ExxonMobil
Environmental Services Company
4096 Piedmont Avenue #194
Oakland, California 94611
510 547 8196 Telephone
510 547 8706 Facsimile

Jennifer C. Sedlachek
Project Manager

ExxonMobil

RECEIVED
By Alameda County Environmental Health 2:24 pm, May 04, 2015

April 30, 2015

Ms. Karel Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

RE: Former Exxon RAS #73006/720 High Street, Oakland, California.

Dear Ms. Detterman:

Attached for your review and comment is a copy of the letter report entitled ***Addendum to Soil Assessment, Groundwater Monitoring Report, and Request for closure,*** dated April 30, 2015, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details activities pertaining to the subject site.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,

Jennifer C. Sedlachek
Project Manager

Attachment: Cardno ERI's ***Addendum to Soil Assessment, Groundwater Monitoring Report, and Request for closure,*** dated April 30, 2015

cc: w/ attachment
Mr. Mansour Sepehr, Ph.D., P.E., SOMA Environmental Engineering, Incorporated
Mr. Mo Mashoon, Mash Petroleum, Inc.
Mr. Victor Chu

w/o attachment
Mr. Greg Gurss, Cardno ERI

Addendum to Soil Assessment, Groundwater Monitoring Report, and Request for Closure

Former Exxon Service Station 73006

Cardno ERI 2010C.R35

April 30, 2015

Cardno ERI

Shaping the Future

Addendum to Soil Assessment, Groundwater Monitoring Report, and Request for Closure

Former Exxon Service Station 73006
720 High Street
Oakland, California

Alameda County No. 491

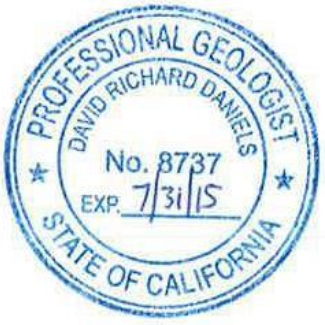
Cardno ERI 2010C.R35

April 30, 2015

SCANNED IMAGE

Greg Gurss
Senior Project Manager
for Cardno ERI
916 692 3130
Email: greg.gurss@cardno.com

SCANNED IMAGE



David R. Daniels
P.G. 8737
for Cardno ERI
Direct Line 707 766 2000
Email: david.daniels@cardno.com

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Appendix B Remedial Action Completion Certification, Former Cobbledick-Kibbe Site, 500 High Street, Oakland, CA, 94601 (ACHSA, 1998)

1 Introduction

At the request of ExxonMobil Environmental Services (EMES), on behalf of Exxon Mobil Corporation, Cardno ERI prepared this addendum to soil investigation, groundwater monitoring report, and request for closure for the subject site. This report was prepared in response to electronic correspondence from Alameda County Environmental Health (County), dated April 5, 2015 (Appendix A). The request was in response to Cardno ERI's *Soil Investigation, Groundwater Monitoring Report, and Request for Closure*, dated January 30, 2015 (Cardno ERI, 2015). The purpose of this addendum is to present the results of an updated well search for the area surrounding the site and to present a revised plate.

2 Site Description

Former Exxon Service Station 73006 is located at 720 High Street, Oakland, California (Assessor's Parcel Number 34-2290-6-3) on the southeastern corner of the intersection of High Street and Coliseum Way adjacent to an elevated portion of Interstate Highway 880 (Plate 1). The site operated as an Exxon-branded service station from 1970 to 1987. Prior to use as a service station, the site was used as an oil storage and distribution facility from 1912 to 1934, an automobile junkyard from 1953 to 1969, and a dump site prior to 1970 (RESNA, 1993). The site is currently an active Gas and Food-branded station owned and operated by Mash Petroleum, Inc. The locations of select site features are shown on the Generalized Site Plan (Plate 2).

Additional information (including site history, features, geology, hydrogeology, and environmental activities) is included in Cardno ERI's *Updated SCM and Soil and Groundwater Investigation and Groundwater Monitoring Report* dated July 17, 2014 (Cardno ERI, 2014).

3 Well Survey

As requested by the County, Cardno ERI contacted the State of California Department of Water Resources (DWR) and the Alameda County Public Works Agency (ACPWA) to request well completion reports for a 2,000-foot radius of the site. The April 5, 2015 correspondence requested that the DWR and ACPWA records be included in an appendix of this report. The process to obtain the well completion reports includes an acknowledgement that the records are to be kept confidential and not be published. To maintain the confidentiality, the well records will be submitted to the County under separate cover and are not being uploaded to a public website. The results of the search are summarized in the following sections, Table 1, and Plate 3.

3.1 DWR Well Completion Reports

The well search with the DWR returned 830 potential wells located near the site. Of the 830 wells, 776 were for environmental monitoring or remediation and 19 were geotechnical borings and were not investigated further.

The 35 remaining wells were further investigated to determine their location and use:

- Two of the 35 well completion reports were illegible and a location and use could not be determined.
- Twenty-six of the 35 wells were located greater than 2,000 feet from the subject site.
- Seven well completion reports were for wells located within approximately 2,000 feet of the site.

The well completion reports within approximately 2,000 feet are summarized below, and shown on Plate 3 and Table 1. Two of the six well completion reports are for the same industrial well with separate reports for the installation and destruction. The four remaining wells are listed as industrial, cathodic protection, or unknown. The use of one of the wells is unknown based on the well completion report; however, it is located at the same address and owner (4701 San Leandro Street, National Lead Company) as another listed industrial well.

Wells Located within Approximately 2,000 Feet of the Site in DWR Records

Location	Use	Distance	Direction
Coliseum Way and 45th Avenue	Cathodic Protection	670	Southeast
499 High Street	Industrial	1,150	West-Southwest
499 High Street	Destroyed	1,150	West Southwest
4701 San Leandro Street	Industrial	1,500	East
4701 San Leandro Street	Unknown	1,500	East
Coliseum and 50th Avenue	Cathodic Protection	2,100	Southeast
37th Avenue and East 12th Street	Cathodic Protection	2,200	North-Northwest

3.2 ACPWA Well Records

The well search with the ACPWA returned 481 potential wells located near the site. Of the 481 wells, 359 were for environmental monitoring or remediation and 63 were geotechnical borings and were not investigated further.

The 59 remaining wells were further investigated to determine their location and use:

- Three of the 59 wells were destroyed wells with inadequate location to determine a location.
- Forty-four of the 59 wells that were investigated further were destroyed monitoring or remediation wells.
- Two of the wells appear to be miscategorized (classified as irrigation and ON [perhaps a typographical error for the monitoring well abbreviation of MON]) as the address and owner (3801 East 8th Street, American Can Company) are associated with numerous other wells associated with an environmental investigation.
- Three of the 59 wells were located greater than 2,000 feet from the subject site.
- One of the wells that was categorized as “other” is actually a monitoring or remediation well (well ARW1B owned by Arco Products Co.) associated with an ongoing environmental investigation.
- Six records were for wells located within approximately 2,000 feet of the site that meet the criteria requested by the County.

The six records within 2,000 feet are summarized below. Four of the wells are also included in the records supplied by the DWR. One of the additional wells is a cathodic protection well located approximately 1,950 feet southeast of the site.

The ACPWA well records included a reported domestic well at 500 High Street. In addition to the domestic well, the ACPWA records include a record of a destroyed monitoring well (MW4) at the same location. THE ACPWA lists the installation date of the domestic wells as March 1991. The *Remedial Action Completion Certification* states that monitoring wells MW1 through MW4 were installed at 500 High Street in February and March of 1991 (ACHSA, 1998) (Appendix B). It appears likely that the well was miscategorized as domestic and was part of the environmental investigation. Cardno ERI performed a field visit to 500 High Street on May 1, 2015 to investigate the presence of the well. There was no visual indication of the existence of a well and personnel at the site (a public storage facility) were not aware of any wells at the site.

Wells Located within Approximately 2,000 Feet of the Site in ACPWA Records

Location	Use	Distance	Direction
500 High Street	Domestic (likely	750	Southwest
4930 Coliseum Way	Cathodic Protection	1,900	Southeast
Coliseum Way and 45th Avenue	Cathodic Protection	670	Southeast
499 High Street	Industrial	1,150	West-Southwest
4701 San Leandro Street	Unknown	1,500	East
Coliseum and 50th Avenue	Cathodic Protection	1,950	Southeast
500 High Street	Domestic (likely	750	Southwest

4 Revised Plate

Cardno ERI revised Plate 4 from the *Soil Investigation, Groundwater Monitoring Report, and Request for Closure* (Cardno ERI, 2015) as requested by the County (Appendix A). The revised Plate is included as Plate 4.

5 Conclusions

Based on cumulative site data, Cardno ERI concludes that:

- Site conditions do not present an unacceptable risk to the identified wells.
- The site is in a long-industrialized part of Oakland and the surrounding area and historical land use make it difficult to perform environmental work without encountering concentrations associated with other sources.
- The site is zoned for industrial uses; land use is not expected to change in the foreseeable future.
- Residual petroleum hydrocarbon concentrations meet the commercial criteria listed in the State Water Resources Control Board's *Low-Threat Underground Storage Tank Case Closure Policy* (SWRCB, 2012).
- Dissolved-phase petroleum hydrocarbons show overall stable and/or decreasing trends.
- Petroleum hydrocarbons remaining at the site are not likely to migrate to water wells, deeper drinking water aquifers, surface water, or other sensitive receptors and do not pose a significant risk to human health or the environment.
- The site adequately meets the criteria for Low-Threat Closure under a commercial land-use scenario.

6 Recommendations

Cardno ERI recommends the site be evaluated for case closure and that groundwater monitoring and sampling be suspended pending the evaluation.

7 Contact Information

The responsible party contact is Ms. Jennifer C. Sedlachek, ExxonMobil Environmental Services Company, 4096 Piedmont Avenue #194, Oakland, California, 94611. The consultant contact is Mr. Greg Gurss, Cardno ERI, 601 N. McDowell Boulevard, Petaluma, California, 94952. The agency contact is Ms. Karel Detterman, Alameda County Health Care Services Agency, Department of Environmental Health, 1131 Harbor Bay Parkway, Suite 250, California, 94502.

8 Distribution List

Cardno ERI recommends forwarding copies of this document to:

Ms. Karel Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Mo Mashoon
Mash Petroleum
428 13th Street, 10th Floor
Oakland, California 94612

Mr. Mansour Sepehr, Ph.D., P.E.
SOMA Environmental Engineering, Incorporated
6620 Owens Drive, Suite A
Pleasanton, California 94588

9 Limitations

For documents cited that were not generated by Cardno ERI, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno ERI does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This document and the work performed have been undertaken in good faith, with due diligence and with the expertise, experience, capability, and specialized knowledge necessary to perform the work in a good and workmanlike manner and within all accepted standards pertaining to providers of environmental services in California at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

10 References

Alameda Health Care Services Agency (ACHSA). February 2, 1998. *Remedial Action Completion Certification, Former Cobbledick-Kibbe Site, 500 High St., Oakland, CA 94601*

Cardno ERI. July 17, 2014. *Updated SCM and Soil and Groundwater Investigation and Groundwater Monitoring Report, Former Exxon Service Station 73006, 720 High Street, Oakland, California.*

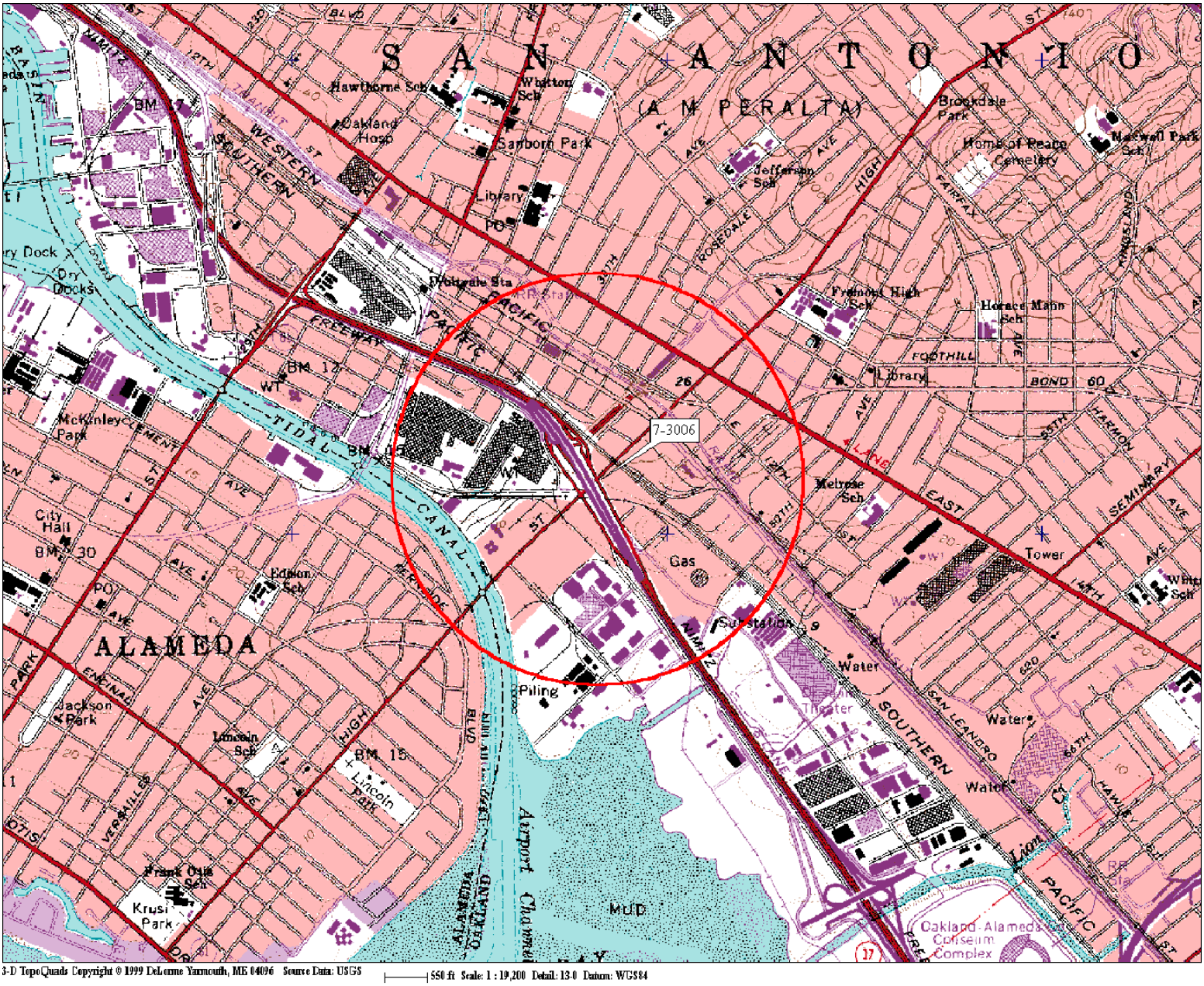
Cardno ERI . January 30, 2015. *Soil Investigation, Groundwater Monitoring Report, and Request for Closure, Former Exxon Service Station 73006, 720 High Street, Oakland, California*

RESNA Industries, Inc. (RESNA). March 24, 1993. *Findings of a Limited Record Search, Exxon Station 7-3006, 720 High Street, Oakland, California.*

State Water Resources Control Board (SWRCB). August 17, 2012. *Low-Threat Underground Storage Tank Case Closure Policy*. Adopted May 1, 2012.

