFORNIA</p>
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3. SOILS DATA BASE

Table 2 and Figure 5 summarize field exploration and laboratory testing programs for the subject site. These programs were intended to assess site conditions with regard to soils composition and potential soils contamination.

3.1 SOILS COMPOSITION

Logs of the borings indicate the kind and depth of soils strata encountered during drilling on April 23, 1985 and October 25, 1985. The upper 1.5 to 2.0 feet of fill on the subject site consists of asphalt, aggregate base, and imported select fill. The underlying fill consists of a heterogeneous mixture of soil, metal, brick, glass, wood, tar paper, and slag. Some debris appears to have been burnt. The underlying Bay Mud consisting of soft silty clay and loose sand was encountered at a depth of approximately seven feet, relative to grade (Geomatrix, Project 1084A, 8/21/85).

The borings were drilled with hollow stem augers to depths of 11 feet or 36 feet. The drilling and sampling was performed by Datum Exploration, Inc. of Martinez, California and Geomatrix of San Francisco, California. Figure 5 illustrates the locations of soils borings on the subject site.

3.2 SOILS CONTAMINATION

Threshold limit concentrations for the metals lead, zinc, and chromium are set forth in Title 22, Division 4 of the California Administrative Code. Lead is potentially toxic if contacted or ingested. Table 3 summarizes the Title 22 criteria for metals.

Soils on site show evidence of contamination with lead and zinc but not chromium. At depths of 1.0 to 3.0 feet relative to grade, seven (7) of twelve (12) lead levels exceed the TTLC and three (3) of twelve (12) zinc levels exceed the TTLC. At depths of 3.0 to 6.0 feet relative to grade, eight (8) of eleven (11) lead levels exceed the TTLC and one (1) of eleven (11) zinc levels exceed the TTLC. At depths of deeper than 6.0 feet relative to grade, lead levels are generally in the potentially hazardous range (50 to 1000 mg/kg) and zinc levels are generally on the nonhazardous range (less than 2500 mg/kg).

TABLE 2. RESULTS OF EIGHT SOILS BORINGS AND LABORATORY TESTS OF SOILS FROM THE SUBJECT SITE

SOILS BORING CODE	APPROXIMATELY DEPTH (Feet Below Grade)	PARAMETER TESTED			
		LEAD (mg/kg)	ZINC (mg/kg)	CHROMIUM (mg/kg)	IRON (mg/kg)
A-1-3 (a)	1.5	51	55	34	N/A
B-1-2 (a)	2.25	4,400	4,800	100	N/A
C-1-2 (a)	2.25	17	77	77	N/A
D-1-4 (a)	0.75	5,000	5,700	86	N/A
E-1-3 (b)	1.5	690	17,000	N/A	140,000
E-1-2 (a)	2.25	4,800	2,800	N/A	N/A
F-1-3 (b)	1.5	30,000	480	N/A	13,000
F-1-2 (a)	2.25	4,000	1,800	N/A	N/A
G-1-4 (b)	0.75	<5	23	N/A	15,000
G-1-2 (b)	2.25	330	300	N/A	14,000
H-1-4 (a)	0.75	4,100	4,200	N/A	N/A
H-1-3 (b)	1.5	3,800	5,500	N/A	51,000
A-2-3 (a)	4.5	170	120	36	N/A
B-2-4 (a)	3.75	2,400	1,700	7	N/A
C-2-4 (a)	3.75	7,000	860	72	N/A
E-2-4 (b)	3.75	1,100	1,700	N/A	21,000
E-2-3 (a)	4.5	1,600	2,000	N/A	N/A
F-2-4 (b)	3.75	10	48	N/A	6,700
F-2-3 (a)	4.5	14	26	N/A	N/A
G-2-3 (b)	4.5	3,500	3,900	N/A	70,000
G-2-2 (a)	5.25	1,800	2,000	N/A	N/A
H-2-4 (b)	3.75	1,600	7,800	N/A	64,000
H-2-3 (a)	4.5	2,600	3,200	N/A	N/A
A-3-3 (a)	7.5	66	160	41	N/A
F-3-3 (b)	7.5	400	640	N/A	10,000
G-3-3 (b)	7.5	34	60	N/A	14,000
G-3-2 (a)	8.25	78	100	N/A	N/A
H-3-3 (a)	7.5	1,600	2,600	N/A	N/A
H-4-2 (b)	11.25	890	360	N/A	14,000

