20 257

WORK PLAN FOR
SOIL AND GROUNDWATER INVESTIGATION

ABE Petroleum LLC
17715 Mission Boulevard
Hayward, California 94541

Prepared for
Mr. Paul Garg
ABE Petroleum

Prepared by
Sierra Environmental, Inc.

May 27, 2003
Project 03-103.06

Sierra Environmental, Inc.
Environmental Consultants

May 27, 2003
Project 03-103.06

Mr. Paul Garg
ABE Petroleum LLC
33090 Mission Boulevard
Union City, California 94587

Subject: Work Plan for Soil and Groundwater Investigation, 17715 Mission Boulevard, Hayward, California

Dear Mr. Garg:

Sierra Environmental, Inc. (Sierra) is pleased to present this work plan describing our proposed soil and water investigation (SWI) work for the subject property, hereafter, referred to as Site. Site location is shown in Figures 1. The proposed SWI was requested by the Alameda County Health Care Services (ACHCS) in letters dated February 27, 2003.

OBJECTIVE

The objective of the SWI is to identify conduit/preferential pathways, identify sensitive receptors, study previous and present soil and groundwater information for the Site, and perform soil and groundwater investigation, near the Site, to delineate vertical and horizontal extent of the gasoline constituents in groundwater originated from the Site.

980 W. Taylor Street
San Jose, CA 95126
Phone (408) 971- 6758
Fax (408) 971 - 6759

BACKGROUND

Please refer to Appendix A for background information for the Site.

Well and Sensitive Receptor Survey Activities

On May 14 and 15, 2003, Sierra visited the Site and its neighboring properties to observe land use practices near the Site. During the same period, Sierra visited City of Hayward Department of Public Works (HDPW), Alameda County Department of Public Works (ACDPW), East Bay Municipal District (EBMUD), and Oro Loma Sanitary District (OLSD) to obtain information regarding the underground utility trenches. According to EBMUD representative, water line trenches are approximately 3 to 4 feet deep. Representative of OLSD indicated that the sewer lines in the area are old and there is no accurate information regarding their depths. However, he indicated that the trenches are about 3-20 feet deep. Telephone and electrical power lines are above ground. Copies of plans showing utility trenches are presented in Appendix B.

To identify sensitive receptors and water wells near the Site, Sierra obtained a "Off-site Receptor" and a "Geocheck®" report from Environmental Data Resources, Inc. (EDR). The receptor report identified 5 day care centers, 4 nursing homes 17 schools, and 2 colleges within one mile radius of the Site. The closest receptor to the Site is Kaiser permanente clinic located within 1/4 to 1/2 mile northwest of the Site. A copy of the EDR report is presented in Appendix C.

The Geocheck report indicates that the Site is approximately 64 feet above mean sea level (MSL) and groundwater direction in the general area is west/northwest. No water well was identified in the State Database Well Information or Federal Public Water Supply System Information. Two water wells were identified under Federal USGS Well Information. One identified approximately 1/4 to 1/2 mile southwest of the Site. The second one identified within 1/2 to 1 mile west/southwest of the Site. A copy of the Geocheck report is also presented in Appendix C.

On May 23, 2003, Sierra's representative performed a reconnaissance drive within 1-mile radius of the Site. A vacant property, east and at hydraulic up-gradient of the Site, located at 19200 Mission Boulevard appeared to have been investigated for groundwater quality. Several groundwater monitoring wells were observed at this property. Notes on the drums containing drill cuttings suggested that the wells were constructed in April 2003 at the property.

Sierra's representative also tried to locate the wells identified by Geocheck report. The report shows the wells along Mattox Road, south of the Site. This area has been developed with residential buildings, and it is along San Lorenzo Creek/Flood Control

Canal. Sierra's representative did not observe any structure suggesting presence of water well in the visited area. The area is connected to the City water.

GEOLOGY AND HYDROGEOLOGY

The Site is located on the corner of Mission Boulevard and E. Lewelling Boulevard. It is situated within 5 miles east of San Francisco Bay. San Lorenzo Creek is approximately 1/4-mile south of the Site.

According to Soil Conservation Services STATSGO data of Geocheck report the following soil types are recorded for general area near the Site:

Surfacial Soil Type:	Loam Silty Clay Clay Clay Loam Extremely gravelly Sand
Shallow Soil Types:	Loam Silty Clay Loam Clay Clay Loam Extremely Gravelly Sand
Deeper Soil Type:	Stratified Clay Silty Clay Loam Sandy Clay Loam Extremely Gravelly Sand

Boring logs for MW1 located at the Site document the following soil types:

0-29'	Dark Brown Clayey Silt/Clayey Silty Sand
29'-35'	Green Silty Sandy Clay

Shallow groundwater was first encountered in MW1 at approximately 32 feet bgs, and it raised to approximately 22 feet bgs suggesting the shallow aquifer beneath and near the Site may be under semi-confined condition. Groundwater flow direction at the Site has been recorded to be toward west/northwest with an approximate gradient of 0.01 ft/ft.