11 Acronym List

µg/L	Micrograms per liter
µs	Microsiemens
1,2-DCA	1,2-dichloroethane
acfm	Actual cubic feet per minute
AS	Air sparge
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
CEQA	California Environmental Quality Act
cfm	Cubic feet per minute
COC	Chain of Custody
CPT	Cone Penetration (Penetrometer) Test
DIPE	Di-isopropyl ether
DO	Dissolved oxygen
DOT	Department of Transportation
DPE	Dual-phase extraction
DTW	Depth to water
EDB	1,2-dibromoethane
EPA	Environmental Protection Agency
EPH	Extractable petroleum hydrocarbons
ESL	Environmental screening level
ETBE	Ethyl tertiary butyl ether
FID	Flame-ionization detector
fpm	Feet per minute
GAC	Granular activated carbon
gpd	Gallons per day
gpm	Gallons per minute
GRO	Gasoline-range organics
GWPTS	Groundwater pump and treat system
HVOC	Halogenated volatile organic compound
J	Estimated value between MDL and PQL (RL)
LEL	Lower explosive limit
LPC	Liquid-phase carbon
LRP	Liquid-ring pump
LUFT	Leaking underground fuel tank
LUST	Leaking underground storage tank
MCL	Maximum contaminant level
MDL	Method detection limit
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
mg/m^3	Milligrams per cubic meter
MPE	Multi-phase extraction
MRL	Method reporting limit
msl	Mean sea level
MTBE	Methyl tertiary butyl ether
MTCA	Model Toxics Control Act
NAI	Natural attenuation indicators
NAPL	Non-aqueous phase liquid
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
ORP	Oxidation-reduction potential
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
P&ID	Process & Instrumentation Diagram
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCE	Tetrachloroethene or perchloroethylene
PID	Photo-ionization detector
PLC	Programmable logic control
POTW	Publicly owned treatment works
ppmv	Parts per million by volume
PQL	Practical quantitation limit
psi	Pounds per square inch
PVC	Polyvinyl chloride
QA/QC	Quality assurance/quality control
RBSL	Risk-based screening levels
RCRA	Resource Conservation and Recovery Act
RL	Reporting limit
scfm	Standard cubic feet per minute
SSTL	Site-specific target level
STLC	Soluble threshold limit concentration
SVE	Soil vapor extraction
SVOC	Semivolatile organic compound
TAME	Tertiary amyl methyl ether
TBA	Tertiary butyl alcohol
TCE	Trichloroethene
TOC	Top of well casing elevation; datum is msl
TOG	Total oil and grease
TPHd	Total petroleum hydrocarbons as diesel
TPHg	Total petroleum hydrocarbons as gasoline
TPHmo	Total petroleum hydrocarbons as motor oil
TPHs	Total petroleum hydrocarbons as stoddard solvent
TRPH	Total recoverable petroleum hydrocarbons
UCL	Upper confidence level
USCS	Unified Soil Classification System
USGS	United States Geologic Survey
UST	Underground storage tank
VCP	Voluntary Cleanup Program
VOC	Volatile organic compound
VPC	Vapor-phase carbon



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 550 ft Scale: 1 : 19,200 Detail: 13-0 Datum: WGS84

FN 2010

EXPLANATION

1/2-mile radius circle

APPROXIMATE SCALE

N

0 0.5 1 mile

SOURCE:
Modified from a map provided by DeLorme 3-D TopoQuads

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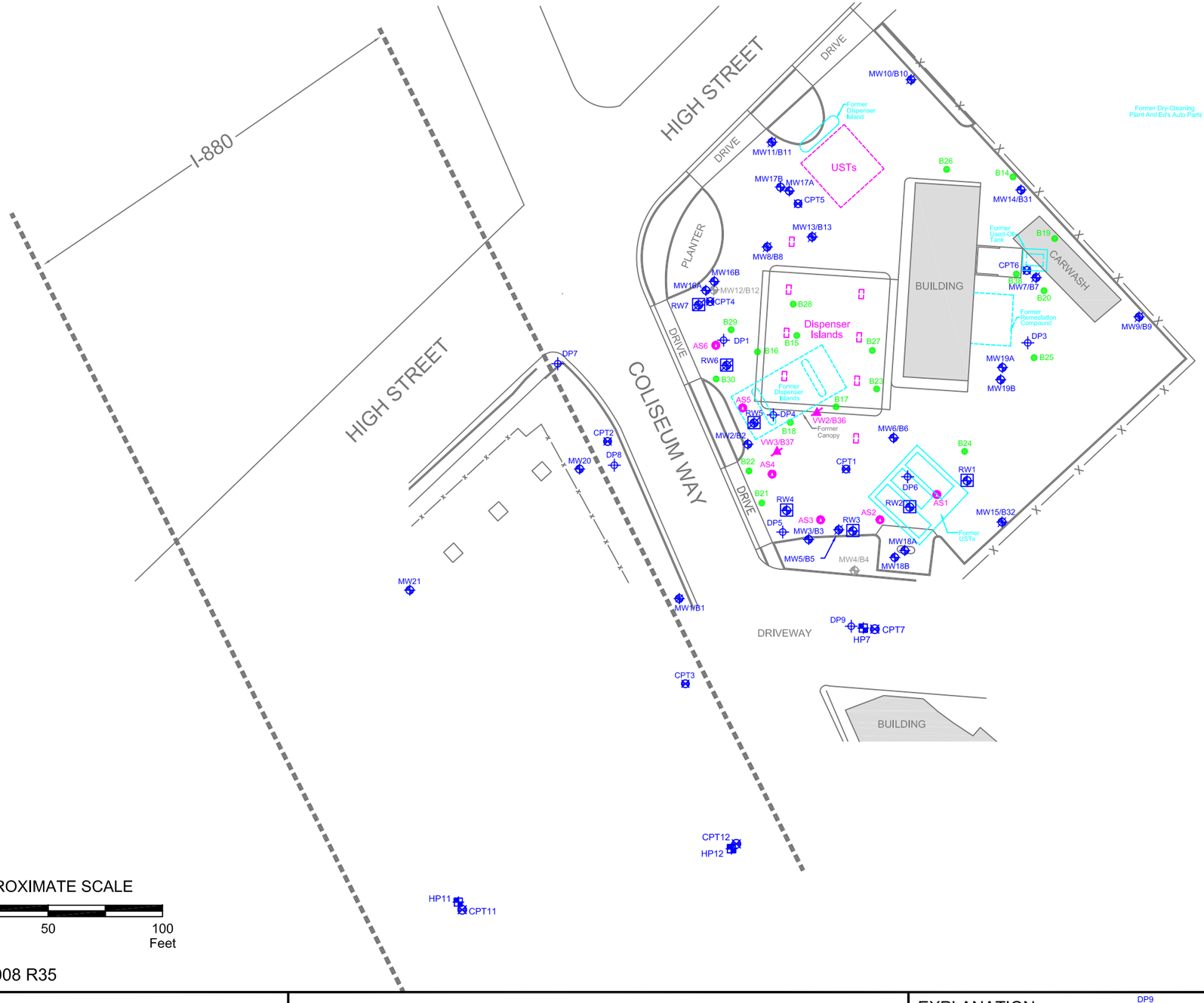
SITE VICINITY MAP

FORMER EXXON SERVICE STATION 73006
720 High Street
Oakland, California

PROJECT NO.
2010

PLATE
1



APPROXIMATE SCALE

0 50 100 Feet

FN 20100008 R35

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GENERALIZED SITE PLAN

FORMER EXXON SERVICE STATION 73006
720 High Street
Oakland, California

EXPLANATION

- MW21 — Groundwater Monitoring Well
- AS6 — Air Sparge Well
- RW4 — Recovery Well
- RW7 — Destroyed Recovery Well
- DP9 — Direct-Push Boring
- CPT12 — Cone Penetration Test Boring
- HP12 — Hydropunch Boring
- B38 — Soil Boring/Soil Sample
- MW15 — Destroyed Groundwater Monitoring Well
- VW3/B37 — Soil Vapor Extraction Well
- MW12/B12 — Well Paved over - Inaccessible

PROJECT NO. 2010

PLATE 2

N

LEGEND

WELLS

1. Cathodic Protection
2. Destroyed Industrial
3. Industrial
   Unknown
4. Cathodic Protection
5. Cathodic Protection
6. Cathodic Protection

SURFACE WATER

1. Oakland Estuary

2000-Feet Radius

APPROXIMATE SCALE

0 500 1000
FEET

LOCAL AREA MAP

FORMER EXXON SERVICE STATION 73006
720 High Street
Oakland, California

Cardno ERI
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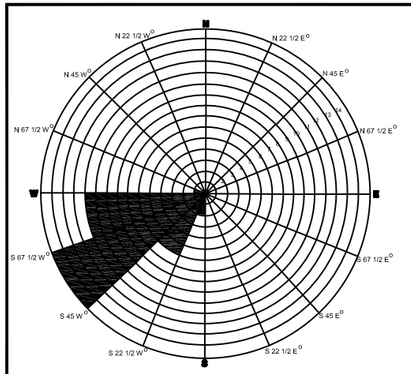
PROJECT NO. 2010

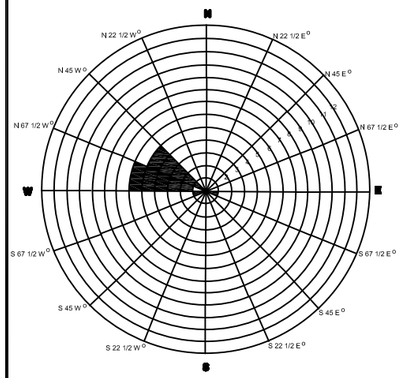
PLATE 3

FN 2010 15 R35 SRS AERIAL_RPT



GROUNDWATER FLOW DIRECTION ROSE DIAGRAM SHALLOW WATER-BEARING ZONE

March 11, 2003 through June 25, 2014



GROUNDWATER FLOW DIRECTION ROSE DIAGRAM DEEP WATER-BEARING ZONE

October 1, 2009 through June 25, 2014

NOTE:
Groundwater flow direction measured upgradient from well MW16B.

Analyte Concentrations in ug/L

Sample Date
Total Petroleum Hydrocarbons as gasoline
Benzene
Methyl Tertiary Butyl Ether

< Less than the Stated Laboratory Reporting Limit
ug/L Micrograms per Liter
g Hydrocarbon pattern is not consistent with that of the specified standard.

NOTE:
Most recent data for wells sampled since 2004 shown.

Plume lengths from SWRCB, 2011.
90th Percentile Plume Length
Average Plume Length

APPROXIMATE SCALE

0 80 160 Feet

EXPLANATION

- MW21 Groundwater Monitoring Well
- AS6 Air Sparge Well
- RW4 Recovery Well
- RW7 Destroyed Recovery Well
- B38 Soil Boring/Soil Sample
- DP9 Direct-Push Boring
- CPT12 Cone Penetration Test Boring
- HP12 Hydropunch Boring
- VW1/B35 Soil Vapor Extraction Well
- MW15 Destroyed Groundwater Monitoring Well
- VW3/B37 Soil Vapor Extraction Well
- CPT10 Abandoned Cone Penetrometer Test Boring
- MW12/B12 Well Paved over - Inaccessible
- MW-10 Groundwater Monitoring Well by Shell
- SB-9 Soil Boring by Shell
- MW-10 Groundwater Monitoring Well by Ekotek
- CPT-7 Cone Penetration Test Boring by Ekotek Off Site
- CPT-4 Cone Penetration Test Boring by Ekotek
- SB-10 Soil Boring by Ekotek 12/2009 & 01-2010
- B-6 Soil Boring by Ekotek July 1995
- SB-9 Soil Boring by Ekotek Off Site
- EC-1 Soil Boring by Enviro-Core Off Site
- EC-6 Soil Boring By Enviro-Core
- C-22 Soil Boring by Southern Pacific
- MW-C-6 Groundwater Monitoring Well by Southern Pacific
- GW-1 EBMUD Excavation Grab Groundwater Sample

DISSOLVED PHASE HYDROCARBONS IN GROUNDWATER

FORMER EXXON SERVICE STATION
720 High Street
Oakland, California

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Project	Figure
2010	4
Scale: 1"= 80'	

File Name: 2010 R35 TYPICAL PLUME LENGTH AERIAL_SP

TABLE 1
WELL LOCATIONS
Former Exxon Service Station 73006
Oakland, California

Well Owner	Type of Well	Distance (feet)	Location	Direction	Map Designation
PG&E	Cathodic Protection	670	Near Coliseum Way and 45th Avenue	Southeast	1
Integrated Environmental Systems	Destroyed Industrial	1,150	499 High Street	West-Southwest	2
National Lead Company	Industrial	1,500	4701 San Leandro Street	East	3
National Lead Company	Unknown	1,500	4701 San Leandro Street	East	3
PG&E	Cathodic Protection	2,200	Near 37th Avenue and East 12th Street	North-Northwest	4
PG&E	Cathodic Protection	2,100	Near Coliseum Way and 50th Avenue	Southeast	5
EBMUD	Cathodic Protection	1,950	Near Coliseum Way and 50th Avenue	Southeast	6

APPENDIX

A

CORRESPONDENCE

Cardno ERI

Shaping the Future

From:	Detterman, Karel, Env. Health
To:	"Sedlachek, Jennifer C"; "David R. Daniels"; "Mansour Sepehr"; Greg Gurss; mashpetroleum@yahoo.com
Cc:	Roe, Dilan, Env. Health
Subject:	Fuel Leak Case No. RO491 and GeoTracker Global ID T0600100552, EXXON #7-3006, 720 High Street, Oakland, CA 94601
Date:	Monday, April 06, 2015 3:28:40 PM
Attachments:	RO1135 Well Survey pages from SCM_SWI_R_2013-11-08.pdf Well Survey Map and Table from RO 475 RFC_R_2011-07-29.pdf

Hello everyone:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *Soil Assessment, Groundwater Monitoring Report and Request for Closure* (RFC) dated January 30, 2015, prepared and submitted on your behalf by Cardno ERI (Cardno) in conjunction with the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). Thank you for submitting the RFC.

The case appears to be eligible for closure contingent on addressing the two following Technical Comments in an RFC Addendum:

TECHNICAL COMMENTS:

1. **Request for Updated Sensitive Receptor Survey**: The RFC's Section 7, *Sensitive Receptors*, it states that Records from the Department of Water Resources (DWR) and Public Works (Alameda County Public Works Agency [ACPWA]) do not indicate the presence of municipal or domestic wells within a 2,000-foot radius of the site. However, Cardno's July 14, 2014 *Updated SCM and Soil and Groundwater Investigation and Groundwater Monitoring Report* refers to a CH2MHIll Report well survey for a neighboring fuel leak case, Southern Pacific Transportation Company, RO0001135, 744 High Street, Oakland, which included DWR and ACPWA records indicating the existence of three potential downgradient water supply wells within a 2,000-foot radius of the site as shown in the Attachment from *RO1135 Well Survey*. To resolve this discrepancy, please confirm the presence of the water supply wells by performing a 2,000-foot well survey from both ACPWA and DWR records. ACEH requests review of both ACPWA and DWR well data sources for a complete inventory of vicinity water supply wells. ACEH requests the identification and location on a site vicinity figure all active, inactive, standby, decommissioned (sealed with concrete), unrecorded, and abandoned (improperly decommissioned or lost) wells including irrigation, water supply, industrial, dewatering, and cathodic protection wells within a 2,000-foot radius of the site, as shown in the attached *Well Survey Map and Table for RO 475*. Please provide a figure indicating numbered well locations, a table listing addresses of numbered well locations, distance and direction from site, and well use. Please include both the ACPWA and DWR records in an appendix.

2. **Improve Legibility of Figure 4**: Please revise and resubmit the RFC's Figure 4, *Dissolved Phase Hydrocarbons in Groundwater* to make the salient features of the figure legible by magnifying or enlarging the figure, highlighting the 90th Percentile and Average Plume Lengths and monitoring well locations, and fading-out the underlying aerial photograph base map.

TECHNICAL REPORT REQUEST

Please address the two Technical Comments in an RFC Addendum and upload technical report to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **May 4, 2015 –** *Request for Closure Addendum*
  File to be named: RO491_RFC ADDEND_R_yyyy-mm-dd

This report is being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR

Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please send me an e-mail message at karel.detterman@acgov.org or call me at (510) 567-6708.

Thank you,

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

APPENDIX

B

REMEDIAL ACTION COMPLETION CERTIFICATION, FORMER COBBLEDICK-KIBBE SITE 500 HIGH STREET, OAKLAND, CA, 94601 (ACHSA, 1998)

Cardno ERI

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

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

February 2, 1998
StID # 3818

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. John Schovanec
Bank of America
4000 MacArthur Blvd., Ste. 100
Newport Beach, CA 92660

RE: Former Cobbledick-Kibbe Site, 500 High St., Oakland CA 94601

Dear Mr. Schovanec:

This letter confirms the completion of site investigation and remedial action for the one 10,000 gallon diesel/gasoline and the one 2,000 gallon gasoline underground tanks removed from 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 tank is greatly appreciated.

Based upon the available information and with provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank releases is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721 (e) of the California Code of Regulations.

Please contact Barney Chan at (510) 567-6765 if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health

c: B. Chan, Hazardous Materials Division-files
Stephen Hill, RWQCB
Mr. Dave Deaner, SWRCB Cleanup Fund
Mr. Leroy Griffin, City of Oakland OES, 505 14th St., Suite 702, Oakland CA 94612

RACC500Hi

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

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

February 4, 1998
StID# 3818

Mr. John Schovanec
Bank of America
4000 MacArthur Blvd., Ste. 100
Newport Beach, CA 92660

RE: Fuel Leak Site Case Closure Former Cobbledick-Kibbe Site
500 High St., Oakland CA 94601

Dear Mr. Schovanec:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with the Health and Safety Code, 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 Health Services, Local Oversight Program (LOP) is required to use this case closure letter. We are also enclosing the case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site.

Site Investigation and Cleanup Summary:

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

* 4 parts per million (ppm) Total Petroleum Hydrocarbons as gasolinel (TPHg), 0.25, 0.0098, 0.17, 0.11 ppm BTEX, respectively and low levels (0.0055-0.2ppm) of the chlorinated hydrocarbons; methylene chloride, cis and trans-1,2-DCE and TCE remain in the soil at the site.