N/A Not Available

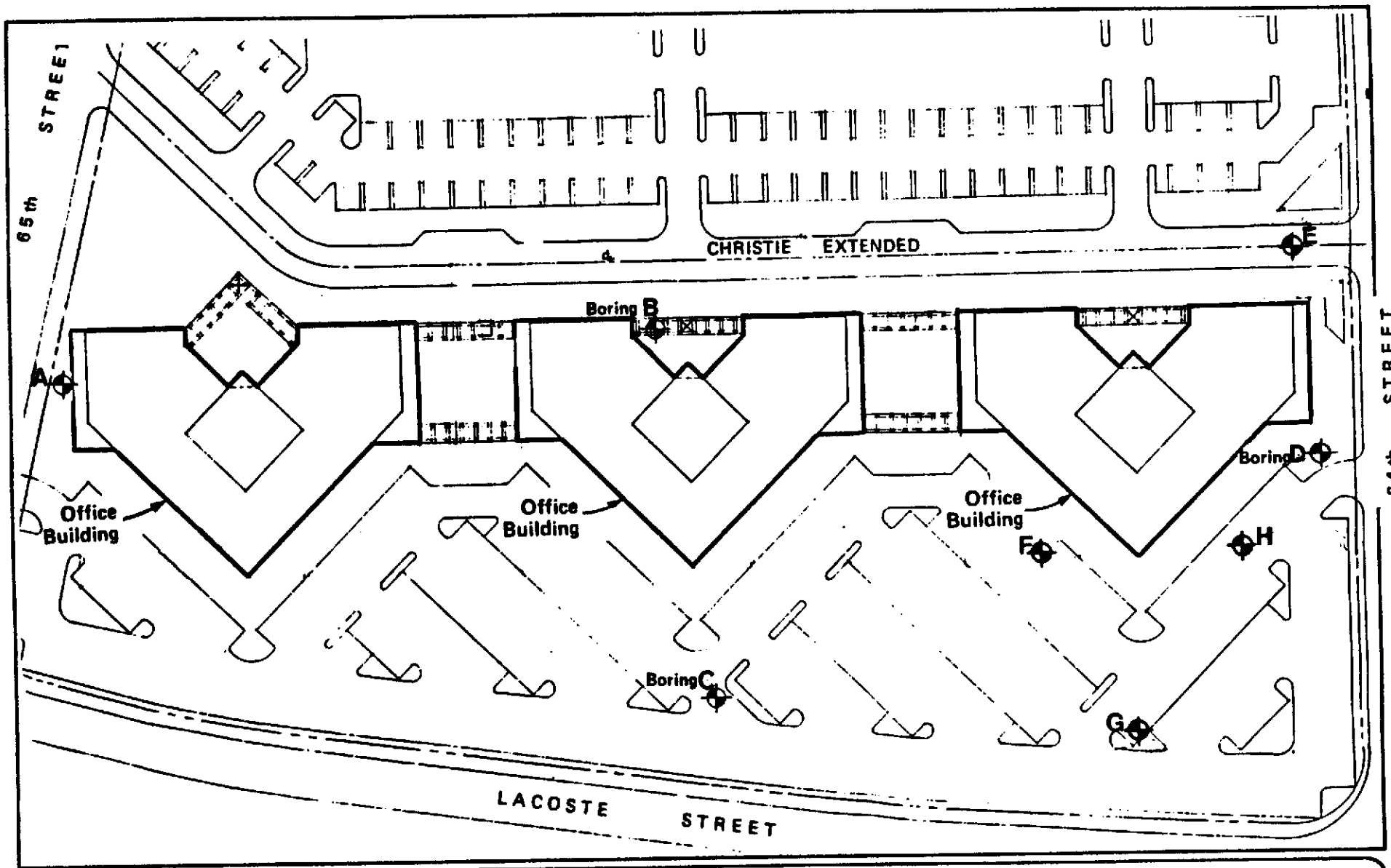
- Indicates an excess of the State of California Toxic Threshold Limit Concentration (TTLIC)

(a) Brown & Caldwell, 4/26/85.

(b) Environmental Research Group, 12/24/85.

Note: All samples were digested in Nitric Acid and Hydrogen Peroxide (EPA Method 3050) and subsequently analyzed by Inductively Coupled Argon Plasma Emissions Spectroscopy.