Considering the depth of the saturated zone being approximately 30 feet bgs, it is unlikely that any man made conduit (i.e. utility trenches) act as preferential pathway for the contaminated groundwater beneath the Site. The identified wells are down/cross-gradient of the Site.

PROPOSED SOIL AND GROUNDWATER INVESTIGATION

In order to determine the lateral extent of the groundwater plume originated from the Site, Sierra proposes to advance 6 soil borings to reach shallow groundwater, and convert them 2-inch-diameter groundwater monitoring wells. To assess the vertical extent of the groundwater contamination, Sierra proposes to advance one soil boring to reach the second aquifer (B Zone), and convert it to a 2-inch diameter groundwater monitoring well.

Sierra will perform its services in accordance with the following tasks:

Task 1 - PREFIELD ACTIVITIES

After approval of the work plan by the ACHCS, Sierra will submit appropriate well and borehole construction permit applications, and pay required fees to Alameda County Public Works Agency (ACPWA). Sierra will obtain encroachment permits for drilling the off-site soil borings from City of Hayward, EBMUD, and Site's neighboring property owner. Sierra may need the ACHCS's assistance in obtaining the encroachment permits from the private properties near the Site, because the property owners may not be cooperative. Sierra will prepare a health and safety plan for its employees and sub contractors. Sierra will mark the boring locations. Sierra will notify Underground Services Alert (USA) to identify all the utilities, and clear the sampling locations. Sierra also will coordinate with a state-licensed drilling contractor, a state-certified analytical laboratory, and the client to start the field activities. Sierra will prepare necessary field equipment and material before starting the drilling activities.

Task 2 - DRILLING AND SAMPLING ACTIVITIES

Shallow groundwater (A Zone) level at and near the Site is approximately 30 feet bgs. Sierra anticipates that the thickness of the A zone is approximately 10 feet thick.

Sierra will retain a California-certified drilling contractor to perform the drilling activities.

will be sealed, labeled, and placed in a cooler to be delivered to the laboratory with the chain-of-custody documentation.

The wellheads will be surveyed for horizontal and vertical controls using global positioning system. The survey results will be transmitted electronically to the State Water Resources Control Board (SWRCB) GeoTracker website.

Task 3 - CHEMICAL ANALYSIS

Soil (if any) and groundwater samples will be analyzed for TPHG using United State Environmental Protection Agency (EPA) modified method 8015, and for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method 8020. The groundwater samples will also be analyzed for fuel oxygenates using EPA method 8260B.

Task 4 - REPORT PREPARATION AND SUBMITTAL

Sierra will prepare a technical report documenting the followings:

- A summary of site background and history,
- A description of the field activities,
- Copies of all permits,
- Tabulated historical and recent soil and groundwater data,
- Boring logs,
- Certified analytical reports and chain-of-custody documents,
- A geologic cross-section
- A groundwater contour map,
- Dissolved-phase iso-concentration maps for TPHG, benzene, and MTBE,
- Conclusions and recommendations

Sierra will submit copies of the report to the client and representative of ACHCS.

WORK SCHEDULE

Sierra will perform the proposed work upon approval of this work plan by ACHCS. A report will be submitted approximately six weeks after the completion of all the field works.

Please feel welcome to call us if you have questions.

Very Truly Yours,
Sierra Environmental, Inc.

Reza Baradaran, PE, GE
Principal

Mitch Hajiaghai, REA II, CAC
Principal

Attachments:

Figure 1	-	Site Location Map
Figure 2	-	Expanded Site Plan
Appendix A	-	Background
Appendix B	-	Plans Showing Utility Trenches
Appendix C	-	EDR Receptor & Geocheck Reports

cc: Mr. Scott O. Seery, ACHCS (1 Copy)