* 80 parts per billion (ppb) TPHg and 90 ppb TPHd, 0.9 ppb benzene and low levels (2.1-210 ppb) of the chlorinated solvents; cis and trans-1,2-DCE, TCE and vinyl chloride remain in groundwater at the site. (Vinyl chloride = 2.1 ppb)

This site should be included in the City's permit tracking system. Please contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

enclosures: Case Closure Letter, Case Closure Summary

c: Mr. L. Griffin, City of Oakland OES, 505 14th St., Suite 702, Oakland CA 94612
B. Chan, files (letter only)
tr1t500Hi

01-0435

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date:** July 15,1997

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Parkway Rm 250, Alameda CA 94502**

City/State/Zip: **Alameda** Phone: **(510) 567-6700**

Responsible staff person: Barney Chan Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: Former Cobbledick Kibbe Site

Site facility address: 500 High St., Oakland CA 94601

RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: 3818

ULR filing date: 4/10/90 SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Bank of America c/o ~~Ms. Andee Gerace-Coles~~ Mr. John Schovanec	4000 MacArthur Blvd. Ste.100 Newport Beach, CA 92660	~~714-260-5808~~ 714-260-5812

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	diesel/gas	Removed	3/13/90
2	2,000	gasoline	Removed	3/13/90

III RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown

Site characterization complete? Yes

Date approved by oversight agency:

Monitoring Wells installed? Yes Number: 7

Proper screened interval? Yes, based upon first encounterd groundwater during well installation. Groundwater is under semi-confined conditions.

Leaking Underground Fuel Storage Program

Highest GW depth: 1.57′ Lowest depth: 8.79′

Flow direction: west-southwesterly

Most sensitive current use: commercial/industrial, however, downgradient of site are two residential homes.

Are drinking water wells affected? No Aquifer name: NA

Is surface water affected? No Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NA

Report(s) on file? **Yes** Where is report(s)? Alameda County
1131 Harbor Bay Parkway,
Room 250, Alameda CA 94502-6577

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tanks & Piping	1-10,000 gallon 1-2,000 gallon	Disposed to Erickson Richmond, CA	3/13/90
Soil	410 tons	Disposed BFI, Livermore	2/14&2/15/91
Groundwater	unknown amount 20,000 gallons	H&H Shipping, SF Released to storm drain with RWQCB approval	3/21/90 3/8/91

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm) 1 Before	Soil (ppm) After 3	Water (ppb) 2 Before	Water (ppb) After
TPH (gasoline)	1700	4	18,000	80
TPH (Diesel)	2	ND	12,000	90
Benzene	2	0.25	1700	0.9
Toluene	48	0.0098	1900	ND
Ethylbenzene	30	0.17	150	ND
Xylenes	150	0.11	3500	ND

Comments (Depth of Remediation, etc.):
1 Initial sample from 3/13/90 tank removals
2 grab groundwater sample from 3/28/90 after pit recharged
3 Soil samples taken after overexcavation on 4/9/90

Leaking Underground Fuel Storage Tank Program

Treatment and Disposal of Affected Material: (Oil Water Separator)

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Oil-Water Separator	1-160 gallon (800 pounds)	Disposed by H&H Shipping San Francisco	2/3/92
Soil	approx 150 cy	Recycled by R&G Env. San Jose, CA 95128-2406	6/29/93

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before (1)	After (2)	Before (3)	After (4)
TPH (Diesel)	ND	NA		
Semi-VOCs		ND		
Oil and Grease	9400			
Metals: Cd,Cr,Pb,Ni, Zn	ND,90.3,ND,137,37.5			
VOCs (8240)				
Methylene Chloride		0.053		
cis-1,2-DCE		0.20	2.8	96
trans-1,2-DCE		0.0055	1.3	24
TCE		0.012	3.2	210
1,1,1-TCA			3.1	ND
vinyl chloride				2.1

Comments (Depth of Remediation, etc.):
1 P3-5.5'
2 P3-9', AS-1-7', AS-5-7'
3 PIT-1
4 MW-7 (MW-1), 2/24/97 event

IV. **CLOSURE**

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Undetermined

Does corrective action protect public health for current land use? YES

Site management requirements: Yes

Should corrective action be reviewed if land use changes? Yes

Monitoring wells Decommisioned: One of seven

Number Decommisioned: one Number Retained: 6

List enforcement actions taken: Preenforcement hearing-3/27/95

List enforcement actions rescinded: above

Leaking Underground Fuel Storage Tank Program

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan Title: Hazardous Materials Specialist

Signature: Barney M Chan Date: 10/2/97

Reviewed by

Name: Tom Peacock Title: Manager

Signature: Tom Peacock Date: 10-1-97

Name: Madhulla Logan Title: Hazardous Materials Specialist

Signature: Madhulla Logan Date: September 22, 1997

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response: Approved

RWQCB Staff Name: K. Graves Title: AWRCE Date: 10-17-97

VII. ADDITIONAL COMMENTS, DATA, ETC.

see site summary

Site Summary for 500 High St., StID #3818

October 2, 1989- Three borings were advanced by Blymyer Engineers within and around the tank pit of the 10k and 2k USTs. Boring B-1, located within the tank pit, indicated a release had occurred exhibiting 330 ppm TPHg and 0.42, 7.8, 39 and 9.1 ppm BTEX, respectively.

March 13, 1990- One 10,000 gallon tank which had originally contained diesel and then gasoline and one 2,000 gallon gasoline tank were removed from this site. Groundwater was encountered in the bottom of both tank pits. Soil samples were taken at the groundwater interface from the ends of each tank. Samples were also taken from beneath the dispenser and along the piping run. Up to 1700 ppm TPHg and 2.0,48,30 and 150 ppm BTEX, respectively, was found in the soil samples from within the pit. Line samples detected neglible TPH or BTEX. Because floating product appeared on the water, the existing water was pumped out by H&H and grab groundwater samples taken on March 28, 1990. These samples exhibited up to 18 mg/l TPHg, 12 mg/l TPHD and 1,700, 1,900, 150 and 3,500 ppb BTEX, respectively.

April 9, 1990- The tank pit was overexcavated and five confirmatory soil samples taken. Contamination was reduced to 4 ppm TPHg, 1.7 ppm TPHd and 0.25, 0.0098, 0.17 and 0.11 ppm BTEX, respectively.

During the winter of 1990, a water line ruptured and filled the excavation pit to approximately 3' bgs. Prior to backfilling the pit, approximately 20,000 gallons of water was pumped out into a Baker tank. The RWQCB approved the disposal of this water to a nearby storm drain on a one-time basis.

February 26 and 27, 1991- Three soil bores (B-1 through B-3) were converted into monitoring wells MW-1 through MW-3. Soil samples from these borings did not indicate much, if any, petroleum contamination. Based upon the detection of elevated petroleum contamination in MW-1, a fourth well, MW-4, was installed downgradient of the former UST on March 25, 1991. Up to 2400 ppm TPHd was detected in the boring from MW-4. As it turns out, this contamination was likely from a release from the oil-water separator located near MW-4, which was later removed.

May 23, 1991- Nine soil borings (P-1 through P-9) were advanced around the oil-water separator (OWS) attempting to delineate the extent of contamination from the OWS. Analysis of these soil borings indicated highest contamination immediately north and east of the OWS. These soil samples were analyzed for Oil and Grease and the one with the highest O&G was analyzed for halogenated VOCs. This sample, P-3-5.5', detected 9400 ppm TOG and was ND for VOCS.

November 26, 1991- The 160 gallon steel, oil-water separator was removed from the site. Approximately 150-175 cubic yards of oil impacted soil was removed. A total of seven soil samples (AS-1 through AS-7) were taken from the pit after excavation on 11/27/91. The soil sample directly beneath the OWS, AS-1-7', was analyzed for the entire suite of waste oil parameters. Results of this analysis were: ND for TOG, 1.3 ppm TPHd, ND for TPHg, ND for BTEX, 0.053ppm methylene chloride, 0.20 ppm cis-1,2-DCE, 0.0055ppm trans-1,2-DCE, ND for semi-volatiles and background levels of the metals; chromium, nickel and zinc. Cadmium and lead were ND. The other samples were run for TOG, TPHd and HVOCs. The only additional HVOCs detected were 0.012 ppm TCE in sample AS-5-7'. Based upon these results, additional excavation in the northwest area of the pit was done and an additional sample, AS-8-9', was taken on 12/24/91. This sample exhibited ND for TOG, TPHd and HVOCs. It appears that excavation was fairly complete in removing soil contamination. During this excavation, MW-4 was properly destroyed.

On **November 21, 1991** MW-5 was installed further downgradient of the OWS in Howard St. When sampled on 12/12/91 the HVOCs; cis and trans-DCE and TCE were detected above their respective MCLs.

Based upon the above results, on **March 16, 1992** MW-6 was installed even further downgradient within the Dailey Truck Body property, approximately 200' downgradient of MW-5 and approximately 300' downgradient of the OWS. Soil borings from MW-5 were analyzed from 6-6.5' and from 11-11.5' and from MW-6 from 5-5.5', 10-10.5' and 15-15.5'. No contaminants; TPH or HVOCs were detected in these samples. Unfortunately, only TPH was analyzed in the borings from MW-5.

Further offsite characterization was proposed and approved by our office, however, the owner of the offsite property denied access. After a pre-enforcement hearing on 3/27/95, site access was approved by Mr. Minor, the offsite property owner.

As a further attempt to determine the extent of the HVOC plume, an **April 27, 1994** investigation was performed where four offsite borings (B-1 through B-4) were advanced and soil and groundwater samples taken. At the same time, groundwater was sampled from the existing wells plus the well from the adjacent property, the former El Monte R.V. Service center. This well was named MW-7 for the purposes of the 500 High St. investigation but was identified as MW-1 for the purpose of investigation a release from the former gasoline tank removed at the El Monte site (4341 Howard St.).

Soil samples from these borings indicate that both TPH and HVOCs did not impact the soil. The groundwater samples from the borings indicated that low levels of HVOCs were further downgradient of the site. The exception was the well on the El Monte RV site which detected considerably higher HVOCs in groundwater than the other sampling points. This indicates another possible offsite source of HVOCs besides the OWS.

This site was inherited by Bank of America through purchase of Security Pacific Bank who foreclosed on the loan of Mr. Cobbledick. The site has since been sold to the High St. Group with Bank of America retaining remediation responsibility. In **September 1994** a prepurchase subsurface investigation was performed at the site for the Thielscher Investment Corporation representing the High St. Group. A total of fourteen (14) borings were advanced at the site. Soil and grab groundwater samples were taken. No significant soil or groundwater contamination was observed. It appears that there is no significant soil contamination onsite.

The HVOC plume was detected highest in concentration near MW-7/ (MW-1) on the El Monte RV Center. Potential risk appears to be the highest to the two residential homes on Howard St.

A feasibility study was performed. Included in the options to be considered was a human health risk assessment (HHRA) and the performance of a pump test to determine if groundwater extraction was possible. Three additional borings were proposed to evaluate the lateral extent of contamination. One additional monitoring well was also proposed to be located immediately downgradient of the former OWS and adjacent to one of the residential homes. On **September 12, 1995** this well, MW-8, was installed. On **October 13, 1995** the three borings, AEC/B-1, AEC/B-2 and AEC/B-3 were advanced. On **December 21, 1995** wells MW-2, MW-5 and MW-8 were slug tested.

Soil contamination, again, was not detected in either MW-8 or the AEC borings. HVOC contamination was detected in groundwater from MW-8 but in significantly lower concentration than MW-7 (MW-1). The boring nearest MW-7, AEC/B-3, not surprisingly, exhibited the highest grab groundwater HVOCs concentration amoung the borings. These results support the belief that there may be a source of HVOC coming from the El Monte RV Center.

From monitoring data, our office concurred that the TPH releases from both the former Cobbledick Kibbe and El Monte RV was adequately investigated. Analysis for TPHg,d and BTEX was discontinued for all wells starting in 1996. Monitoring would

continue for the HVOCs on a semi-annual basis. The HHRA provided should would include groundwater concentrations from wells closest the existing residential homes, which were installed by both sites.

An **April 8, 1997 ASTM RBCA** was provided for County review. The following pathways were considered complete and were therefore evaluated:

* Onsite residential ingestion and dermal contact to surface soil
* Onsite residential exposure to outdoor air including volatiles and particulates from surface soils
* Volatiles and particulates from subsurface soils to ambient air
* Volatiles from groundwater to ambient air
* Indoor air exposure from subsurface soils and groundwater to enclosed space

The HHRA was reviewed by Madhulla Logan of our office and she concurred that no risk existed exceeding 1E-6. In fact, the highest risk evaluated was from indoor air exposure pathways @ 1.4E-7 and its hazard quotient was 1.9E-3.

No further action is recommended for both the petroleum and HVOC releases based upon:

1. Adequate source removal; the UST and Oil Water Separator and impacted soil have been removed.

2. Adequate site characterization; HVOCs have been delineated both on and offsite of 500 High St. Additional monitoring wells and geoprobes/hydropunch sampling has been performed.

3. Groundwater in this area is not being used as a source of drinking water.

4. A HHRA has been performed and this indicates no risk exceeding 1E-6.

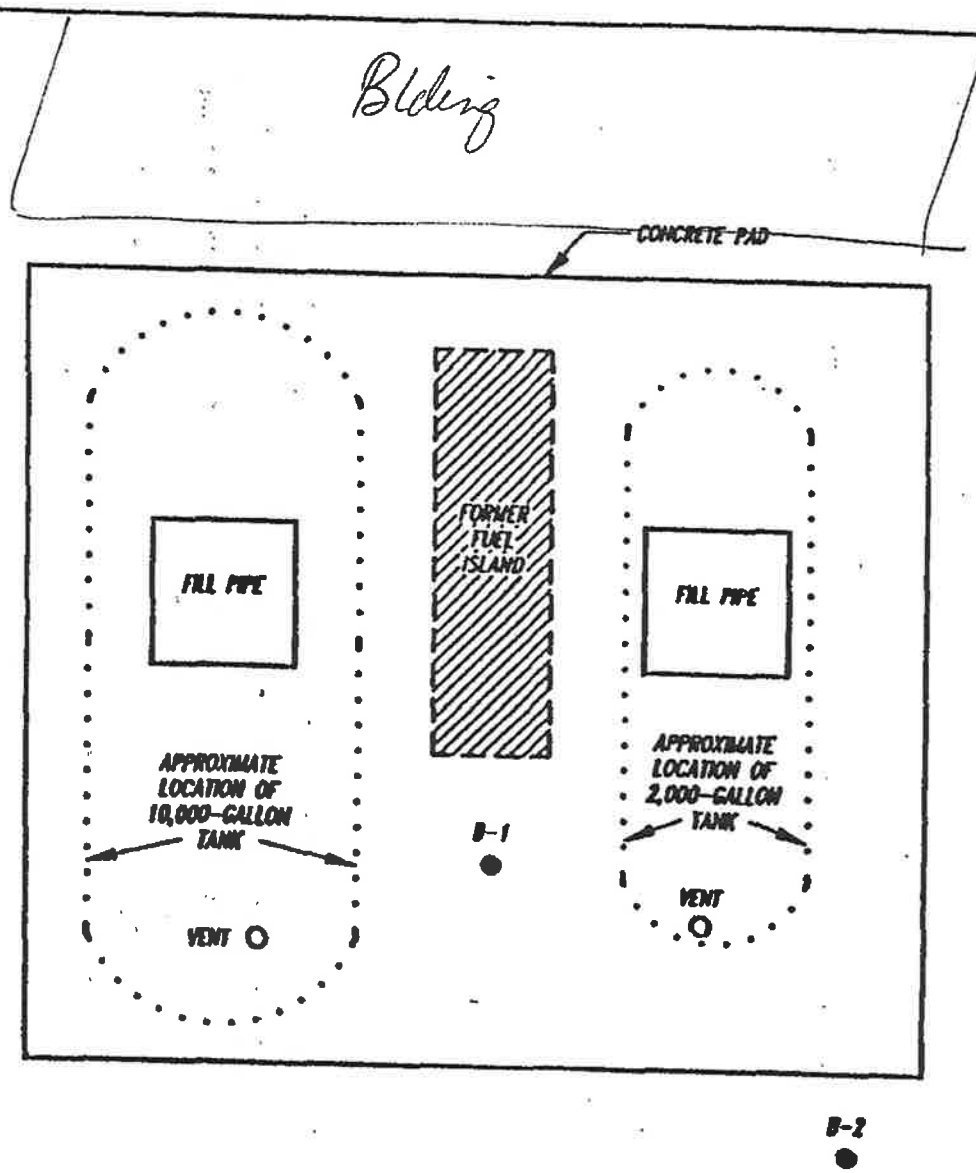
A risk management plan should be developed to :

* If appropriate, mitigate any potential negative impacts posed by the residual groundwater contamination

* Develop a strategy to address any risk posed to construction or utility worker exposure during earth moving activitities in the vicinity of groundwater contamination

* Take precautions to avoid making any vertical or lateral conduits which may cross contamination the shallow and deep aquifers

dermal contact to gw



Scale:

5 Feet

LEGEND:

B-1 SOIL SAMPLING LOCATIONS

October 89 Borings

COBBLEDICK-KIBBE, INC.
PPSI

Soil Sampling Locations

November 1989

ENGINEERING-SCIENCE

C105-13.02 11/21/89

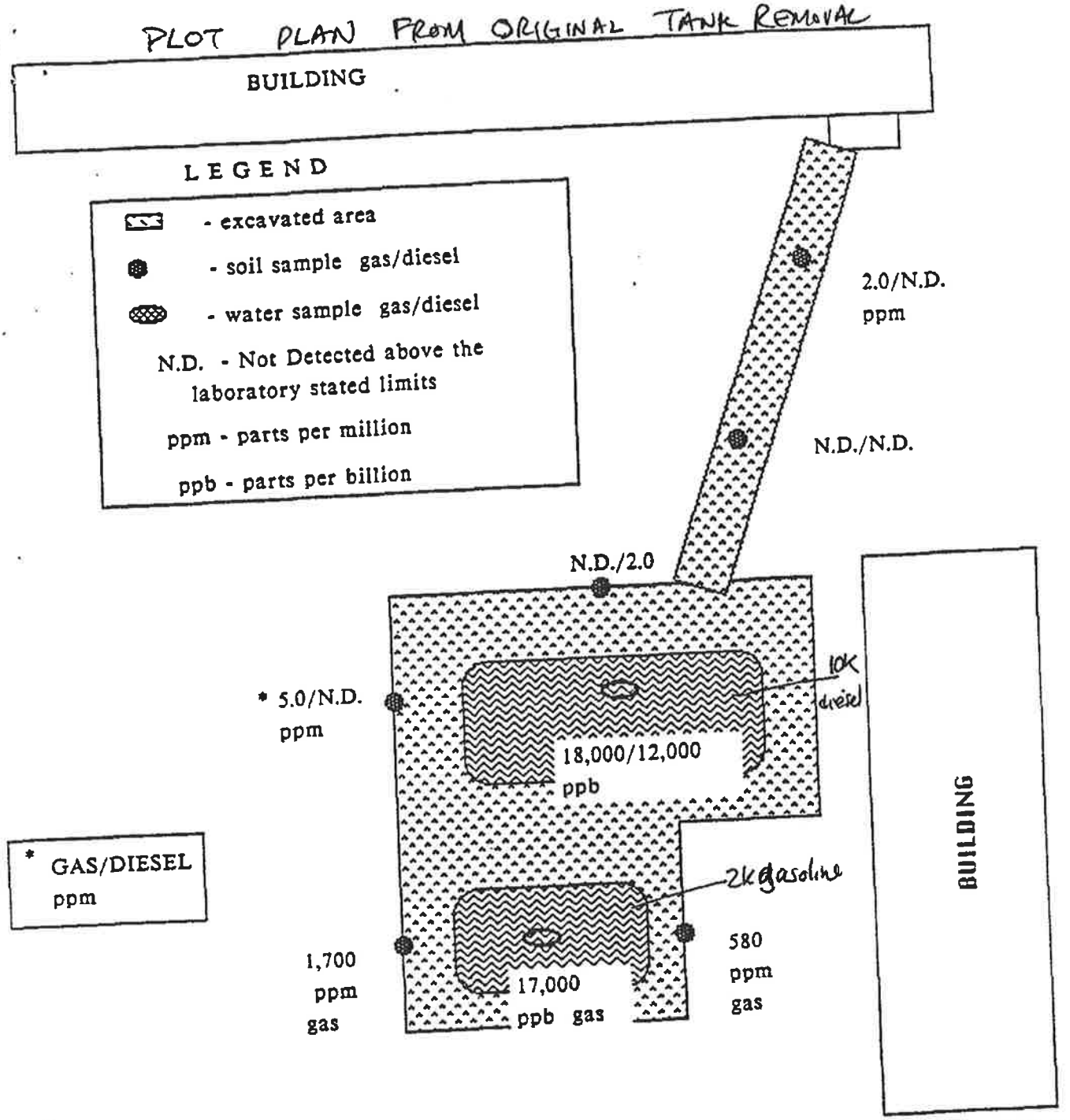
TABLE 3

ANALYTICAL RESULTS FOR SOIL CONTAMINANTS
COBBLEDICK-KIBBE SITE INVESTIGATION
OCTOBER 1989 BORING RESULTS

	Concentration Units	B-1 (6-9 feet)	B-2 (4-7 feet)	B-3 (4 feet)	Detection Limit	Regulatory Criteria
Total Petroleum Hydrocarbons						
Gasoline	mg/kg	330	5.8	<2.5	0.5	1,000[2]
Diesel[1]	mg/kg	<1	<1	<1.0	1.0	1,000[2]
Aromatic Hydrocarbons						
Benzene	µg/kg	420	140	<5.0	1.0	20[3]
Toluene	µg/kg	7,800	51	40.0	1.0	2,000[3]
Xylenes	µg/kg	39,000	140	15.0	1.0	35,000[3]
Ethylbenzene	µg/kg	9,100	310	6.0	1.0	11,600[3]
Total BTXE		53,320	641	66.0		

1 Semi-quantified results, samples analyzed after holding time for analysis had expired.
2 Level in mg/kg at which EPA defines as hazardous.
3 MCL or SAL in µg/Kg, modified soil, non-binding.
"<" before a value indicates concentration below the detection limit of the analysis.

PLOT PLAN FROM ORIGINAL TANK REMOVAL



NORTH	SECURITY PACIFIC NATIONAL BANK EMBARCADERO CENTER NO. 1 SAN FRANCISCO, CA 94111	**ACCUTITE** 35 South Linden Avenue South San Francisco, CA 94080
	SITE: COBBLEDICK-KIBBE 500 HIGH STREET OAKLAND, CA	

ACCUTITE

placed on ice, and transported under chain of custody to a California Department of Health Services certified laboratory for analysis.
Original results of the analyses and the chain of custody form used, are attached with this report.

Summary of Soil Sampling:
Six (6) soil samples were collected in the excavation on March 13, 1990 at the locations indicated on the attached drawing. All samples were analyzed by Sequoia Analytical Laboratory in Redwood City, California, for Total Petroleum Hydrocarbons (TPH) as Gasoline and Diesel with Benzene, Toluene, Ethyl Benzene, and Xylenes (BTE&X) distinctions on a five (5) day rush turnaround. Sequoia Analytical Laboratory is a Department of Health Services certified Lab (DHS# 145).

Soil Sampling Results:

Results of the analyses performed did show contamination levels above the laboratory stated detection limits:
* please note original results attached

Sample:	TPH as Gas (ppm)	TPH as Diesel (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl Benzene (ppm)	Xylene (ppm)
LINE DISP	2.0	N.D.	N.D.	N.D.	N.D.	0.13
LINE TANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
10 K FILL	N.D.	2.0	N.D.	N.D.	N.D.	N.D.
10 K END	5.0	N.D.	0.10	N.D.	N.D.	N.D.
2 K FILL	1,700	--	2.0	48	30	150
2 K END	580	--	0.11	1.0	8.0	37
Detection Limits:	1.0	1.0	0.05	0.1	0.1	0.1

TPH as G = Total Petroleum Hydrocarbons as Gasoline
N.D. = Not detected above stated limit
ppm = parts per million

Water Sampling Procedure:

At the time of the tank removal, floating product was noticed on the ground water in the excavation. In order to assure an accurate level of Total Petroleum Hydrocarbons in the water of that area it was recommended that the ground water in the excavation be pumped out and allowed to recharge. Herbert Elliot, President of Cobbledick-Kibbe was notified of the situation and gave the approval to remove the water. At that time H & H Shipping was called to pump out the contaminated ground water, which they did on March 21, 1990 and hauled water under Hazardous Waste Manifest Number 90003342 to their facility at 220 China Basin, San Francisco, CA.

Ground water was allowed to recharge and sampled on March 28, 1990 in accordance with accepted sampling techniques. Water was extracted with the use of a clean Teflon bailer and poured directly into appropriate glass amber one liter jars and VOA vials. Samples were labeled, placed on blue ice and transported under chain of custody to Sequoia Analytical Laboratory.

Summary of Water Sampling:

One (1) liter jar and two (2) vials were collected from the water in the area where the 2,000 gallon Diesel tank was located and analyzed for TPH as D and G with BTE & X distinctions. Four (4) vials were collected from the water in the area where the 10,000 gallon Gasoline tank was located and analyzed for TPH as G with BTE & X distinctions.

(GRAB) **Water Sampling Results:** FROM TANK REMOVAL

Results of the analyses performed did show contamination levels above the laboratory stated detection limits:

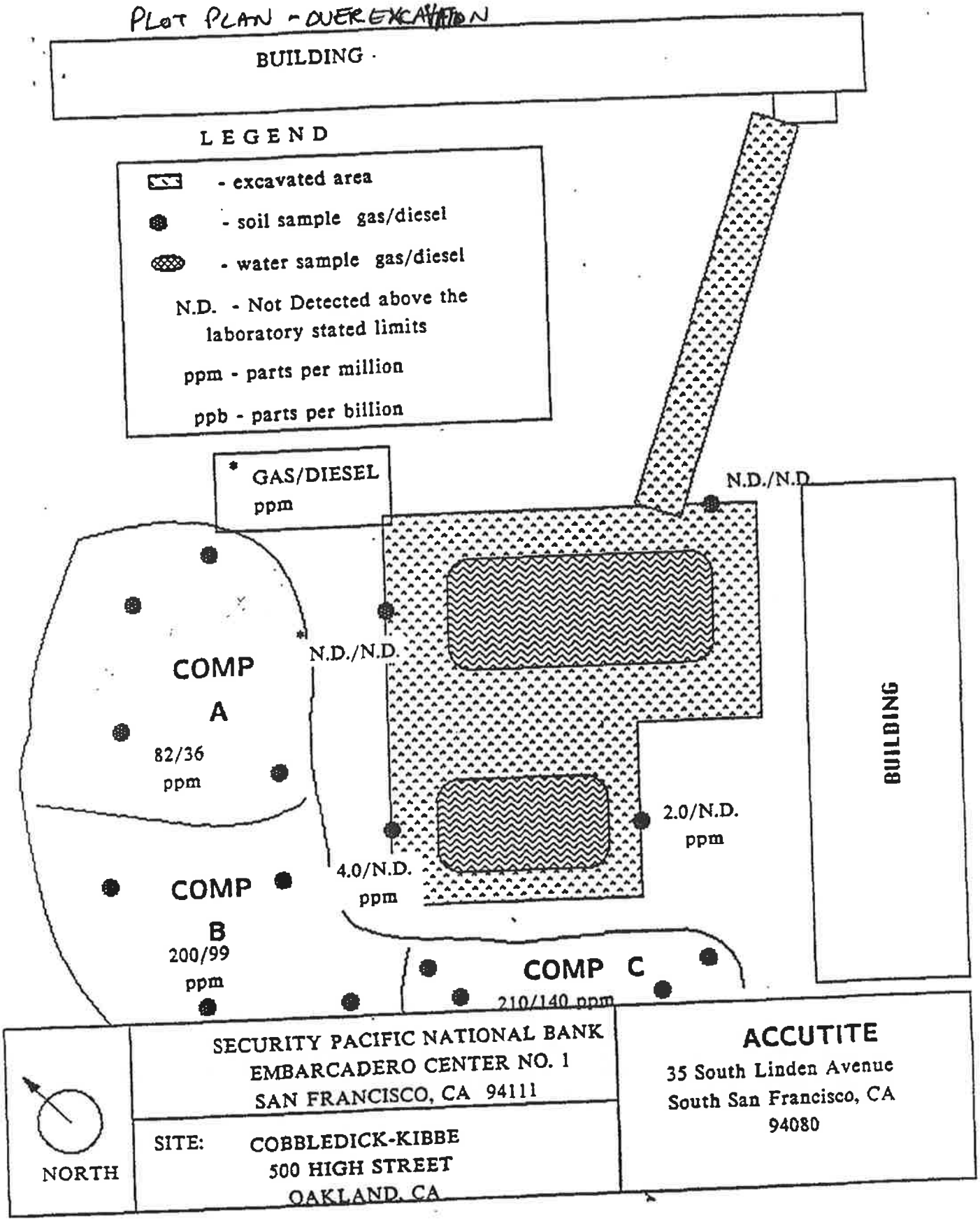
L= liter
V= vial

Sample:	TPH as Gas	TPH as Diesel	Benzene	Toluene	Ethyl Benzene	Xylene
	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)
L1,V1,V2	18,000	12,000	1,500	1,200	150	3,500
V3,V4,V5,V6	17,000		1,700	1,900	3.4	3,200
Detection Limits:	30		0.3	0.3	0.3	0.3

[please refer to the original lab results attached]
ppb = parts per billion

ACCUTITE

PLOT PLAN - OVER EXCAVATION



ACCUTITE

SOIL SAMPLES AFTER OVEREXCAVATION

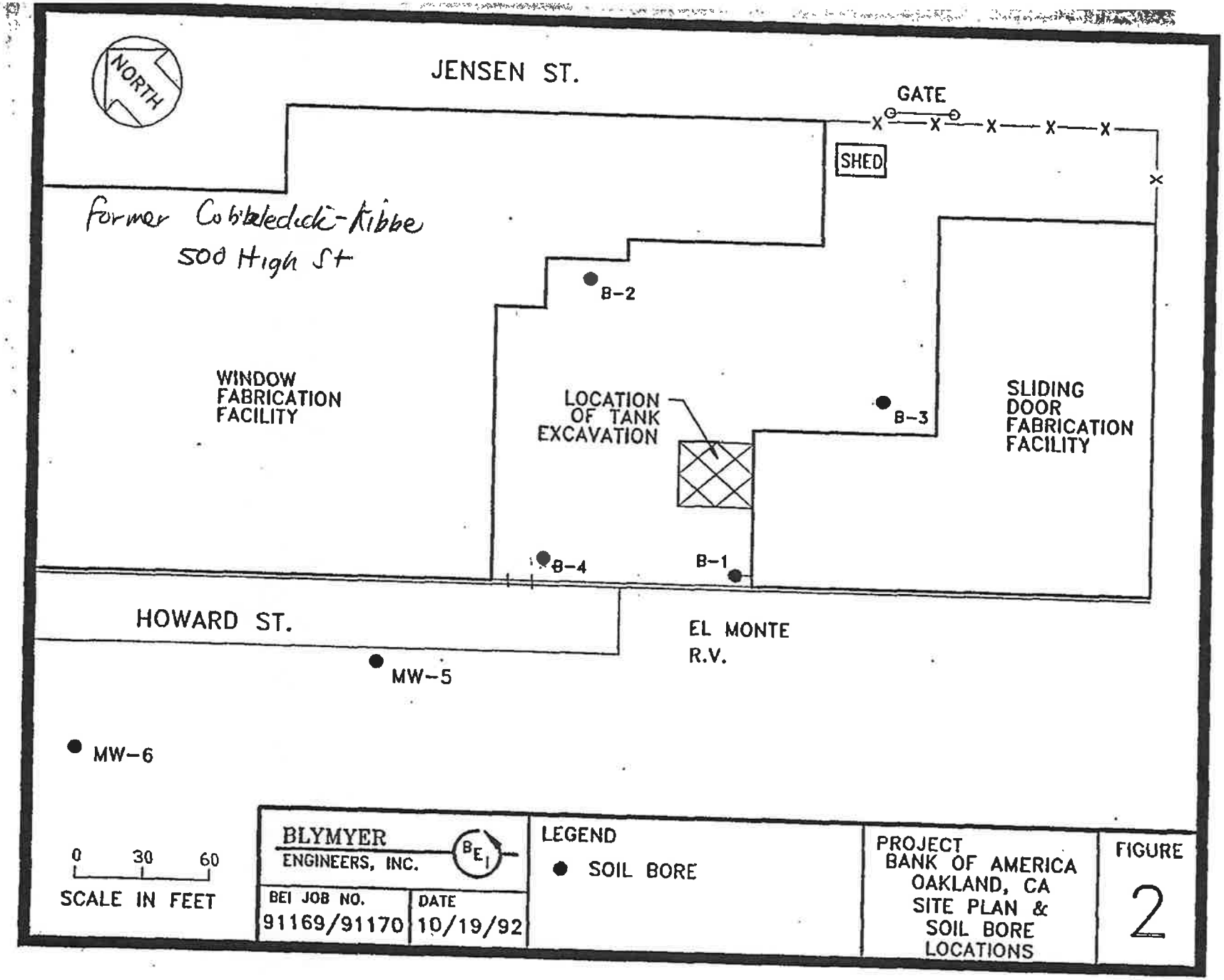
Soil Mitigation Work Performed:

After reviewing these results with Herb Elliott, Accutite recommended that the site be over-excavated with the goal of reducing the contamination to levels acceptable to the Implementing Agencies.

On April 9, 1990 Accutite began over-excavation of the site where the tanks had been removed. Five (5) soil samples were collected from the excation, and three (3) composite soil samples were taken from the stock piles on site, location of sampling is indicated on the attached drawing. All samples were analysed by Sequoia Analytical Laboratory in Redwood City, California, to be analyzed for TPH as G and D with BTE&X distinctions on a five (5) day rush turnaround.