3-3





SCALE
1" = 100'

FIGURE 5. SOILS BORING LOCATIONS ON THE SUBJECT SITE

TABLE 3. TOXICITY OF METALS IN SOILS

METAL	NON HAZARDOUS (a) (mg/kg)	POTENTIALLY HAZARDOUS (b) (mg/kg)	TTLIC (c) (mg/kg)
Lead	<50	50 to 1,000	>1,000
Zinc	<2,500	2,500 to 5,000	>5,000
Chromium	N/A	N/A	>2,500

"TTLIC" means Toxic Threshold Limit Concentration

(a) Soils are rated as non hazardous.

(b) Soils are rated as non hazardous or hazardous depending on extractability from the soil.

(c) Soils are rated as hazardous and, if exported, may be disposed in a Class I site but not in a Class II or Class III site.

Source: Williams, Paul, California Department of Health, 1/21/86.

4. RELATION OF SITE HISTORY TO SOILS DATA

Logs of the soils borings reveal materials that are part of the historic municipal use of the subject site for land disposal. Metal and slag could have originated from early industrial uses located in Emeryville/Oakland, such as Judson Steel and scrap yard. Brick, glass, and wood could have been transported from building demolition sites in Emeryville. Burnt materials could have been disposed on the subject site from fire damaged buildings.

Historic municipal disposal of scrap metal, spent welding rods, and other ferrous materials is probable. Iron was tested in twelve (12) samples from borings E, F, G, and H and determined to be in the range of 6,700 mg/kg to 140,000 mg/kg. Metal was visually confirmed in the boring logs. Owing to the shallowness of the fill overlying the Bay Mud, rain and moisture had been oxidizing solid metal and leaching metallic ions for a period of several years, prior to encapsulation of the subject site with asphaltic pavement by Garrett Freight Lines.

Potential use of the subject site for private disposal of wastes is not confirmed in the current historical research. Directed inquiries to former PABCO/Fibreboard personnel indicate that the subject site had not been used by PABCO/Fibreboard to dispose waste by products of its resin and paint manufacturing operations.

5. RECOMMENDED SOILS CONTAMINATION CHARACTERIZATION AND ACTION PLAN

It is recommended that currently available soils data completely characterize the general contamination conditions on site. Owing to the early historical use of the site by the City of Emeryville, a heterogeneous mixture of fill material is expected. Similarly, metals contamination is expected to be varied and random throughout the fill overlying Bay Mud within the boundaries of the subject site.

It is further recommended that as much of the existing fill as feasible be left in place and encapsulated by the existing asphaltic pavement. Precedent exists for this strategy in Point Isabel, Richmond, where soils containing 30,000 to 40,000 mg/kg lead are being encapsulated in place (Williams, Paul, DOHS, 1/21/86).

Any disturbance of the existing fill material could potentially increase the likelihood of human contact with toxic lead. Fill disturbance could occur as a result of excavation for building construction, landscaping, or underground fuel tank removal. In these instances of potential fill disturbance by construction, it is recommended that soils contamination characterization and disposal of disturbed (unencapsulated) fill material be performed using the following guidelines:

- * Do not use unencapsulated fill material in proposed landscaped areas. Instead, use imported loam.
- * Place unencapsulated fill materials that cannot be reencapsulated in place in interim storage stockpiles that are secured and tarped. Storage should be limited to a period of up to 90 days, during which period a Storage Permit would not be required. (Interim storage during the dry season would be preferable to interim storage during the wet season.)
- * Perform toxicity (extractability) tests on a random sample of interim stored fill to characterize the hazard class.
- * After testing, place interim stored fill in the holes left from underground tank removal and reencapsulate.
- * Dispose of excess interim stored fill in an appropriate Class I, II, or III land disposal site.

Date Drilled: 4/23/85 **Remarks:**

Type of Boring: 8" Hollow Stem Auger

Hammer Weight: 140 lbs. (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 11±						
			10" Asphalt Surfacing and Aggregate Base Material			
1		12/6"	GRAVELLY CLAY FILL Stiff, moist, yellow-brown	--	--	--
2		5/6"	CLAY FILL Soft to medium stiff, brown to black, with misc. debris	--	--	--
5		3/6"	▽ ATD			
			SILTY CLAY (CH) Soft, grey			
10		3/6"	← Petroleum oder			
			SANDY CLAY (CL) Stiff, grey-green			
15		20/6"	SANDY CLAY (CL) Very stiff, brown			
20			SILTY SAND (SM) Dense to very dense, brown			
25		50/4"				
30			SILTY CLAY (CH) Stiff, blue-grey			