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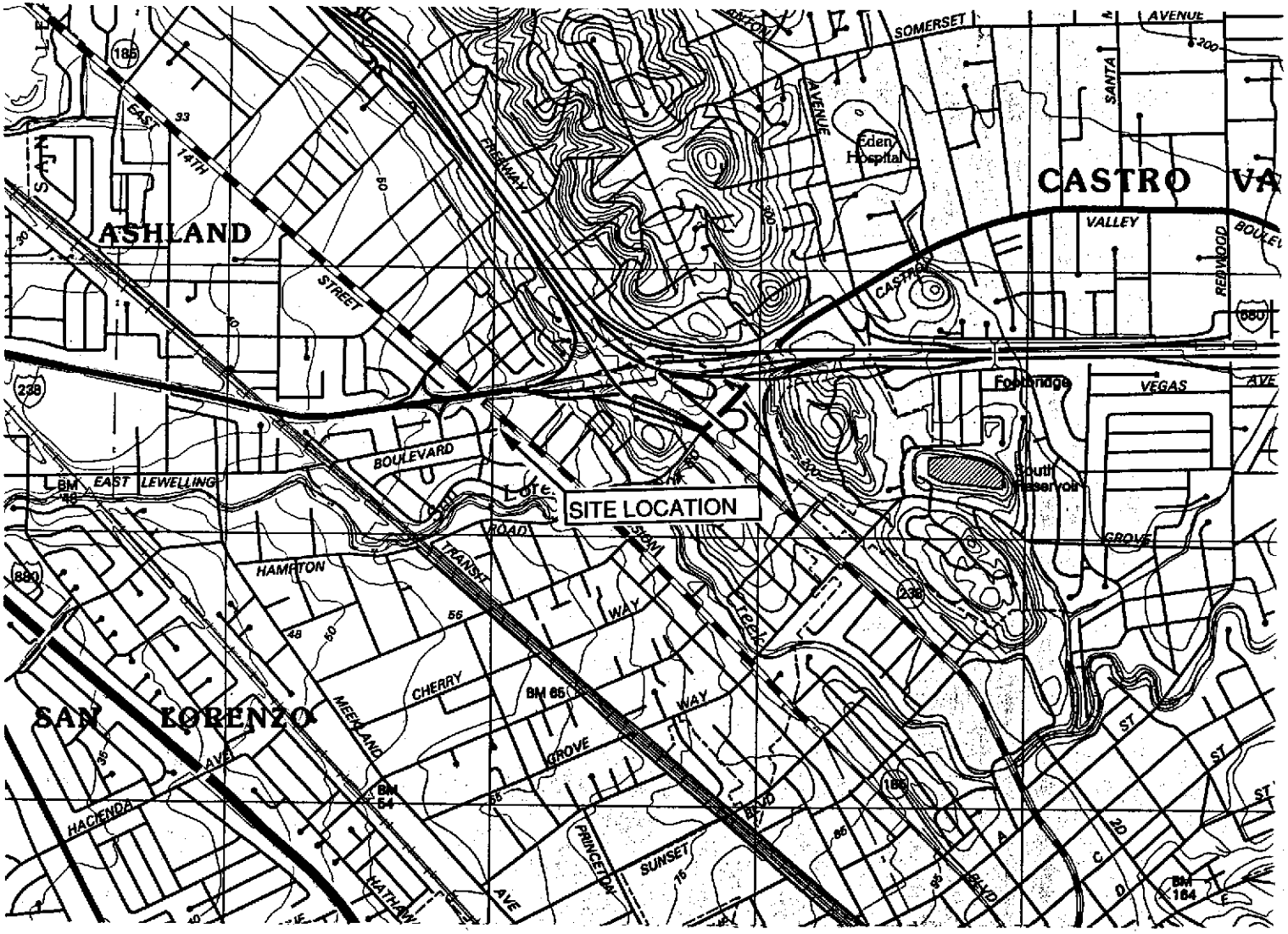

Source: Hayward Quadrangle, California, 7.5-Minute Series (Topographic)