Soil Sampling Results:

Sample:	TPH as Gas (ppm)	TPH as Diesel (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl Benzene (ppm)	Xylene (ppm)
Stockpile Comp. A	82	36	0.32	1.0	0.69	3.0
Stockpile Comp. B	200	99	0.83	3.0	3.0	13
Stockpile Comp. C	210	140	0.85	4.0	2.0	12
10 K End	N.D.	1.7	0.0065	0.0059	N.D.	0.011
10 K Fill	N.D.	N.D.	0.0061	N.D.	0.0054	0.013
2 K End	2.0	N.D.	0.25	0.0098	0.057	0.055
2 K Fill	4.0	N.D.	0.050	0.0094	0.17	0.11
Middle	2.0	N.D.	0.051	N.D.	0.033	0.013
Detection Limits:	1.0	1.0	0.005	0.005		0.005



Locations of Borings / MW
B1-B4 converted to MW-1 through MW-4

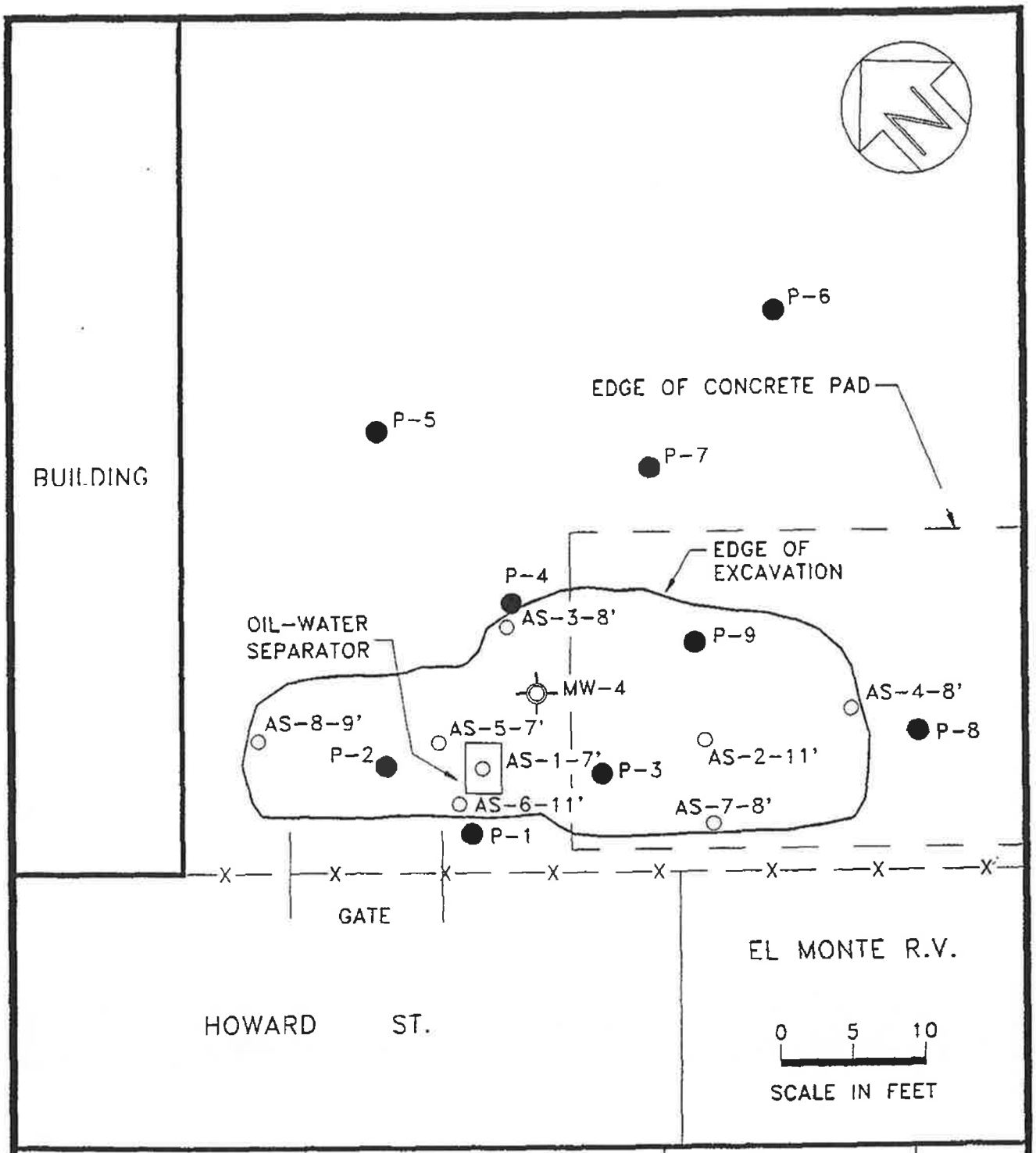
TABLE I, Summary Of Well Installation
Soil Sample Analytical Results
Bank of America
500 High Street, Oakland, California
BEI Job No. 91169

Sample Identification	Modified EPA Method 8015 (mg/kg)		EPA Method 8010 (µg/kg)	EPA Method 8020 (µg/kg)			
	TPH as diesel	TPH as gasoline	Halogenated Volatile Organics	Benzene	Ethylbenzene	Toluene	Total Xylenes
B-1 5'	50	<1		<2.5	<2.5	<2.5	<2.5
B-1 10'	<1	<1		<2.5	<2.5	<2.5	<2.5
B-2 5.5-6'	67	<1		<2.5	<2.5	<2.5	<2.5
B-2 11-11.5'	<1	<1		<2.5	<2.5	<2.5	<2.5
B-3 5-5.5'	18	<1		<2.5	<2.5	<2.5	<2.5
B-3 11'	<1	<1		<2.5	<2.5	<2.5	<2.5
B-4-1 5.5-6'	2,300	<1		<2.5	<2.5	9.8	4.9
B-4-2 10-10.5'	<1	<1		<2.5	<2.5	<2.5	<2.5
MW-5 6-6.5'	<1	<1		<2.5	<2.5	<2.5	<2.5
MW-5 11-11.5'	<1	<1		<2.5	<2.5	<2.5	<2.5
MW-6-1 5-5.5'	<1	<1	ND	<5.0	<5.0	<5.0	<5.0
MW-6-2 10-10.5'	<1	<1	ND	<5.0	<5.0	<5.0	<5.0
MW-6-3 15-15.5'	<1	<1	ND	<5.0	<5.0	<5.0	<5.0

bgs = below grade surface
TPH = Total Petroleum Hydrocarbons
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram

Shaded areas indicate that samples were not analyzed for the listed method.
For results presented as <x, x represents the reporting limit.

OIL WATER SEPARATOR SAMPLES



BLYMYER ENGINEERS, INC. (BEI)	LEGEND	PROJECT	FIGURE
BEI JOB NO. 91169/91170	DATE 10/29/92	○ SOIL SAMPLE ⊕ MONITORING WELL ● SOIL BORE	BANK OF AMERICA OAKLAND, CA SOIL BORE AND SOIL SAMPLE LOCATIONS	9

BORINGS AROUND OWS

TABLE V, Summary Of Soil Bore Sample Analytical Results
Bank of America
500 High Street, Oakland, California
BEI Job No. 91169

Sample Identification	Date Sampled	Sample Depth (feet bgs)	SM5520CF	EPA Method 8010
			Oil and Grease (mg/kg)	Halogenated Volatile Organics (mg/kg)
P-1-6'	5/23/91	6	25	
P-1-10.5'	5/23/91	10.5	12	
P-2-5'	5/23/91	5	280	
P-2-9'	5/23/91	9	11	
P-3-5.5'	5/23/91	5.5	9,400	ND
P-3-9'	5/23/91	9	8,300	
P-4-3'	5/23/91	3	4,300	
P-4-9'	5/23/91	9	19	
P-5-6'	5/23/91	6	11	
P-6-6'	5/23/91	6	<10	
P-7-5.5'	5/23/91	5.5	<10	
P-7-8'	5/23/91	8	<10	
P-8-6'	5/23/91	6	<10	
P-9-6'	5/23/91	6	<10	

mg/kg = milligrams per kilogram
ND = None detected above the reporting limit
bgs = below grade surface

Shaded areas indicate that samples were not analyzed for the listed method.

For results listed as <x, x represents the reporting limit.

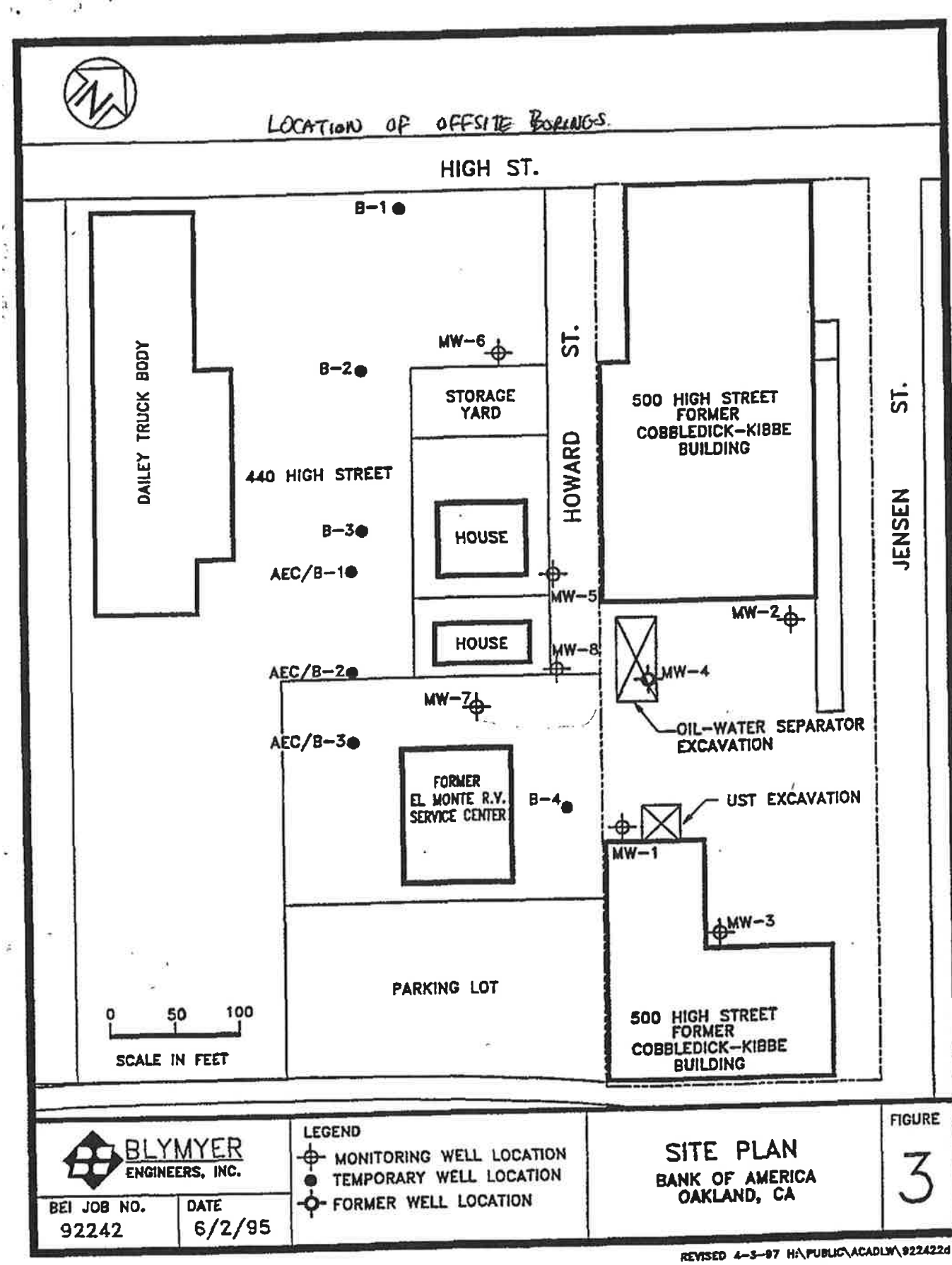
TABLE VI. Summary of Oil-Water Separator Excavation
Soil Sample Analytical Results
Bank of America
500 High Street, Oakland, California
BEI Job No. 91169

Sample Identification	SM5520EF	Modified EPA Method 8015		EPA Method 8020	EPA Method 8010	EPA Method 8270	EPA Methods 6010/7420
	Oil and Grease (mg/kg)	TPH as Diesel (mg/kg)	TPH as Gasoline (mg/kg)	BTEX (µg/kg)	Halogenated Volatile Organics* (µg/kg)	Semi-volatile Organics (µg/kg)	Total Metals (mg/kg)
AS-1-7'	<50	1.3	<1.0	<5.0	methylene chloride (53) cis-1,2-dichloroethene (200) trans-1,2-dichloroethene (5.5)	ND	Chromium (90.3) [0.50] Nickel (137) [1.6] Zinc (37.5) [1.0]
AS-2-11'	<50	1.2			ND		
AS-3-8'	<50	<1.0			ND		
AS-4-8'	<50	<1.0			ND		
AS-5-7'	<50	<1.0			cis-1,2-dichloroethene (12) trans-1,2-dichloroethene (2.9) trichloroethylene (12)		
AS-6-11'	52	<1.0			trichloroethylene (3.2)		
AS-7-8'	<50	<1.0			ND		
AS-8-9'	<50	<1.0			ND		

TPH = Total Petroleum Hydrocarbons
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
* = Compounds that are individually listed were the only analytes detected above the respective reporting limits.
NA = Not analyzed
(x) = Detected concentration
ND = None detected above the reporting limit

Shaded areas indicate that samples were not analyzed for the listed method.

For results listed as <x, x represents the reporting limit.


LOCATION OF OFFSITE BORINGS.
HIGH ST.
B-1
DAILEY TRUCK BODY
MW-6
B-2
STORAGE YARD
440 HIGH STREET
B-3
AEC/B-1
HOUSE
HOUSE
AEC/B-2
AEC/B-3
MW-7
HOWARD ST.
MW-5
MW-8
500 HIGH STREET FORMER COBBLEDICK-KIBBE BUILDING
JENSEN ST.
MW-2
MW-4
OIL-WATER SEPARATOR EXCAVATION
UST EXCAVATION
MW-1
MW-3
FORMER EL MONTE R.V. SERVICE CENTER
B-4
PARKING LOT
500 HIGH STREET FORMER COBBLEDICK-KIBBE BUILDING
0 50 100
SCALE IN FEET
BLYMYER ENGINEERS, INC.
BEI JOB NO. 92242
DATE 6/2/95
LEGEND
MONITORING WELL LOCATION
TEMPORARY WELL LOCATION
FORMER WELL LOCATION
SITE PLAN
BANK OF AMERICA
OAKLAND, CA
FIGURE 3
REVISED 4-3-97 H:\PUBLIC\ACADLW\922422d

4/27/94 OFFSITE BORINGS - TPH

TABLE I, Summary of Soil Sample Analytical Results for Petroleum Hydrocarbons
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample ID	Depth (feet)	Sample Date	Modified EPA Method 8015 (mg/kg)		EPA Method 8020 (µg/kg)			
			TEPH	TPPH	Benzene	Ethylbenzene	Toluene	Total Xylenes
B-1-6	6	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-1-11	11	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-2-6	6	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-2-11	11	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-3-6	6	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-3-11	11	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-4-6	6	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5
B-4-11	11	4/27/94	<1	<1	<2.5	<2.5	<2.5	<2.5

Notes:

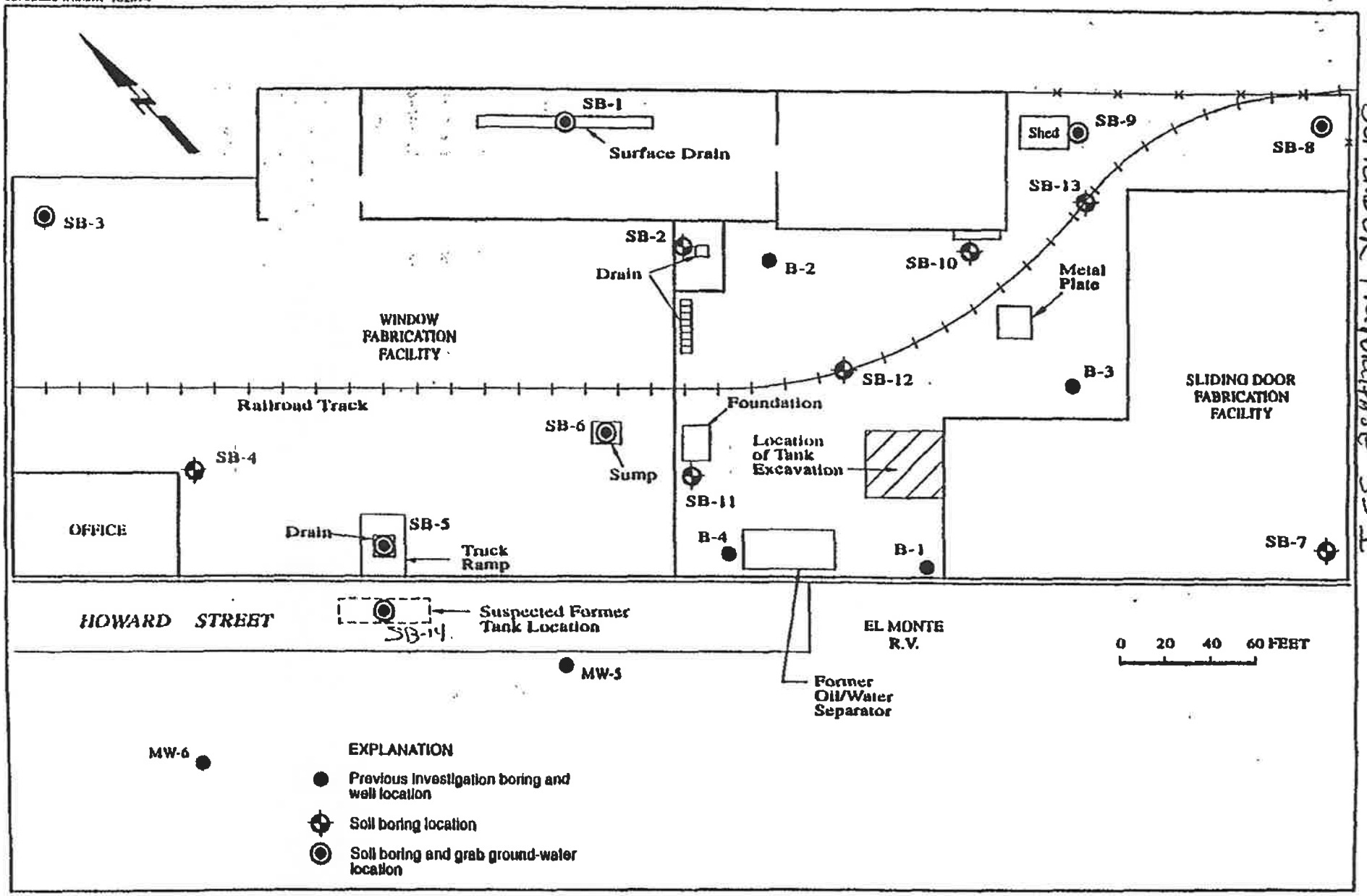
EPA	=	Environmental Protection Agency
TEPH	=	Total Extractable Petroleum Hydrocarbons
TPPH	=	Total Purgable Petroleum Hydrocarbons
mg/kg	=	milligrams per kilogram
µg/kg	=	micrograms per kilogram
<x	=	less than the method reporting limit (x)

4/27/94 OFFSITE BORINGS - HVOCS

Table II, Summary of Soil Sample Analytical Results for HVOs
BEI Job No. 92742, Bank of America
500 High Street, Oakland, California

Sample ID	Sample Depth (feet)	Sampling Date	HVOs EPA Method 8010 (µg/Kg)				
			cis-1.2-DCE	trans-1.2-DCE	TCE	TCA	Vinyl Chloride
B-1-6	6	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-1-11	11	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-2-6	6	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-2-11	11	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-3-6	6	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-3-11	11	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-4-6	6	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0
B-4-11	11	4/27/94	<2.0*	<2.0	<2.0	<2.0	<2.0

Notes:
HVOs = Halogenated Volatile Organics
DCE = Dichloroethene
TCE = Trichloroethene
TCA = Trichloroethane
µg/Kg = micrograms per kilogram
<x = less than the method reporting limit (x)
* = Technically nonreportable concentration, cis-1.2-DCE laboratory standard was not run by laboratory



SEPTEMBER PURCHASE SS I

Figure 1 : SITE VICINITY, SOIL BORING, AND GRAB GROUND-WATER SAMPLE LOCATION MAP

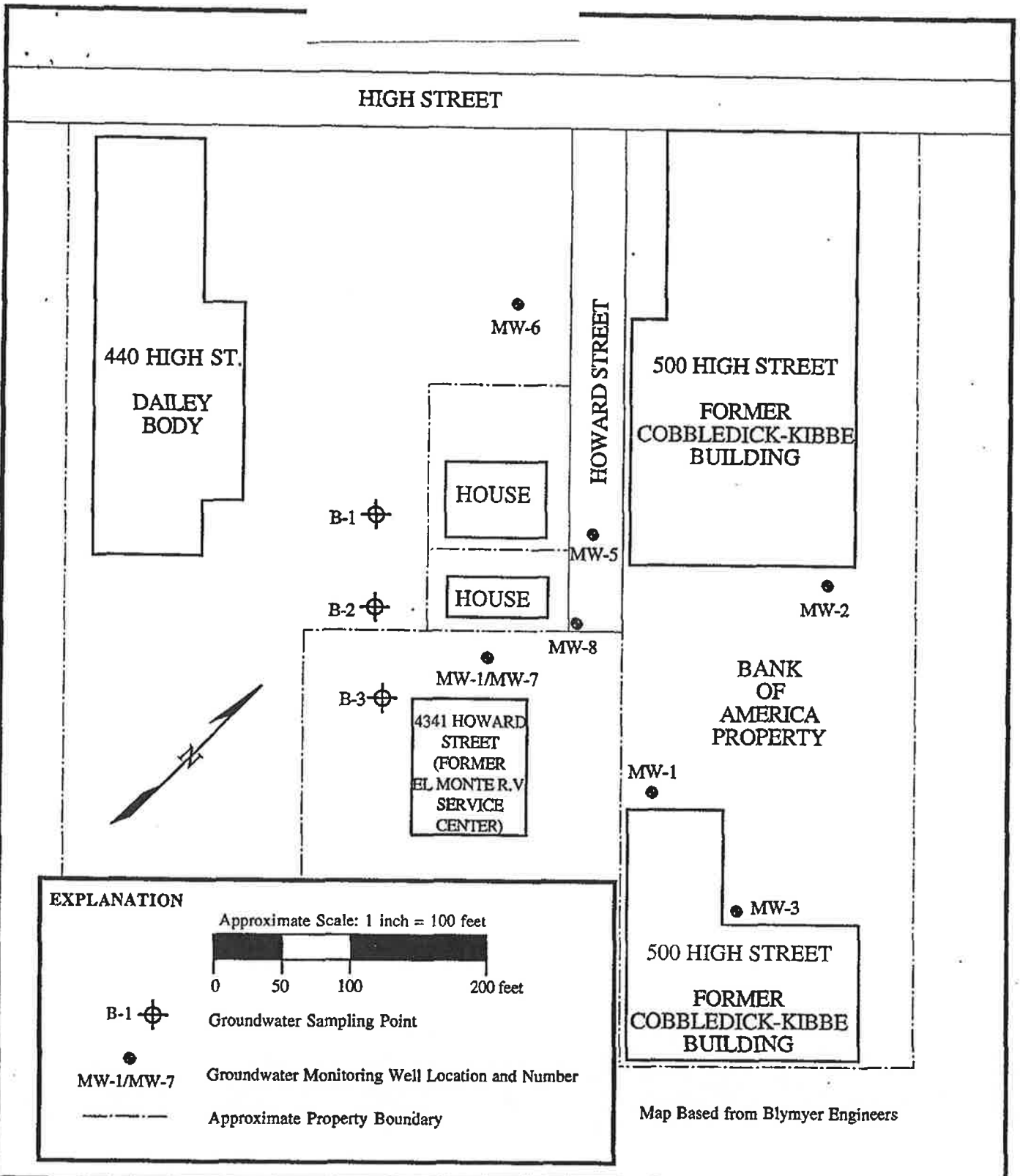
TABLE 1
SEPTEMBER 1994 INVESTIGATION
CHEMICAL COMPOUNDS DETECTED IN SOIL AND GRAB GROUND-WATER SAMPLES
FORMER COBBLEDICK-KIBBE FACILITY
OAKLAND, CALIFORNIA
(concentrations in ppm)

Sample ID	Date Sampled	TPH as gasoline	TPH as diesel	TPH as motor oil	TCE	CIS-1,2-DCE	Acetone	Methylene Chloride
Ground water								
SB-1GGW	20-Sep-94	<0.05	<0.05	<0.2	<0.005	<0.005	<0.100	<0.005
SB-3GGW	20-Sep-94	<0.05	<0.05	<0.2	<0.005	<0.005	<0.100	<0.005
SB-5GGW	20-Sep-94	<0.05	<0.05	<0.2	0.006	<0.005	<0.100	<0.005
SB-6GGW	19-Sep-94	<0.05	<0.05	<0.2	<0.005	<0.005	<0.100	<0.005
SB-8GGW	19-Sep-94	<0.05	<0.05	0.3	<0.005	<0.005	<0.100	<0.005
SB-9GGW	19-Sep-94	<0.05	<0.05	0.2	<0.005	<0.005	<0.100	<0.005
SB-14GGW	20-Sep-94	1.8	0.4	0.3	<0.005	0.010	<0.100	<0.005
Soil								
SB-1-3	20-Sep-94	<0.2	<1	<5	<0.005	<0.005	<0.100	<0.005
SB-2-4	20-Sep-94	<0.2	<1	63	<0.005	<0.005	<0.100	<0.005
SB-3-3	20-Sep-94	<1	<1	9	<0.005	<0.005	<0.100	<0.006
SB-4-3	20-Sep-94	<0.2	<1	20	<0.005	<0.005	<0.100	<0.007
SB-5-4.5	20-Sep-94	<1	<3	190	<0.005	<0.005	0.120	<0.030
SB-6-3.5	20-Sep-94	<0.2	<3	140	<0.005	<0.005	<0.100	<0.020
SB-7-3	19-Sep-94	<0.2	<1	53	<0.005	<0.005	<0.100	<0.007
SB-8-2	19-Sep-94	<1	<5	800	<0.005	<0.005	<0.100	<0.010
SB-9-3	19-Sep-94	<1	<2	400	<0.005	<0.005	0.240	<0.020
SB-10-2.5	19-Sep-94	<1	<1	52	<0.005	<0.005	<0.100	<0.008
SB-11-3.5	19-Sep-94	<0.2	<1	<5	<0.005	<0.005	0.100	<0.020
SB-14-3.5 *	20-Sep-94	<0.2	<5	1,100	<0.005	<0.005	NA	0.023

Data entered by DLM/18 Oct 94 Data proofed by LPL QA/QC KH

ppm = parts per million
NA = not analyzed
TPHd = total petroleum hydrocarbons as diesel
TPHg = total petroleum hydrocarbons as gasoline
TPHo = total petroleum hydrocarbons as oil

All samples analyzed using EPA Method 8015 TPHg, BTEX, TPHd, TPHo, EPA Method 8240 volatile organic compounds
* This sample not analyzed by EPA Method 8240 but EPA Method 8010 and EPA Method 8020



ARTESIAN ENVIRONMENTAL CONSULTANTS 3100 Kerner Blvd., Suite C San Rafael, California 94901 (415) 257-4801 Fax (415) 257-4805	BORING LOCATION MAP MINOR PROPERTY 4341 Howard Street Oakland, California

Project No.: 1668	Date: 1/15/96	Prepared By: T. Fortner	Figure 2

ARTESIAN ENVIRONMENTAL

Table 1 **Soil Laboratory Analytical Results**
4341 Howard Street, Oakland, California

AEC BORINGS PERFORMED FOR MINOR (EL MONTERY. CENTER)

Sample ID	Date Sampled	Sample Depth (feet)	EPA Method 8010 compounds µg/Kg
B1	10/13/95	8	<0.5
B2	10/13/95	8	<0.5
B3	10/13/95	11.5	<0.5

Notes

No targeted volatile halogenated compounds detected in soil samples

µg/Kg = micrograms per kilogram; equivalent to parts per billion (ppb)

3100 Kerner Blvd., Suite C • San Rafael, CA • 94901 • (415) 257-4801 • FAX (415) 257-4805

ARTESIAN ENVIRONMENTAL

Table 2 Groundwater Laboratory Analytical Results

4341 Howard Street, Oakland, California

Sample ID	Date Sampled	trans 1.2 DCE µg/L	cis 1,2 DCE µg/L	TCE µg/L	Other EPA Method 8010 compounds	TPH-g mg/L	Benzene µg/L	Toluene µg/L	Ethyl benzene µg/L	Total Xylenes µg/L
MW-1 (1)	6/25/93	NA	NA	NA	NA	<0.05 (2)	<0.5	<0.5	<0.5	<0.5
MW-1	7/27/93	NA	NA	NA	NA	0.25	1.7	<0.5	<0.5	<0.5
MW-1	4/27/94	NA	NA	NA	NA	0.34	2.1	<0.5	<0.5	<0.5
MW-1	7/29/94	NA	NA	NA	NA	0.41	1.8	<0.5	<0.5	<0.5
MW-1	10/25/94	NA	NA	NA	NA	<0.05	<0.5	<0.5	<0.5	<0.5
MW-1	3/23/95	12	36	220	ND(3)	0.08	1.6	<0.5	<0.5	<0.5
MW-1	10/16/95	7.2	91	91	ND	<0.05	0.6	<0.5	<0.5	<0.5
B1 AQ	10/13/95	<0.5	2.2	4.3	ND	NA	NA	NA	NA	NA
B2 AQ (4)	10/13/95	3.4	22	9.7	ND	NA	NA	NA	NA	NA
B3 AQ	10/13/95	9.4	120	83	ND	NA	NA	NA	NA	NA

Notes

(1) Grab water sample collected during well installation

(2) 0.37 mg/L of unknown compounds in gasoline range

(3) All other EPA METHOD 8010 analytes were below laboratory reporting limits

(4) Groundwater reacted with preservative forming small bubbles in VOA

mg/L = milligrams per Liter; equivalent to parts per million (ppm)

µg/L = micrograms per Liter; equivalent to parts per billion (ppb)

TPH-g = Total Petroleum Hydrocarbons as Gasoline

trans-1,2 DCE = trans 1,2 Dichloroethene

cis-1,2 DCE = cis 1,2 Dichloroethene

TCE = Trichloroethene

NA = Not Analyzed

MW8 : SOIL BORINGS

Table I, Summary of Soil Sample Analytical Results for BTEX and TOC
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample ID	Sample Depth (feet)	Sample Date	EPA 415.1 (mg/kg)	BTEX EPA 8020 (µg/kg)			
			TOC	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW8-6.5	6.5	09/12/95	NA	<2.5	<2.5	<2.5	<2.5
MW8-9	9.0	09/12/95	300	NA	NA	NA	NA
MW8-14.5	14.5	09/12/95	280	<2.5	<2.5	<2.5	<2.5

Notes:

TOC	=	Total Organic Carbon
BTEX	=	Benzene, Toluene, Ethylbenzene, Total Xylenes
mg/kg	=	Milligrams per kilogram
µg/kg	=	Micrograms per kilogram
NA	=	Not analyzed
<x	=	Less than the method reporting limit (x)

MW8 : SOIL DATA: Chlorinated VOC

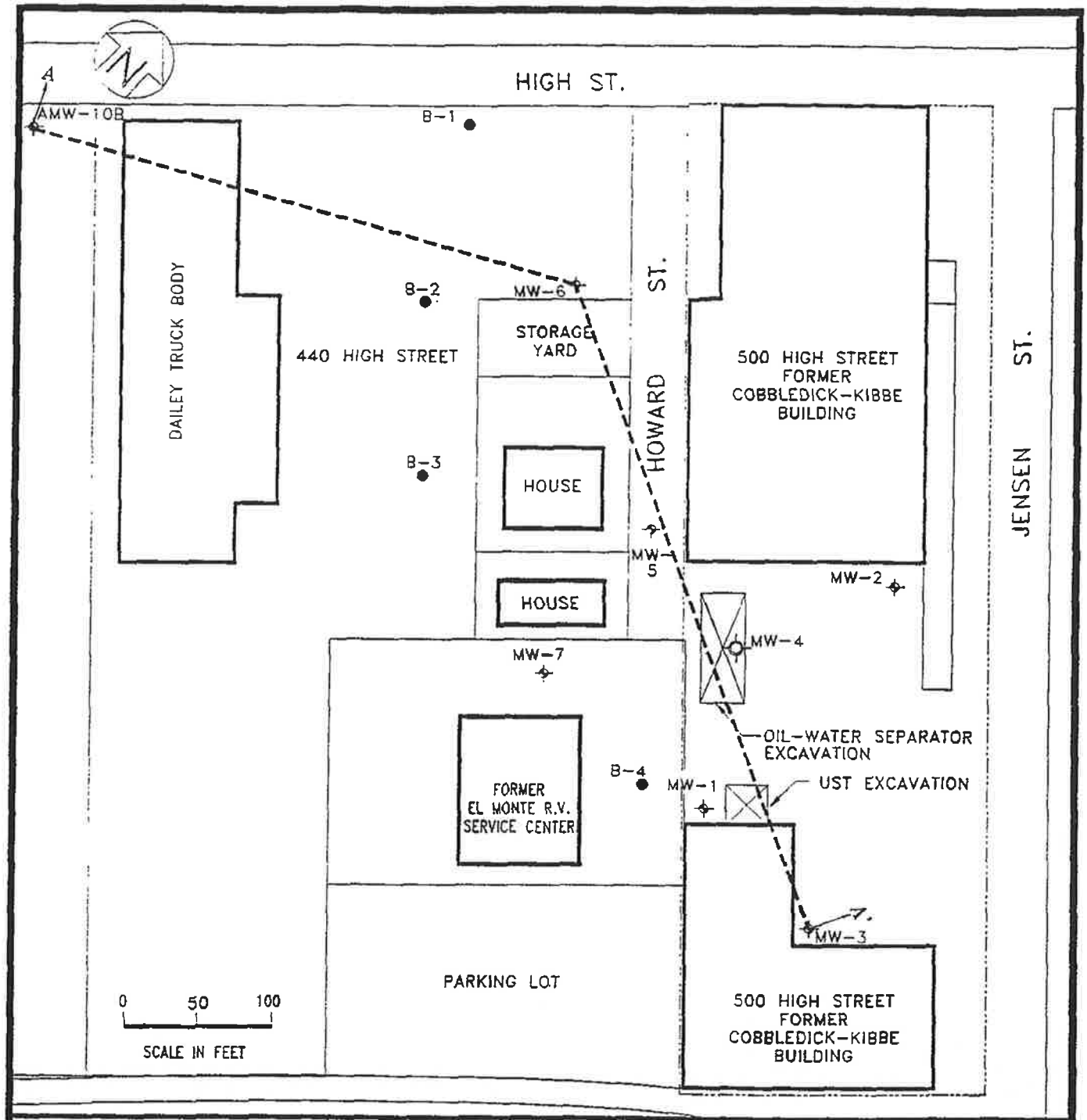
Table II. Summary of Soil Sample Analytical Results for HVOs
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample ID	Sample Depth (feet)	Sample Date	HVOs EPA Method 8010 (µg/kg)						
			Cis-1,2-DCE	Trans-1,2-DCE	1,1-DCE	TCE	1,1,1-TCA	1,1,2-TCA	Vinyl Chloride
MW8-6.5	6.5	9/12/95	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW8-14.5	14.5	9/12/95	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

Notes:

HVOs	=	Halogenated Volatile Organics
DCE	=	Dichloroethene
TCE	=	Trichloroethene
TCA	=	Trichloroethane
µg/kg	=	Micrograms per kilogram
<x	=	Less than the method reporting limit (x)

Shaded results indicate concentrations over the listed method detection limit.