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 1

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	7	13 6"	<p>SILTY CLAY (CH) Stiff, blue-grey</p>			
35			<p>SILTY SAND (SM) Medium dense, blue-grey</p> <p>Bottom of Boring at 36'</p>			
40						
45						
50						
55						
60						
65						

Project No. 1084B

Geomatrix Consultants

Figure A-3

**Project: BAY CENTER PROJECT
Emeryville, California**

Log of Boring No. 2

Date Drilled: 4/23/85 Remarks: _____
 Type of Boring: 8" Hollow Stem Auger
 Hammer Weight: 140 lbs. (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 14±						
			10" Asphalt Surfacing and Aggregate Base Material			
1		27 6"	CLAYEY SAND FILL Medium dense, black, with misc. debris (burnt wood, metal, glass, copper wire and slag) } Stiff, black silty clay layer			
2		38 6"				
5		26 6"	▽ ATD SANDY CLAY FILL Stiff, brown			
			CLAYEY SAND (SC) Loose, blue-grey			
10		15 6"	SILTY CLAY (CH) Petroleum oder Soft, black and green			
Bottom of Boring at 10½'						
15						
20						
25						
30						

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 3

Date Drilled: 4/23/85 Remarks: _____
 Type of Boring: 8" Hollow Stem Auger
 Hammer Weight: 140 lbs. (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 12±						
1		16/6"	14" Asphalt Surfacing and Aggregate Base Material			
2		3/6"	CLAYEY SAND FILL Medium dense, moist, black, with glass, metal and pyrite like crystals	---	---	---
5		2/6"	SAND FILL Loose, wet, grey	---	---	---
3		2/6"	SANDY CLAY FILL Stiff, moist, brown	---	---	---
			SILTY SAND FILL Loose, black			
10		3/6"	SILTY CLAY (CH) Soft, blue-grey, with some sand layers	---	---	---

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 4

Date Drilled: 4/23/85

Remarks: _____

Type of Boring: 8" Hollow Stem Auger

Hammer Weight: 140 lbs.

(See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 13±						
			12" Asphalt Surfacing and Aggregate Base			
			GRAVELLY CLAY FILL Stiff, moist, yellow-brown.			
1	1	22 6"	MIXED CLAY AND SAND FILL Black, with misc. debris	---	---	---
5	2	3 6"	← Seepage	---	---	---
			▽ ATD SILTY CLAY (CH) Soft, black, with organic material			
10	3	1 6"	← Petroleum oder	---	---	---
15	4	2 6"	SILTY SAND (SM-SP) Loose, gray, with some clay layers	---	---	---
20			SILTY CLAY (CL) Very stiff, brown			
25	5	12 6"	SILTY SAND (SM-SP) Medium dense to dense, brown	---	---	---
30						

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 4

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	6	$\frac{15}{6''}$	SILTY SAND (SM-SP) Medium dense to dense, brown	---	---	---
40			Bottom of Boring at 36'			
45						
50						
55						
60						
65						

Project No. 1084B

Geomatrix Consultants

Figure A-7

Project: BAY CENTER PROJECT
Emeryville, California

Log of Boring No. 5

Date Drilled: 9/18/85 **Remarks:** _____
Type of Boring: 4" Rotary
Hammer Weight: 280 lbs. (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 14±						
			3" Asphalt Surfacing			
			CLAYEY SAND FILL Dense, brown, with rock fragments			
			CLAYEY SAND FILL Loose, dark brown, with misc. debris (glass, wood, steel)			
5						
			SILTY CLAY FILL Soft to medium stiff, dark grey, with misc. debris			
10	1	6*	} Wood, brick, slag (oily)	28	94	----
15	2	4*		No Recovery		
20	3	52*	GRAVELLY SAND (SW) Dense, orange-brown	21	102	----
25	4	34*	SANDY CLAY (CL) Very stiff, orange-brown	No Recovery		
	5	31*		19	112	----
30	6	76 6"*	SILTY SAND (SP-SM) Dense, orange-brown	---	---	----

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 5

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, dsf
			SILTY SAND (SP-SM) Dense, orange-brown			
35	7	19*	SILTY CLAY (CL) Stiff, grey, with some sand	No Recovery		
	8	30*		19	111	1920
40	9	$\frac{63}{6^{11}*}$	SILTY SAND (SM-SP) Very dense, dark grey	--	---	---
45	10	36*	SILTY CLAY (CL) Very stiff, dark gray	22	104	6150
			↓ Becoming sandy clay			
50	11	59*	↓ Becoming grey silty clay	20	108	6630
55						
			↓ Becoming dark grey and stiff			
60	12	24*		40	80	2600
65						