SIERRA ENVIRONMENTAL, INC.
Environmental Consultants

980 W. Taylor St.,San Jose, CA 95126
Phone [408]971-6758 • Fax [408] 971-6759

SITE LOCATION MAP

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FIGURE 1

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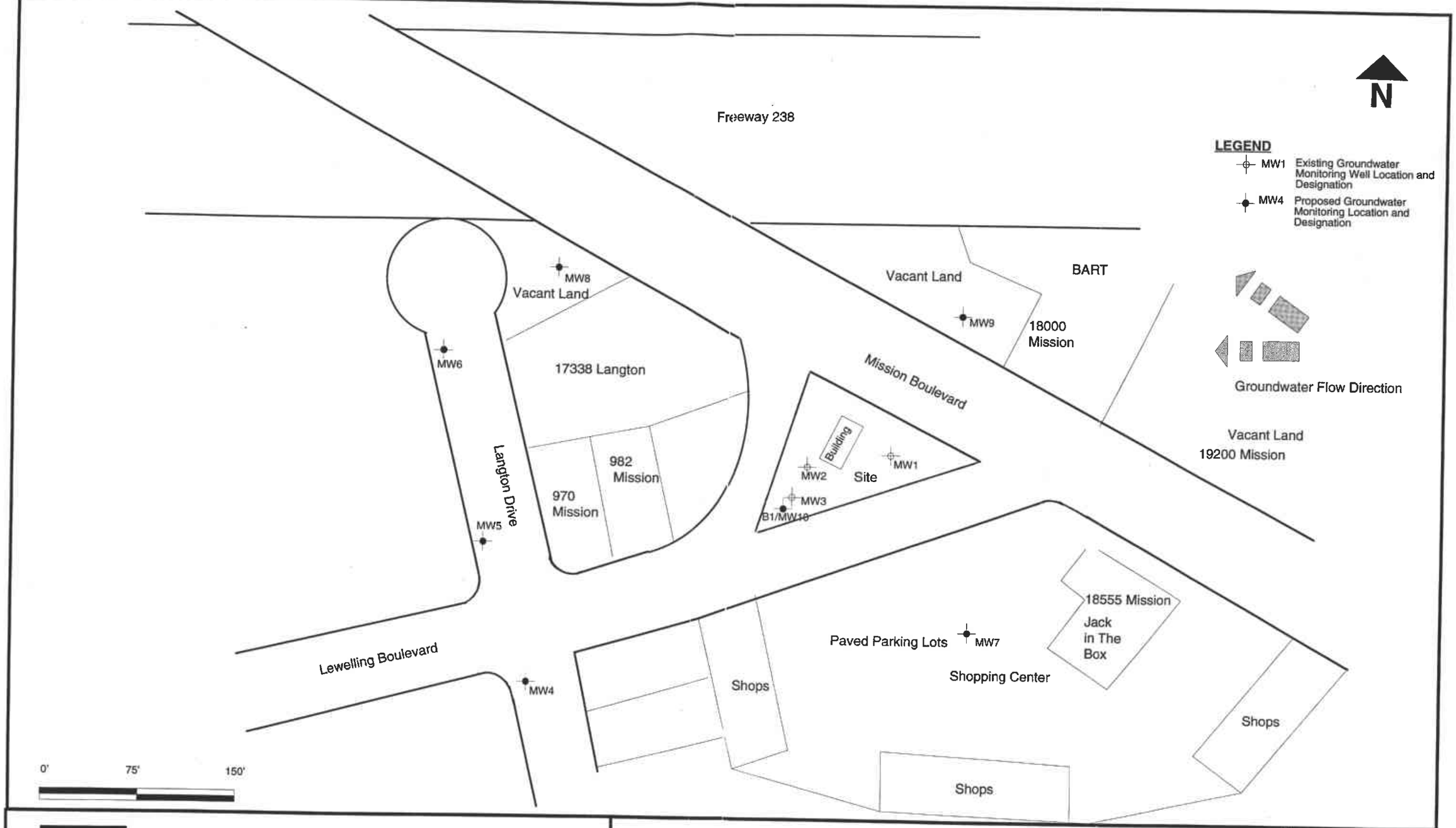

SIERRA ENVIRONMENTAL, INC.
Environmental Consultants
980 W. Taylor Street, San Jose, CA 95126
Phone [408]971-6758 • Fax [408]971-6759

Expanded Sit Plan

Soil and Groundwater Investigation
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FIGURE
2
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Appendix A
BACKGROUND

On September 16, 1997, Balch Petroleum Contractors & Builders, Inc. (Balch) of Milpitas, California, removed one 2,000-gallon, two 6,000-gallon, one 10,000-gallon single-wall steel gasoline, and one 500-gallon single-wall steel waste oil USTs from the Site. Former UST locations are shown in Figure A. No hole or damage was observed in the tanks. No groundwater was encountered in the tank excavations. After UST removal, Sierra collected soil samples from the tank excavations for chemical analysis.

Up to 2,300 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHG) was detected in the soil samples collected from beneath the tanks at approximately 14 feet below ground surface (bgs). The soil sample locations are shown in Figure A.

On August 14, 2000, Sierra drilled three exploratory borings and converted them to groundwater monitoring well MW1 through MW3. The wells are approximately 35 feet deep. Sierra collected soil and groundwater samples from the borings/wells for chemical analysis. The analytical results showed up to 720 ppm TPHG, 2.2 ppm benzene, and 3.4 ppm MTBE in the soil samples. Up to 290000 ppb TPHG, 10000 ppb benzene, and 4300 ppb MTBE were detected in the groundwater samples. Gasoline constituents were detected in groundwater samples collected from all three monitoring wells. Well locations are shown in Figure B.

On March 30, 2001, Sierra performed first quarter 2001 groundwater monitoring at the Site. The field and analytical results are presented in Table I and II. Groundwater was measured at approximately 20 to 21 feet from top of the well casing (TOC) at the Site with a northwesterly flow direction.

On June 22, 2001, Sierra performed second quarter 2001 groundwater monitoring at the Site. Groundwater levels were measured at approximately 22 to 23 feet below TOC with a northwesterly flow direction during this monitoring event.

On September 20, 2001, Sierra performed third quarter 2001 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 24 to 25 feet below TOC with a northwesterly flow direction during this monitoring event.

On December 27, 2001, Sierra performed fourth quarter 2001 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 22.59 to 23.82 feet below TOC with a northwesterly flow direction during this monitoring event.

On September 24, 2002, Sierra performed third quarter 2002 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 23.69 to 24.89 feet below TOC with a northwesterly flow direction during this monitoring event.

On December 17, 2002, Sierra performed fourth quarter 2002 groundwater monitoring at the Site. Depth of groundwater was measured to the TOC. Groundwater levels were measured at approximately 22.75 to 23.99 feet below TOC with a northwesterly flow direction during this monitoring event.

On April 2, 2003, Sierra performed the first quarter 2003 groundwater monitoring at the Site. Groundwater flow was measured to be toward west during this monitoring event. Copies of a report documenting the monitoring results were submitted to the client and ACHCS on April 18, 2003.