BLYMYER ENGINEERS, INC.

BEI JOB NO.	DATE
92242	9/13/94

LEGEND
- MONITORING WELL LOCATION
- HYDROPUNCH BORE LOCATION
- FORMER WELL LOCATION
- SECTION LINE

SITE VICINITY PLAN

BANK OF AMERICA
OAKLAND, CA

FIGURE 2

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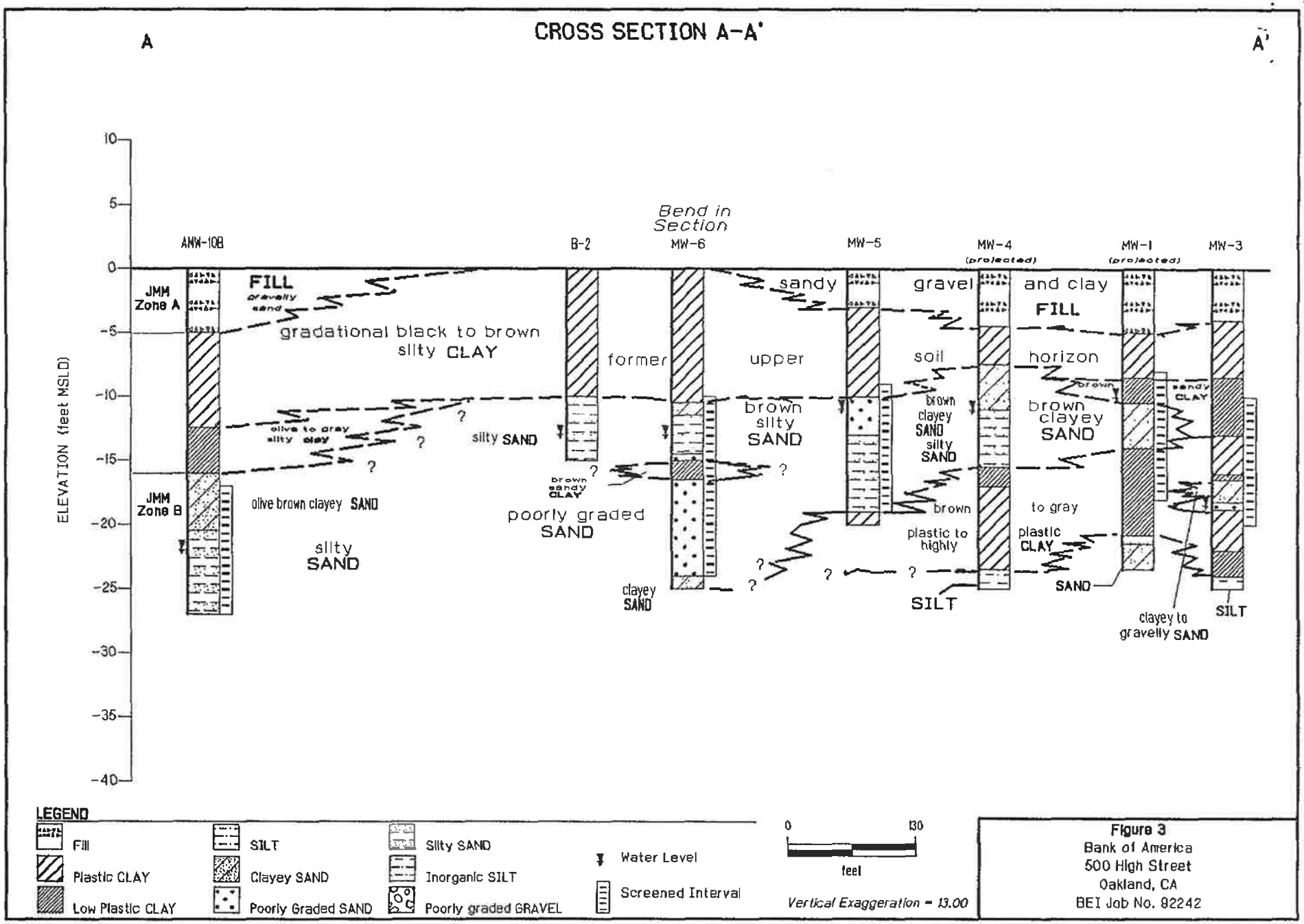

Figure 3
Bank of America
500 High Street
Oakland, CA
BEI Job No. 92242

Blymyer Engineers, Inc.

Table 1, Summary of Groundwater Sample Analytical Results for Petroleum Hydrocarbons BEI Job No. 92242, Bank of America 500 High Street, Oakland, California

Sample Identification	Sampling Date	Modified EPA Method 8015 (mg/L)		EPA Method 602 (µg/L)			
		TPH as diesel	TPH as gasoline	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-1	3/4/91	0.18	0.67	280	3.1	16	40
	11/26/91	<0.05	0.17	12	1.1	<0.5	4.9
	12/17/91	NA	NA	NA	NA	NA	NA
	9/13/93	<0.05	0.05	1.1	<0.5	<0.5	0.74
	4/27/94	0.13	0.08	5.2	<0.5	0.7	<0.5
	8/3/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	10/26/94	0.12[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	3/22/95	0.16	0.21	14	<0.5	<0.5	<0.5
	6/26/95	0.18[c]	<0.05	0.8	<0.5	<0.5	<0.5
	10/12/95	0.09[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	2/21/96	NA	NA	NA	NA	NA	NA
	8/22/96	NA	NA	NA	NA	NA	NA
	2/24/97	NA	NA	NA	NA	NA	NA
MW-2	3/4/91	<0.05	0.07	<0.5	<0.5	<0.5	<0.5
	11/26/91	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	12/17/91	NA	NA	NA	NA	NA	NA
	9/13/93	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	4/27/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	8/3/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	10/26/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	3/22/95	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	6/27/95	0.16[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	10/12/95	0.14[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	2/21/96	NA	NA	NA	NA	NA	NA
	8/21/96	NA	NA	NA	NA	NA	NA
	2/24/97	NA	NA	NA	NA	NA	NA
MW-3	3/4/91	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	11/26/91	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	12/17/91	NA	NA	NA	NA	NA	NA
	9/13/93	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	4/27/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	8/3/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	10/25/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	3/23/95	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	6/26/95	0.12[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	10/13/95	0.08[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	2/21/96	NA	NA	NA	NA	NA	NA

Table I, Summary of Groundwater Sample Analytical Results for Petroleum Hydrocarbons BEI Job No. 92242, Bank of America 500 High Street, Oakland, California

Sample Identification	Sampling Date	Modified EPA Method 8015 (mg/L)		EPA Method 602 (µg/L)			
		TPH as diesel	TPH as gasoline	Benzene	Toluene	Ethyl-benzene	Total Xylenes
	8/22/96	NA	NA	NA	NA	NA	NA
	2/24/97	NA	NA	NA	NA	NA	NA
MW-4	3/27/91	<0.05	0.17	2.7	<0.5	<0.5	<0.5
MW-5	11/26/91	<0.05	0.06	<0.5	0.7	<0.5	1.1
	12/12/91	NA	<0.05	<0.5	<0.5	<0.5	<0.5
	9/13/93	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	4/27/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	8/3/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	10/25/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	3/22/95	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	6/27/95	0.22[a]	<0.05	<0.5	<0.5	<0.5	<0.5
	10/12/95	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	2/20/96	NA	NA	NA	NA	NA	NA
	8/21/96	NA	NA	NA	NA	NA	NA
	2/25/97	NA	NA	NA	NA	NA	NA
MW-6	3/19/92	0.073	<0.05	<0.5	<0.5	<0.5	<0.5
	9/13/93	<0.05	<0.05	<0.5	<0.5	<0.5	0.85
	4/27/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	8/3/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	10/26/94	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	4/6/95	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5
	6/26/95	0.14[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	10/13/95	0.09[c]	<0.05	<0.5	<0.5	<0.5	<0.5
	2/20/96	NA	NA	NA	NA	NA	NA
	8/21/96	NA	NA	NA	NA	NA	NA
	2/24/97	NA	NA	NA	NA	NA	NA
MW-7 @	4/27/94	<0.05	0.11	1.6	<0.5	<0.5	<0.5
	8/3/94	<0.05	0.14[b]	6.5	<0.5	<0.5	<0.5
	10/25/94	0.08[c]	0.23	1.0	0.8	<0.5	<0.5
	4/6/95	<0.05	<0.05	0.8	<0.5	<0.5	<0.5
	6/27/95	0.15[c]	0.18[d]	1.6	<0.5	<0.5	<0.5
	10/16/95	0.09[c]	0.08	0.9	<0.5	<0.5	<0.5
	2/20/96	NA	NA	NA	NA	NA	NA
	8/21/96	NA	NA	NA	NA	NA	NA
	2/24/97	NA	NA	NA	NA	NA	NA

Table I, Summary of Groundwater Sample Analytical Results for Petroleum Hydrocarbons BEI Job No. 92242, Bank of America 500 High Street, Oakland, California

Sample Identification	Sampling Date	Modified EPA Method 8015 (mg/L)		EPA Method 602 (µg/L)			
		TPH as diesel	TPH as gasoline	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-8	10/12/95	0.11[c,b]	<0.05	<0.5	<0.5	<0.5	<0.5
	2/20/96	NA	NA	NA	NA	NA	NA
	8/21/96	NA	NA	NA	NA	NA	NA
	2/25/97	NA	NA	NA	NA	NA	NA
PIT-1	12/17/91	NA	NA	NA	NA	NA	NA
B-1-AQ	4/27/94	0.19	<0.05	<0.5	1.6	<0.5	3.0
B-2-AQ	4/27/94	0.14	<0.05	<0.5	1.3	<0.5	1.9
B-3-AQ	4/27/94	0.18	<0.05	<0.5	0.8	<0.5	1.1
B-4-AQ	4/27/94	NA[a]	NA[a]	<0.5	0.9	<0.5	<0.5

Notes:

mg/L = milligrams per liter
µg/L = micrograms per liter
TPH = Total Petroleum Hydrocarbons
NA = Not analyzed
[g] = Well installed by Mr. Jim Minor, trustee
<x = less than the method reporting limit (x)
DHS = Department of Health Services
[a] = Insufficient water to allow analysis
[b] = The laboratory reports this result as an unknown hydrocarbon with several peaks
[c] = The laboratory reports that this result appears to be a heavier hydrocarbon than diesel.
[d] = The laboratory reports that this result has an atypical pattern for gasoline analysis.
[e] = The laboratory reports that Freon 113 was detected in the sample and the method blank at concentrations of 1.0 and 1.1 µg/L, respectively.

Bold results indicate concentrations above the listed method detection limit.

Maximum Contaminant Levels (MCLs)[f]

Benzene	=	1 µg/L (Primary DHS MCL)
Toluene	=	150 µg/L (Primary DHS MCL)
Ethylbenzene	=	700 µg/L (Primary DHS MCL)
Total Xylenes	=	1,750 µg/L (Primary DHS MCL)

[f] Information obtained from *Compilation of Federal and State Drinking Water Standards and Criteria*, July 1995, Quality Assurance Technical Document No. 3, State of California Department of Water Resources.

Table II, Summary of Groundwater Sample Analytical Results for HVOs
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample Identification	Sampling Date	HVOs EPA Method 8010 (µg/L)							
		Chloroform	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	TCE	1,1,1-TCA	1,1,2-TCA	Vinyl Chloride
MW-1	3/4/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	11/26/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	12/17/91	<0.4	21	5.8	<0.4	58	<2.5	<2.5	<5.0
	9/13/93	<0.4	3.4	1.6	<0.4	22	<0.5	<0.5	<1.0
	4/27/94	<0.4	<0.4[a]	<0.4	<0.4	21	<1	<1	<0.4
	8/3/94	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	0.9
	10/26/94	<0.4	2.9	1.0	<0.4	19	<0.4	<1	<0.4
	3/22/95	<0.4	2.4	2.4	<0.4	16	<0.4	<1	<0.4
	6/26/95	<0.4	2.9	0.8	<0.4	16	<0.4	<1	<0.4
	10/12/95	<0.4	2.0	0.57	<0.4	18	<0.4	<1	<0.4
	2/21/96	<0.4	3.8	<0.4	<0.4	15	<0.4	<1	<0.4
	8/22/96	<0.4	1.7	1.2	<0.4	16	<0.4	<1	<0.4
	2/24/97	<0.4	2.7	1.5	<0.4	13	<0.4	<1	<0.4
MW-2	3/4/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	11/26/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	12/17/91	<0.4	<2.5	<2.5	<0.4	<2.5	<2.5	<2.5	<5.0
	9/13/93	<0.4	<0.5	<0.5	<0.4	<0.5	<0.5	<0.5	1.0
	4/27/94	<0.4	<0.4[a]	<0.4	<0.4	<0.4	<1	<1	<0.4
	8/3/94	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	10/26/94	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	3/22/95	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	6/27/95	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	10/12/95	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	2/21/96	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	8/21/96	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	2/24/97	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4

Table II, Summary of Groundwater Sample Analytical Results for HVOs
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample Identification	Sampling Date	HVOs EPA Method 8010 (µg/L)							
		Chloroform	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	TCE	1,1,1-TCA	1,1,2-TCA	Vinyl Chloride
MW-3	3/4/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	11/26/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	12/17/91	<0.4	<2.5	<2.5	<0.4	4.0	<2.5	<2.5	<5.0
	9/13/93	<0.4	<0.5	<0.5	<0.4	1.8	<0.5	<0.5	<1.0
	4/27/94	<0.4	<0.4*	<0.4	<0.4	1.1	<1	<1	<0.4
	8/3/94	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	10/26/94	<0.4	<0.4	<0.4	<0.4	1.4	<0.4	<1	<0.4
	3/22/95	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<0.4
	6/26/95	<0.4	<0.4	<0.4	<0.4	1.7	<0.4	<1	<0.4
	10/13/95	<0.4	<0.4	<0.4	<0.4	2.4	<0.4	<1	<0.4
	2/21/96	<0.4	<0.4	<0.4	<0.4	3.2	<0.4	<1	<0.4
	8/22/96	<0.4	0.8	<0.4	<0.4	3.0	<0.4	<1	<0.4
	2/24/97	<0.4	1.3	<0.4	<0.4	4.3	<0.4	<1	<0.4
MW-4	3/27/91	<0.4	NA	NA	NA	NA	NA	NA	NA
MW-5	11/26/91	<0.4	NA	NA	NA	NA	NA	NA	NA
	12/12/91	<0.4	55	32	<0.4	93	<1.0	<1.0	<2.0
	9/13/93	<0.4	11	9.1	<0.4	39	<0.5	<0.5	<1.0
	4/27/94	<0.4	27*	18	<0.4	51	<1	<1	1.4
	8/3/94	<0.4	36	<0.4	<0.4	<0.4	<0.4	<1	1.6
	10/26/94	<0.4	21	11	<0.4	52	<0.4	<1	<0.4
	3/22/95	<0.4	<0.4	17	<0.4	32	<0.4	<1	<0.4
	6/27/95	<0.4	12	9.6	<0.4	29	<0.4	<1	<0.4
	10/12/95	<0.4	11	5.1	<0.4	30	<0.4	<1	<0.4
	2/20/96	<0.4	17	12	<0.4	26	<0.4	<1	<0.4