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 5

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
			SILTY CLAY (CL) Stiff, dark grey			
70	13	67*	SANDY CLAY (CL) Very stiff, orange-brown, with some gravel	24	100	3790
80	14	57*	GRAVELLY SAND (SW) Very dense, orange-brown	22	105	2580
			SANDY CLAY (CL) Very stiff, orange-brown			
90	15	60*	SILTY CLAY (CL) Very stiff, orange-brown mottled with grey with some gravel	22	104	5570
95			<p>└─ Becoming sandy clay (CL)</p> <p>↓</p> <p>Bottom of Boring at 100'</p>			
	16	79*		22	104	1860

Project No. 1084B

Geomatrix Consultants

Figure A-10

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 6

Date Drilled: 9/19/85

Remarks: _____

Type of Boring: 4" Rotary

Hammer Weight: 280 lbs.

(See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 15±						
5			<p>SILTY CLAY FILL</p> <p>Stiff, grey-brown, with gravel and misc. debris (metal, wire, etc.)</p> <p>↓ Becoming soft and dark grey (debris includes bricks, glass, and metal)</p>			
10	1	7*				
15	2	2*	<p>SILTY CLAY (FILL ?)</p> <p>Soft, light grey, with dark grey streaking</p>	67	59	330
20	3	16*	<p>CLAYEY SAND (SC)</p> <p>Medium dense, grey, with shells</p>			
25	4	59*	<p>SILTY CLAY (CL)</p> <p>Stiff, orange-brown, with sand</p>			
30	5	29*	<p>CLAYEY SAND (SC)</p> <p>Dense, grey-brown</p>	19	111	

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 6

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	6	70 6 ¹¹ *	CLAYEY SAND (SC) Dense, grey-brown	--	--	--
40	7	93*	SILTY CLAY (CL) Stiff, grey	--	--	--
45	8	63 6 ¹¹ *	SILTY SAND (SP-SM) Dense, dark grey	--	--	--
50	9	47*	SILTY CLAY (CL) Very stiff, dark grey, with some sand — Becoming sandier ↓ — Less sand ↓	21	106	6590
60	10	98*	SILTY CLAY (CL) Very stiff, brown	--	--	--
65			Bottom of Boring at 61½'			

Project: BAY CENTER PROJECT
Emeryville, California

Log of Boring No. 7

Date Drilled: 9/16/85
 Type of Boring: 4" Rotary
 Hammer Weight: 140 lbs.
 Remarks: _____
 (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 15±						
			4" Asphalt Surfacing			
			CLAYEY SAND FILL Dense, grey-brown, with rock fragments			
5			CLAYEY SAND FILL Loose, dark grey, with organic material and misc debris (metal, glass, wood, bricks, etc.) Becoming more clayey with rocks, slag and oily materials			
10			} Rock			
15						
20	1	16	SANDY CLAY (CL) Medium stiff to stiff, orange-brown	25	100	2350
25	2	21	Grading to grey-brown sandy clay (CL)	19	110	4780
30	3	34		23	101	----

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 7

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	4	87 6"	SILTY CLAY (CL) Stiff, dark grey, with some sand	19	110	260
40	5	36	SANDY CLAY (CL) Stiff, dark grey	18	113	780
45	6	34	SILTY CLAY (CL) Very stiff, dark grey ↓ Becoming sandy clay	24	101	6340
50	7	43	SILTY CLAY (CL) Very stiff, orange-brown ↓ Grading to grey silty clay	18	111	5760
55	8	30	SILTY CLAY (CL) Very stiff, orange-brown ↓ Grading to grey silty clay	35	87	4610
60			Bottom of Boring at 60'			

Project: BAY CENTER PROJECT
Emeryville, California

Log of Boring No. 8

Date Drilled: 9/17/85
 Type of Boring: 4" Rotary
 Hammer Weight: 140 and 280 lbs. (See Legend Sheet for sampler types and hammer weights)
 Remarks:

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 13±						
			4" Asphalt Surfacing			
			CLAYEY SAND FILL Medium dense, brown, with gravel			
			CLAYEY SAND FILL Loose, brown, with construction debris (concrete, bricks, rocks, steel)			
5			↓ Becoming black and oily			
10	1	3	SILTY CLAY FILL Soft, dark grey (less debris)	28	95	----
15	2	18	SILTY SAND (SP-SM) Loose, dark grey, with some shells	---	---	----
20	3	34	SILTY SAND (SP-SM) Medium dense to dense, orange-brown	19	113	----
25	4	24	} Medium stiff, orange-brown, sandy clay (CL)	18	112	2240
30	5	101	↓ Becoming very dense	---	---	----

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 8

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	6	59 6 ^{11*}	SILTY SAND (SP-SM) Very dense, orange-brown	--	---	---
40	7	57	SILTY SAND (SP-SM) Very dense, dark grey	--	---	---
45	8	49*	SANDY CLAY (CL) Very stiff, dark grey	22	105	7270
50	9	32*	<p>Grading to clayey sand (SC)</p> <p>↓</p> <p>Increasing gravel content</p> <p>↓</p>	16	115	1480
55			<p>SANDY CLAY (CL) Very stiff, orange-brown</p> <p>↓</p> <p>Becoming silty clay (CL)</p> <p>↓</p>			
60	10	46*	SILTY CLAY (CL) Stiff, gray-brown	31	90	2110
65						

Proj. No.

Geomatrix Consultants

Figure A-16

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
70	11	56*	<p>Increasing sand content ↓ Becoming plastic silty clay (CH) ↓</p>	21	105	6640
75			<p>GRAVELLY SAND (SW) Very dense, orange-brown, with gravel to 1" diam.</p>			
80	12	81 61**				
85						
90	13	72*	<p>SILTY CLAY (CL) Very stiff, light grey</p>	23	101	4730
95			<p>Grading to grey-brown ↓</p>			
100	14	34 61**	<p>Bottom of Boring at 101½'</p>	23	101	7570

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 9

Date Drilled: 9/13/85 Remarks: _____
 Type of Boring: 4" Rotary
 Hammer Weight: 140 lbs. (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 13±						
			10" Asphalt Surfacing			
			CLAYEY SAND FILL Medium dense, grey			
5			CLAYEY FILL Medium stiff, green-grey, with organic material and misc. debris			
10			SILTY SAND FILL Loose, grey to black, with wood and rock fragments (slag ?)			
15			SILTY CLAY FILL Soft, black, with organic material, wood and glass (oily)			
1	14		SILTY SAND (SM-SP) Loose, black, with shells	---	---	---
2	19		CLAYEY SAND (SC) Medium dense, orange-brown, with some gravel to 1/4" diam.	21	106	990
3	30		Grading to silty sand (SP-SM) ↓	19	110	----
4	24		SILTY CLAY (CL-CH) Stiff, dark grey	37	82	3030

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. **9**
(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
			SILTY CLAY (CL-CH) Stiff, dark grey			
35	5	28	SILTY SAND (SP-SM) Dense, brown to grey			
			} Stiff, silty clay (CL-CH)			
40	6	44	SANDY CLAY (CL) Very stiff, dark grey			
45	7	44	SILTY CLAY (CL) Very stiff, grey-brown	18	111	6090
50	8	25		29	93	3860
55			SILTY CLAY (CL) Stiff, grey			
60	9	17		39	81	3420
			Bottom of Boring at 60'			

Project: BAY CENTER PROJECT Emeryville, California			Log of Boring No. 10			
Date Drilled: <u>9/12/85</u>		Remarks: _____				
Type of Boring: <u>4" Rotary</u>		_____				
Hammer Weight: <u>140 lbs.</u>		(See Legend Sheet for sampler types and hammer weights)				
Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 12±						
			5" Concrete Slab			
			FILL Medium dense, clayey gravel			
5			CLAYEY SAND FILL Loose, dark brown, with organic materials and misc. debris (wood, bricks, glass, etc.)			
10			CLAYEY FILL Soft, black, with organic material and debris Rock fragments (slag ?)			
15	1	Pushed	SILTY CLAY (CH) Soft, blue-grey	---	---	---
			SANDY CLAY (CL) Stiff, orange-brown, with some gravel Increasing gravel content			
20	2	20	SILTY CLAY (CL-CH) Stiff, orange-brown Becoming very stiff	23	101	4880
25	3	52	SILTY SAND (SP-SM) Very dense, orange-brown	---	---	---
30	4	23	SILTY CLAY (CL-CH) Stiff, grey	27	97	4590

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Figure A-20

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 10

(Continued)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	5	105	SILTY CLAY (CL-CH) Stiff, grey	---	---	---
			SILTY SAND (SP-SM) Very dense, grey-brown			
40	6	110	SILTY CLAY (CL-CH) Stiff, grey	---	---	---
			SILTY SAND (SP-SM) Very dense, dark grey			
45	7	18	SANDY CLAY (CL) Stiff, dark grey	23	102	2020
50	8	66	<p>↓ Becoming light grey and very stiff</p>	17	101	7490
55			<p>↘ Bottom of Boring at 51½'</p>			
60						
65						

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 11

Date Drilled: 9/10/85 and 9/12/85

Remarks: _____

Type of Boring: 4" Rotary

Hammer Weight: 140 lbs.