Historical groundwater elevation and analytical data are presented in Table I and Table II, respectively.

TABLE I
GROUNDWATER ELEVATION DATA

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to Water[1] (ft)	Water Table[2] Elevation (ft)
MW1	8-18-00	2	99.46	20.32	79.14
	3-30-01			20.30	79.16
	6-22-01			21.91	77.55
	9-20-01			23.56	75.90
	12-27-01			22.59	76.87
	9-24-02			23.69	75.77
	12-17-02			22.75	76.71
	4-2-03			21.15	78.31
MW2	8-18-00	2	100.58	21.55	79.03
	3-30-01			21.55	79.03
	6-22-01			23.15	77.43
	9-20-01			24.78	75.80
	12-27-01			23.82	76.76
	9-24-02			24.89	75.69
	12-17-02			23.99	76.59
	4-2-03			22.32	78.26
MW3	8-18-00	2	99.69	20.68	79.01
	3-30-01			20.68	79.01
	6-22-01			22.31	77.38
	9-20-01			23.92	75.77
	12-27-01			22.95	76.74
	9-24-02			24.03	75.66
	12-17-02			23.09	76.60
	4-2-03			21.46	78.23

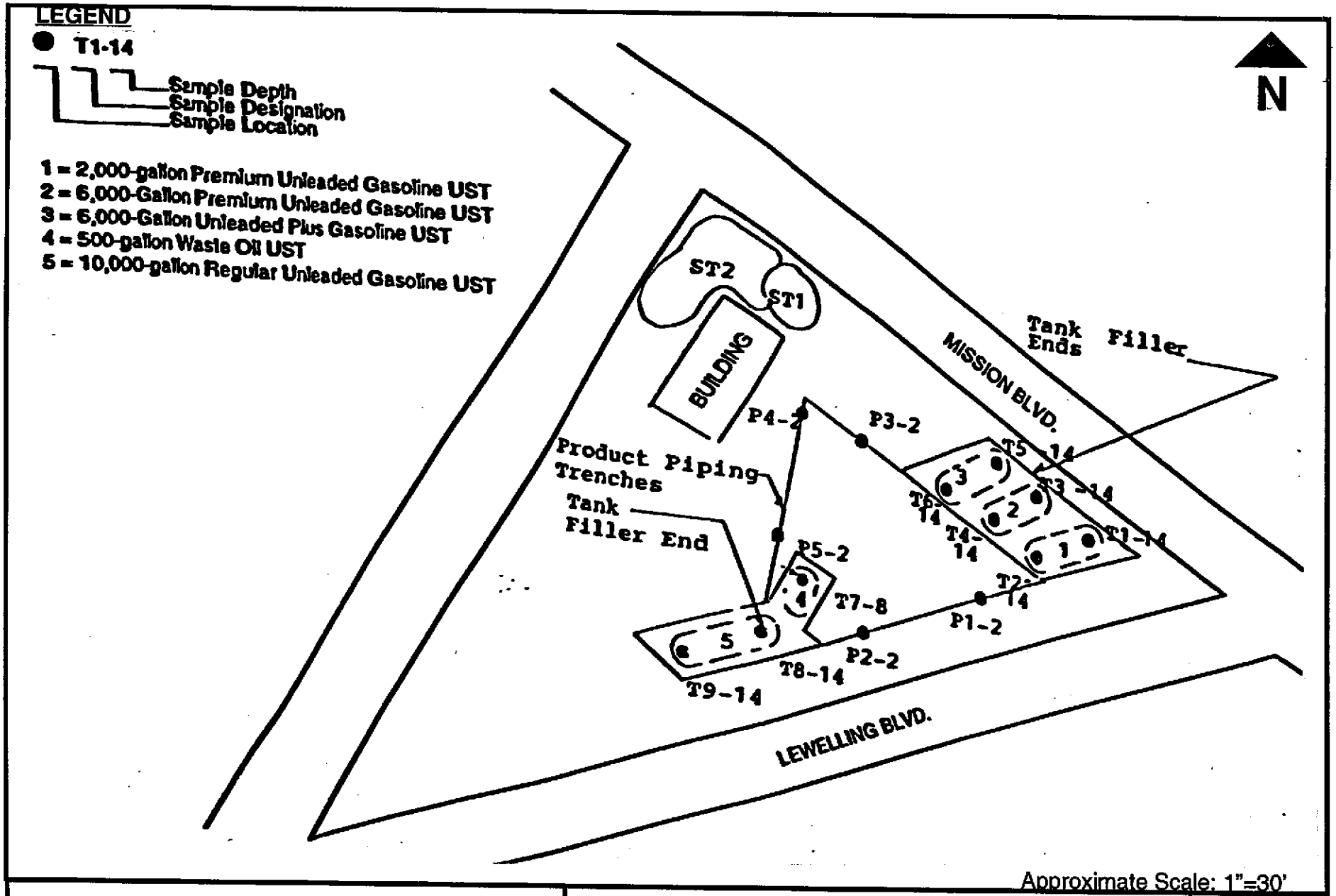
1. Depths to groundwater were measured to the top of the well casings
2. Water table elevations were measured in relation to an assumed datum (100') relative elevation