Table II, Summary of Groundwater Sample Analytical Results for HVOs
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample Identification	Sampling Date	HVOs EPA Method 8010 (µg/L)							
		Chloroform	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	TCE	1,1,1-TCA	1,1,2-TCA	Vinyl Chloride
	8/21/96	<0.4	10	8.5	<0.4	27	<0.4	<1	0.5
	2/25/97	<0.4	12	9.2	<0.4	24	<0.4	<1	<0.4
MW-6	3/19/92	<0.4	18	1.0	<0.4	42	5	<1	3
	9/13/93	<0.4	21	11	<0.4	43	<0.5	<0.5	<1.0
	4/27/94	<0.4	18[a]	7.5	<0.4	35	<1	<1	<0.4
	8/3/94	<0.4	26	7.8	<0.4	37	<0.4	<1	1.0
	10/26/94	<0.4	16	6.0	<0.4	30	<0.4	<1	<0.4
	4/6/95	<0.4	12	6.4	<0.4	28	<0.4	<1	<0.4
	6/26/95	<0.4	15	9.2	<0.4	31	<0.4	<1	<0.4
	10/13/95	<0.4	16	5.4	<0.4	31	<0.4	<1	<0.4
	2/20/96	<0.4	9.8	6.1	<0.4	18	<0.4	<1	<0.4
	8/21/96	<0.4	13	7.9	<0.4	28	<0.4	<1	0.5
	2/24/97	<0.4	13	8.2	<0.4	31	<0.4	<1	0.5
PIT-1	12/17/91	<0.4	2.8	1.3	<0.4	3.2	3.1	<2.5	<5.0
MW-7[b]	4/27/94	<0.4	200[a]	25	<0.4	130	<1	<1	3.6
	8/3/94	<0.4	210	<0.4	<0.4	180	<0.4	<1	1.4
	10/26/94	<0.4	200	22	0.7	180	<0.4	<1	<0.4
	4/6/95	<0.4	53	12	1.5	190	<0.4	<1	0.9
	6/27/95	<0.4	120	18	1.6	230	<0.4	<1	2.1
	10/12/95	<2.0	150	16	2.2	150	<2	<2	<2
	2/20/96	<0.4	110	21	2.1	130	<0.4	<1	<0.4
	8/21/96	<0.4	98	22	1.7	310	<0.4	<1	1.2
	2/24/97	<0.4	96	24	2.3	210	<0.4	<1	2.1

Table II, Summary of Groundwater Sample Analytical Results for HVOs
BEI Job No. 92242, Bank of America
500 High Street, Oakland, California

Sample Identification	Sampling Date	HVOs EPA Method 8010 (µg/L)							
		Chloroform	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	TCE	1,1,1-TCA	1,1,2-TCA	Vinyl Chloride
MW-8	10/12/95	0.54	5.7	2.7	<0.4	13	<0.4	<1	<0.4
	2/20/96	<0.4	5.9	4.1	<0.4	8.2	<0.4	<1	<0.4
	8/21/96	<0.4	4.2	3.4	<0.4	10	<0.4	<1	<0.4
	2/25/97	<0.4	4.2	3.1	<0.4	8.5	<0.4	<1	<0.4
B-1-AQ	4/27/94	<0.4	12[a]	3.7	<0.4	4.5	<1	<1	1.1
B-2-AQ	4/27/94	<0.4	5.0[a]	0.4	<0.4	<0.4	<1	<1	<0.4
B-3-AQ	4/27/94	<0.4	10[a]	0.4	<0.4	16	<1	<1	<0.4
B-4-AQ	4/27/94	<0.4	<0.4[a]	<0.4	<0.4	11	<1	<1	<0.4

Table II, Summary of Groundwater Sample Analytical Results for HVOs, continued

Notes:

HVOs	=	Halogenated Volatile Organics
DCE	=	Dichloroethene
TCE	=	Trichloroethene
TCA	=	Trichloroethane
µg/L	=	micrograms per liter
NA	=	Not analyzed
<x	=	less than the method reporting limit (x)
[a]	=	Technically nonreportable concentration, cis-1,2-DCE laboratory standard was not run by laboratory; please refer to *Status Report, Former Cobbledick-Kibbe Site*, dated June 16, 1994, by Blymyer Engineers, Inc.
[b]	=	Well installed by Mr. Jim Minor, Trustee

Bold results indicate concentrations over the listed method detection limit.

Maximum Contaminant Levels (MCLs)[c]:

cis-1,2-DCE	=	6 µg/L (Primary DHS MCL)
trans-1,2-DCE	=	10 µg/L (Primary DHS MCL)
1,1-DCE	=	6 µg/L (Primary DHS MCL)
TCE	=	5 µg/L (Primary DHS MCL)
1,1,1-TCA	=	200 µg/L (Primary DHS MCL)
1,1,2-TCA	=	5 µg/L (Primary DHS MCL)
Vinyl Chloride	=	0.5 µg/L (Primary DHS MCL)

[c] Information obtained from *Compilation of Federal and State Drinking Water Standards and Criteria*, July 1995, Quality Assurance Technical Document No. 3, State of California Department of Water Resources.

EA-5818. Additionally, benzene was reinput into the program to allow modification of chemical parameters, specifically use of the California Environmental Protection Agency (Cal.EPA) cancer potency factor (slope factor) of 0.1 kg-day/mg, in comparison to the Federal EPA slope factor of 0.029 kg-day/mg, using the chemical and toxicological data from the *RBCA Tool Kit* as a resource. This change was requested in point 5 in the February 20, 1997 ACHCSA letter. Identified COCs included 1,1-DCE, cis-1,2 DCE, trans-1,2-DCE, 1,1,1-TCA, 1,1,2-TCA, TCE, VC, and BTEX. Methylene Chloride has been excluded due to the probability that it is a laboratory contaminant. Copies of the data output files for all chemicals are included as Appendix F.

3.1.6 Representative COC Concentrations

Screen 7 allows input of *Representative COCs Concentrations in Source Media*. Representative soil COC concentrations used specifically included the five UST closure confirmation soil samples; soil samples from soil bores MW-1, MW-4, MW-7, MW-8; and soil samples P-3, AS-1, AS-5, and AS-6 from the vicinity of the former OWS, as requested by the ACHCSA in their February 20, 1997 letter. The mean analytical concentration from these samples was assumed to be representative of source-zone soil analytical concentrations. Other soil samples were excluded as they were not from the general vicinity around the two source zones. As a conservative technique, Blymyer Engineers combined analytical data from the two source zones (UST-related and OWS-related) and modeled a single source zone zero feet upgradient from the residential units (as discussed above). The mean of groundwater analytical samples from monitoring wells MW-5, MW-7, and MW-8, over the past four sampling events, were assumed to be representative of groundwater COCs, as requested by the February 20, 1997 ACHCSA letter. In each case the mean was calculated using a subroutine within the modeling program. Copies of the data output files for the results of these calculations are included as Appendix G.

3.1.7 Site-Specific Parameters

Screen 8.1 allows *Site-Specific Soil Parameters* to be input. These parameters include vadose zone thickness, capillary zone thickness, depth to groundwater, and a number of other parameters. Screen 8.2 allows *Site-Specific Groundwater Parameters* to be input, and screen 8.3 allows *Site-Specific Air Parameters* to be input. Screen 8.4 allows *Site-Specific Building Parameters* to be input. If site-specific parameters were not available the *RBCA Tool-Kit* default parameters were used. A printout of the parameters used in this project are included as Appendix E.

Barney,

After I reviewed the final/amended risk assessment, I had couple of questions regarding the porosity values used in table III of the risk assessment documents. Mark called me today and explained that the saturation % used is the moisture content measured on site and what is given as moisture content is really a misnomer and has something to do with density/compaction etc. So, based on the info given, it looks like the risk assessment is fine.

Madhulla

Site Name: Former Cobbledick-Kibbe Site
Site Location: 500 High Street, Oakland, CA
Completed By: Mark Detterman
Date Completed: 3/31/1997

TIER 2 GROUNDWATER CONCENTRATION DATA SUMMARY

CONSTITUENTS DETECTED		Analytical Method			Detected Concentrations		
CAS No.	Name	Typical Detection Limit (mg/L)	No. of Samples	No. of Detects	Maximum Conc. (mg/L)	Mean Conc. (mg/L)	UCL on Mean Conc. (mg/L)
71-43-2	Benzene - CA	5.0E-04	9	9	1.0E-03	1.0E-03	#DIV/0!
75-35-4	Dichloroethene, 1,1-	4.0E-04	12	12	2.3E-03	2.1E-03	2.2E-03
156-59-2	Dichloroethene, cis-1,2-	4.0E-04	12	12	1.5E-01	1.9E-02	3.3E-02
156-60-5	Dichloroethene, 1,2-trans-	4.0E-04	12	12	2.4E-02	1.1E-02	1.4E-02
100-41-4	Ethylbenzene	5.0E-04	9	9	0.0E+00	#DIV/0!	#DIV/0!
108-88-3	Toluene	5.0E-04	9	9	8 0E-04	8.0E-04	#DIV/0!
79-01-6	Trichloroethene	4.0E-04	12	12	3.1E-01	3.7E-02	6.1E-02
75-01-4	Vinyl chloride	4.0E-04	12	12	2.1E-03	1 1E-03	1.4E-03
1330-20-7	Xylene (mixed isomers)	5.0E-04	9	9	0 0E+00	#DIV/0!	#DIV/0!

value is small, did not calculate UCL

Serial: g-301-wwx-7
Software: GSI RBCA Spreadsheet
Version: 1.0.1

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why UCL on some & no UCL on some?

Site Name: Former Cobbledick-Kibbe Site
Site Location: 500 High Street, Oakland, CA

Completed By: Mark Detterman
Date Completed: 3/31/1997

TIER 2 BASELINE RISK SUMMARY TABLE

EXPOSURE PATHWAY	BASELINE CARCINOGENIC RISK: Individual COC Risk – Maximum Value	Individual COC Risk – Target Risk	Cumulative COC Risk – Total Value	Cumulative COC Risk – Target Risk	Risk Limit(s) Exceeded?	BASELINE TOXIC EFFECTS: Hazard Quotient – Maximum Value	Hazard Quotient – Applicable Limit	Hazard Index – Total Value	Hazard Index – Applicable Limit	Toxicity Limit(s) Exceeded?
OUTDOOR AIR EXPOSURE PATHWAYS										
Complete:	1.6E-9	1.0E-6	1.8E-9	1.0E-6	☐	2.1E-5	1.0E+0	2.2E-5	1.0E+0	☐
INDOOR AIR EXPOSURE PATHWAYS										
Complete:	1.4E-7	1.0E-6	2.3E-7	1.0E-6	☐	1.9E-3	1.0E+0	1.9E-3	1.0E+0	☐
SOIL EXPOSURE PATHWAYS										
Complete:	7.5E-9	1.0E-6	8.7E-9	1.0E-6	☐	2.0E-4	1.0E+0	2.7E-4	1.0E+0	☐
GROUNDWATER EXPOSURE PATHWAYS										
Complete:	NC	1.0E-6	NC	1.0E-6	■	NC	1.0E+0	NC	1.0E+0	■
CRITICAL EXPOSURE PATHWAY (Select Maximum Values From Complete Pathways)										
	1.4E-7	1.0E-6	2.3E-7	1.0E-6	☐	1.9E-3	1.0E+0	1.9E-3	1.0E+0	☐

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Site Name: Former Cobbledick-Kibbe Site | Site Location: 500 High Street, Oakland, CA | Completed By: Mark Detterman | Date Completed: 3/31/1997 | 3 OF 4

TIER 2 PATHWAY RISK CALCULATION

SOIL EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAYS ARE ACTIVE)

	CARCINOGENIC RISK							TOXIC EFFECTS		
	(1) EPA	(2) Total Carcinogenic Intake Rate (mg/kg/day)		(3) Oral Slope Factor	(4) Individual COC Risk (2) x (3)		(5) Total Toxicant Intake Rate (mg/kg/day)		(6) Oral Reference Dose	(7) Individual COC Hazard Quotient (5) / (6)	
Constituents of Concern	Carcinogenic Classification	On-Site Residential	On-Site Commercial	(mg/kg-day)^-1	On-Site Residential	On-Site Commercial	On-Site Residential	On-Site Commercial	(mg/kg-day)	On-Site Residential	On-Site Commercial
Benzene - CA	A	7.5E-8		1.0E-1	7.5E-9						
Dichloroethene, 1,1-		0.0E+0		6.0E-2	0.0E+0		0.0E+0		9.0E-3	0.0E+0	
Dichloroethene, cis-1,2-	D						2.0E-6		1.0E-2	2.0E-4	
Dichloroethene,1,2-trans-							1.2E-7		2.0E-2	5.8E-6	
Ethylbenzene	D						1.5E-6		1.0E-1	1.5E-5	
Toluene	D						3.5E-7		2.0E-1	1.8E-6	
Trichloroethene		1.1E-7		1.1E-2	1.2E-9		2.5E-7		6.0E-3	4.2E-5	
Vinyl chloride	A	0.0E+0		1.9E+0	0.0E+0						
Xylene (mixed isomers)	D						8.0E-7		2.0E+0	4.0E-7	
Total Pathway Carcinogenic Risk =					8.7E-9	0.0E+0	*Total Pathway Hazard Index =*			2.7E-4	0.0E+0

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Site Name: Former Cobbledick-Kibbe Site | Site Location: 500 High Street, Oakland, CA | Completed By: Mark Detterman | Date Completed: 3/31/1997 | 2 OF 4

TIER 2 PATHWAY RISK CALCULATION

INDOOR AIR EXPOSURE PATHWAYS | ■ (CHECKED IF PATHWAYS ARE ACTIVE)

	CARCINOGENIC RISK						TOXIC EFFECTS					
	(1) EPA	(2) Total Carcinogenic Intake Rate (mg/kg/day)		(3) Inhalation Slope Factor	(4) Individual COC Risk (2) x (3)		(5) Total Toxicant Intake Rate (mg/kg/day)		(6) Inhalation Reference Dose	(7) Individual COC Hazard Quotient (5) / (6)		
Constituents of Concern	Carcinogenic Classification	On-Site Residential		(mg/kg-day)^-1	On-Site Residential		On-Site Residential		(mg/kg-day)	On-Site Residential		
Benzene - CA	A	1.4E-6		1.0E-1	1.4E-7		3.2E-6		1.7E-3	1.9E-3		
Dichloroethene, 1,1-		6.7E-8		1.8E-1	1.2E-8		1.6E-7		9.0E-3	1.7E-5		
Dichloroethene, cis-1,2-	D											
Dichloroethene,1,2-trans-												
Ethylbenzene	D						2.9E-6		2.9E-1	1.0E-5		
Toluene	D						4.9E-7		1.1E-1	4.3E-6		
Trichloroethene		1.1E-5		6.0E-3	6.7E-8							
Vinyl chloride	A	5.4E-8		3.0E-1	1.6E-8							
Xylene (mixed isomers)	D						5.3E-7		2.0E+0	2.6E-7		
Total Pathway Carcinogenic Risk =					2.3E-7	0.0E+0	***Total Pathway Hazard Index =***			1.9E-3	0.0E+0	

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Site Name: Former Cobbledick-Kibbe Site | Site Location: 500 High Street, Oakland, CA | Completed By: Mark Detterman | Date Completed: 3/31/1997 | 1 OF 4

TIER 2 PATHWAY RISK CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAYS ARE ACTIVE)

	CARCINOGENIC RISK						TOXIC EFFECTS		
Constituents of Concern	(1) EPA Carcinogenic Classification	(2) Total Carcinogenic Intake Rate (mg/kg/day) On-Site Residential		(3) Inhalation Slope Factor (mg/kg-day)^-1	(4) Individual COC Risk (2) x (3) On-Site Residential		(5) Total Toxicant Intake Rate (mg/kg/day) On-Site Residential		(6) Inhalation Reference Dose (mg/kg-day)	(7) Individual COC Hazard Quotient (5) / (6) On-Site Residential	
Benzene - CA	A	1.6E-8		1.0E-1	1.6E-9		3.7E-8		1.7E-3	2.1E-5	
Dichloroethene, 1,1-		1.3E-10		1.8E-1	2.4E-11		3.1E-10		9.0E-3	3.5E-8	
Dichloroethene, cis-1,2-	D										
Dichloroethene,1,2-trans-											
Ethylbenzene	D						5.3E-8		2.9E-1	1.9E-7	
Toluene	D						1.0E-8		1.1E-1	8.8E-8	
Trichloroethene		2.8E-8		6.0E-3	1.7E-10						
Vinyl chloride	A	1.1E-10		3.0E-1	3.2E-11						
Xylene (mixed isomers)	D						1.6E-8		2.0E+0	7.8E-9	
					Total Pathway Carcinogenic Risk =	1.8E-9	0.0E+0	***Total Pathway Hazard Index =***		2.2E-5	0.0E+0

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