(See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
Surface Elevation: 11±						
			4" Asphalt Surfacing			
			CLAYEY SAND FILL Medium dense, brown, with rock fragments to 2" diam.			
			CLAYEY FILL Soft, dark brown, with misc. debris (wood, glass, slag, etc.)			
5			▽ 9/11/85 7:00am } Wood			
15	1	2	SILTY CLAY (CL-CH) Soft, dark grey, with some shells	44	76	----
20	2	25	SANDY CLAY (CL) Stiff, orange-brown, with some gravel	22	105	6330
25	3	38	SILTY SAND (SP-SM) Dense, brown	--	----	----
30	4	25	} Stiff, grey, silty clay (CL-CH)	27	95	3330

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
35	5	26	SILTY SAND (SP-SM) Dense, brown	28	94	2020
			SILTY CLAY (CL) Stiff, dark grey			
40	6	39	GRAVELLY SAND Dense, grey-brown	26	97	2550
			SANDY CLAY (CL-CH) Stiff to very stiff, grey ↓ Increasing gravel content			
50	8	25	SILTY CLAY (CH) Very stiff, grey, with some gravel ↓ Becoming brown	27	96	5470
			↓ Becoming blue-grey			
60	10	39	SILTY SAND (SM-SP) Dense, blue-grey, with alternating strata of stiff silty clay	21	105	5610
			SANDY CLAY (CL) Very stiff, brown mottled with grey			
65	11	48				No Recovery

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
12		49	SANDY CLAY (CL) Very stiff, brown mottled with grey	---	---	---
70			GRAVELLY SAND (SW) Dense, orange-brown			
13		55	GRAVELLY CLAY Very stiff, orange-brown	14	119	3700
75						
14		32	SILTY CLAY (CL) Very stiff, light grey Becoming sandy clay ↓	21	105	7220
80						
15		46	CLAYEY SAND (SC) Dense, orange-brown, with some gravel to 3/4"	21	104	7760
85						
16		73	SANDY CLAY Very stiff, orange-brown	15	117	4280
90						
17		90	GRAVELLY SAND (SP) Very dense, orange-brown, with gravel to 1 1/2" diam.	17	113	7180
95						
18		84	Bottom of Boring at 99 1/2'	16	111	2960

Project: BAY CENTER PROJECT
Emeryville, California

Log of Boring No. 12

Date Drilled: 9/19/85

Remarks: _____

Type of Boring: 6" Auger

Hammer Weight: _____ (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
			Surface Elevation: 14±			
			2" Asphalt Surfacing, 4" Aggregate Base			
			SANDY GRAVEL FILL Grey with some cobbles			
			SILTY CLAY FILL Dark grey, with sand and gravel and some bricks			
5						
			Bottom of Boring at 7'			
10						
15						
20						
25						
30						

Project: BAY CENTER PROJECT
Emeryville, California

Log of Boring No. 13

Date Drilled: 9/19/85 **Remarks:** _____
Type of Boring: 6" Auger
Hammer Weight: _____ (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
			Surface Elevation: 12±			
			2" Asphalt Surfacing, 4" Aggregate Base			
			SILTY CLAY FILL Brown, with gravel			
			SILTY CLAY FILL Dark grey, with wood, metal, bricks, and wire			
5			Bottom of Boring at 5'			
10						
15						
20						
25						
30						

Project: **BAY CENTER PROJECT**
Emeryville, California

Log of Boring No. 14

Date Drilled: 9/19/85

Remarks: _____

Type of Boring: 6" Auger

Hammer Weight: _____ (See Legend Sheet for sampler types and hammer weights)