TABLE II
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Sample ID	Sample Date	Sample Location	TPHG[1] ppb[3]	Benzene ppb	Toluene ppb	Ethylbenzene ppb	Xylenes ppb	MTBE[2] ppb
MW-1	8-18-00	MW1	280,000	10,000	16,000	11,000	49,000	4,000
*	3-30-01		98,000	8,600	14,000	6,300	26,000	7,600
*	6-22-01		110,000	7,500	12,000	5,700	24,000	3,800
*	9-20-01		93,000	8,700	11,000	6,300	27,000	4,600
*	12-27-01		140,000	7,700	11,000	6,500	28,000	7,700
*	9-24-02		110,000	4,600	4,000	4,000	18,000	3,400
*	12-17-02		110,000	6,600	6,700	5,400	23,000	2,900
*	4-2-03		89,000	4,800	6,000	4,600	20,000	5,900
MW-2	8-18-00	MW2	290,000	3700	990	7,300	26,000	ND[4]
*	3-30-01		47,000	3,200	470	4,500	13,000	3,100
*	6-22-01		57,000	2,500	350	4,200	12,000	1,800
*	9-20-01		42,000	2,300	230	4,300	12,000	2,200
*	12-27-01		70,000	2,900	390	4,800	14,000	2,400
*	9-24-02		110,000	1,600	200	3,400	9,100	2,500
*	12-17-02		66,000	2,400	340	4,600	13,000	1,900
*	4-2-03		29,000	1,000	130	2,300	5,100	2,000
MW-3	8-18-00	MW3	46,000	3,200	550	3,700	14,000	2,200
*	3-30-01		30,000	3,300	340	2,800	9,100	4,700
*	6-22-01		35,000	4,000	340	2,900	7,600	4,100
*	9-20-01		30,000	3,800	260	2,500	6,600	5,300
*	12-27-01		39,000	4,400	340	3,000	6,700	5,500
*	9-24-02		53,000	4,100	270	3,100	6,600	6,400
*	12-17-02		40,000	3,600	240	2,200	5,700	5,200
*	4-2-03		24,000	2,000	130	1,800	3,300	3,000

1. TPHG = Total Petroleum Hydrocarbons as Gasoline
2. MTBE = Methyl Tertiary Butyl Ether
3. ppb = Parts Per Billion
4. ND = Below Laboratory Detection Limit

* The Sample was Analyzed for Fuel Oxygenates using EPA Method 8260B. Only MTBE was Detected in the Sample



SIERRA ENVIRONMENTAL, INC.
Environmental Consultants
980 W. Taylor Street, San Jose, CA 95126
Phone [408]248-3700 • Fax [408] 248-4700

Former UST and Soil Sample Locations

Soil and Groundwater Investigation
ABE Petroleum LLC

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FIGURE
A
May 27 2003
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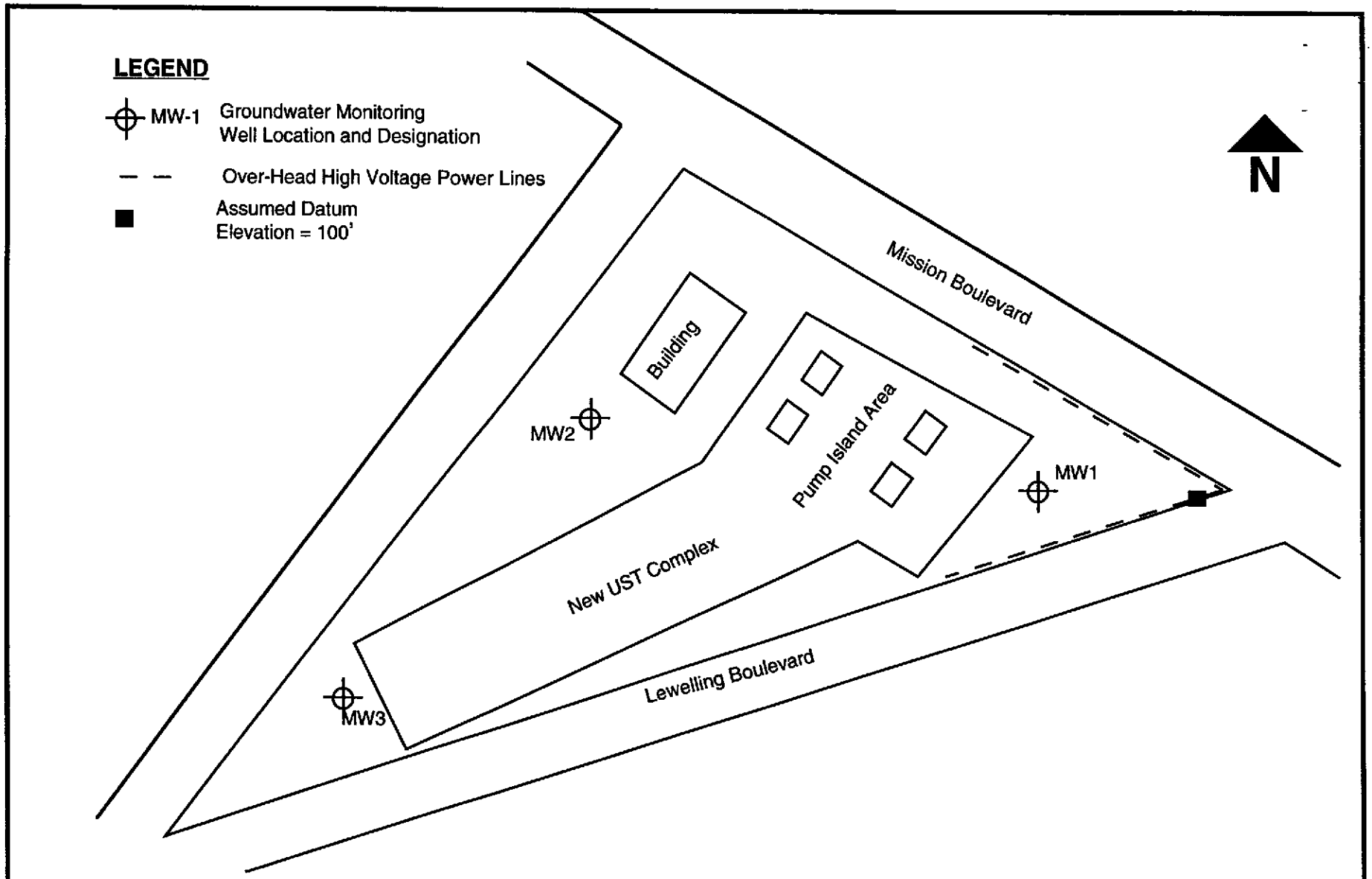

SIERRA ENVIRONMENTAL, INC.
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980 W. Taylor St.,San Jose, CA 95126
Phone [408]971-6758 • Fax [408] 971-6759

Groundwater Monitoring Well Locations

Soil and Groundwater Investigation
ABE Petroleum LLC

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FIGURE
B
May 27, 2003
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Appendix B

PLANS UTILITY TRENCHES

N54
N55
N56
N56
N62
EL PORTAL
STANTON TRACT NO 1
ORO LOMA SANITARY DISTRICT BOUNDARY
SANTA CRUZ
EHLE ST
REGENT WAY
JOHN DR
MARION ST
EAST LEWELLING BLVD
MISSION BLVD
GILBERT ST
CASTRO VALLEY BLVD
FOOTHILL BLVD
HARMONY DR
PARADISE BLVD
MATTOX RD
BIRCH ST
LOCUST ST
HOMESTEAD
PARK
UNION
1536 B 438
1536 B 434
SCALE IN FEET
0 100 200 300 400 500 600 700 800 900 1000
FIELD CHECKED FOR DATE BY
AUG 00
REVISION
DATE
ORO LOMA SANITARY DISTRICT
COLLECTION SYSTEM
1536 B 436

3-20

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

A B C D E F G H J K L M N P Q R S T U V W X Y Z AA BB

1533 B 438

1530 B 436

1536 B 436

1533 B 434

ASHLAND ORCHARD TRACT

ORCHARD TRACT

N55

N61

N62

N91

ELGIN ST.

LYNN CT.

KENT CT.

KENT AVE.

CUMORA AVE.

LOS REYES AVE.

EL BLACON

MELODY DR.

CLINTON AVE.

WEST 168TH AVE.

EAST 14TH ST.

BEVILACQUA ST.

CASTRO VALLEY FREEWAY

WESTERMAN

KENDALL WAY

BAR AVE.

ALISAL CT.

LEWELLING BLVD.

PARADISE BLVD.

WICKMAN WAY

ABANDONED

MORRILL ST.

LANGTON DR.

MISSION BLVD.

HARMONY DR.

HARMONY CT.

HAVEN

COLONIAL ACRES

NOTE
ALL SANITARY EASEMENTS IN TRACTS 861, 880, & 882 ARE 10'

SCALE IN FEET
0 100 200 300 400 500 600 700 800 900 1000

FIELD CHECKED FOR | DATE | BY

This map is based on the California Coordinate System. It is for reference only and the Oro Loma Sanitary District assumes no responsibility for its accuracy.

REVISED	DATE

FEB 00

ORO LOMA SANITARY DISTRICT

COLLECTION SYSTEM

DATE ISSUED

1533 B 436

3-26

1536 B 438

1533 B 436

1539 B 436

1536 B 434

DETAIL A
NOT TO SCALE

DETAIL B
NOT TO SCALE

DETAIL C
NOT TO SCALE

R/W MAP S-716
CONSTR.DET.S-716
S-1124

R/W MAP S-715
CONSTR.DET.S-715 & S-1124

TAP LEGEND
TAP IS ON MAIN 1
TAP IS ON MAIN 2
TAP IS ON MAIN 3
1 2 3
ONLY THOSE MAPS ON WHICH THIS LEGEND APPEARS IDENTIFY THE MAIN TAPPED.