Depth, Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	LABORATORY TESTS		
				Moisture Content, %	Dry Density, pcf	Unconfined Compressive Strength, psf
			Surface Elevation: $12\pm$			
			2" Asphalt Surfacing, 4" Aggregate Base			
			SANDY GRAVEL FILL Grey, with some cobbles			
			SILTY CLAY FILL Grey, with sand and gravel			
5			SILTY CLAY FILL Dark grey, with bricks, wood, rocks, metal, and wire			
			Bottom of Boring at 5'			
10						
15						
20						
25						
30						

GEOMATRIX CONSULTANTS

TEST BORING RECORD

Job No. 1084B

Date 10-25-85

Name San Bern Co. High

Location San Bern Co. High

Hole No. 15 Gr. El. _____

Type of Boring Open Rig YMC 45

Datum _____ Engr. HLOE Wt. Ham. 40#

De	DESCRIPTION	So. No.	Pen.	% Rec.	Bl. Ct.	Wt. Level	Lab. Data
1	1" AC						
1	lt greenish brown gravel fill	1					
2	gravel						
2	dk gray silty s.s. gravel, med.	1		100	23-23-28		
3	s.s.						
3		4					
4		2			17-26-30		
4							
5		4					
5							
6	med. brown, friable	3			20-23		
6							
7		0					
7							
8							
8							
9							
9		10					
10							
1		1					
2		2					
3		3					
4		4					
5		5					
6		6					
7		7					
8		8					
9		9					
0		0					

10'

to tip

GEOMATRIX CONSULTANTS

TEST BORING RECORD

Job No. 1084B Date 10-25 85
 Name Bay Center project Location GARROT
 Hole No. 16 Gr. El. _____ Type of Boring Auger Hollow Stem Rig CME 45
 Datum _____ Engr. H. H. K. Wt. Ham. 140

No.	DESCRIPTION	In. No.	Pen.	% Rec.	Bl. Ct.	Wt. Level	Lab. Data
1	2" AC Course (1" AC) green sand fill with asphalt 4.0000	1					
2		2					
3	light gray silty clay	3	1	10	8-12-9		Soil moist
4		4					
5		5	2		2-3-4		
6		6	4				
7		7	3		9-16-17		
8		8	4				
9		9					
10		10					
11		11					
12		12					
13		13					
14		14					
15		15					
16		16					
17		17					
18		18					
19		19					
20		20					

Soil moist @ 9.5'

12 - 52 - 5'2

GEOMATRIX CONSULTANTS TEST BORING RECORD

200

Job No. 1084B

Date 10-25-85

Name BAY CENTER PROJECT

Location GARRET YARD

Hole No. 17 Gr. El. _____

Type of Boring HOLLOWSTEM Rig CME 45

Datum _____

Engr. HLOBIL Wt. Ham. 140#

512-467-8000

Sp.	DESCRIPTION	So. No.	Pen.	% Rec.	Bl. Ct.	Wtr. Level	Lab. Desc.
1	1" AC	1					
2	brown sand & gravel w/ fe rods	2	1	100	8-13-13		
3		3	4				
4	dk gray silt w/ sand & gravel & concrete chunks & metal pieces	4	2	100	14-80/5"		hit some concrete @ 40 ft - then 40 more ft
5		5	3				
6		6	3		5-5-7		
7		7	4				
8		8	4	100	4-3-2		
9		9	3				
10	greenish gray silt w/ sand and trace gravel	10					
11		1					
12		2					
13		3					
14		4					
15		5					
16		6					
17		7					
18		8					
19		9					
20		0					

5'4 10' no water

GEOMATRIX CONSULTANTS

TEST BORING RECORD

Job No. 1084 B Date 10-25 85
 Name Bay Center project Location Lanett Y. d
 Hole No. 18 Gr. El. _____ Type of Boring 1 hollow auger Rig CME 45
 Datum _____ Engr. HORIL Wt. Horn 140#

Depth	DESCRIPTION	No. No.	Pen.	% Sec.	Bl. Co.	Wt. Level	Lab. Data
0	2 nd AC course green w/ mica and gravel ↓ brown w/ depth	1					
1		2	1	100	9-21-23		
2		3					
3	dk brownish gray silty to gravel, glass w/ shells, metal	4	2	100	7-10-4		
4	very brittle, friable w/ pockets sand brick, nails very silty & sandy	5	3	25	3-11-20		only sample #3
5		6					
6		7	1				
7		8	4	100	3-3-6		
8	more sandy ↓	9					
9		10	4				
10		1					
11		2					
12		3					
13		4					
14		5					
15		6					
16		7					
17		8					
18		9					
19		10					

10' no water