0 100 200 300 400 500 600 700 800 900 1000 FEET

05-DEC-2002

EAST BAY MUNICIPAL UTILITY DISTRICT

CITY	STRUCTURE	DESIGNATION	NAME	CAP. IN M.G.
COUNTY ALAMEDA	RATE CONT STA	GIBO	MATTOX	
U.S.G.S. HAYWARD	PP	GIBG H23	BAYVIEW	

PRESSURE ZONE	
C2A	ALMOND
C4A	CENTRAL
C1A	BAYVIEW
GIBG	UPPER SAN LEANDRO

DATE ISSUED DEC 2002

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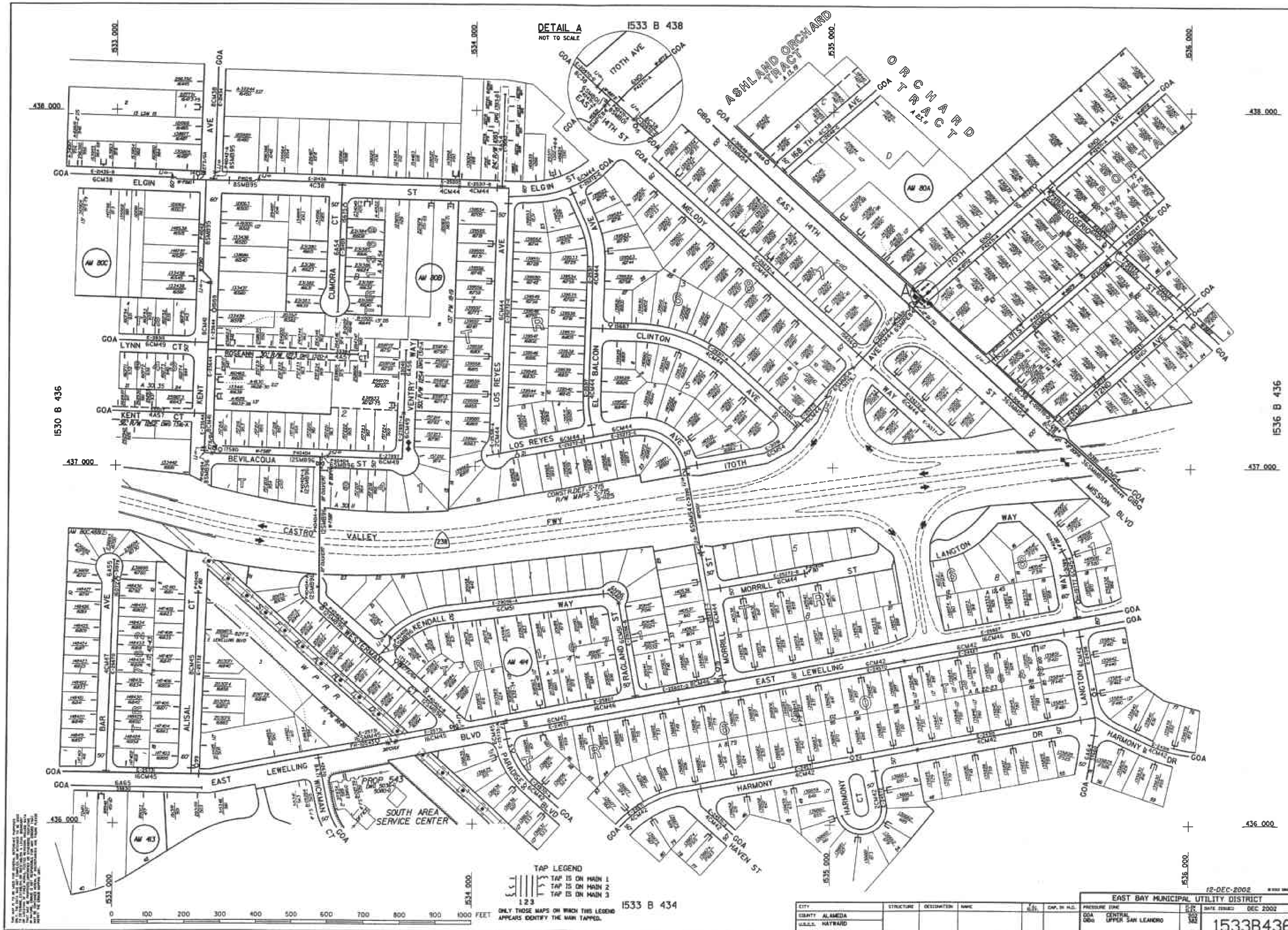

DETAIL A
NOT TO SCALE
1533 B 438
1533 B 434
1530 B 436
1536 B 436
438 000
437 000
436 000
1533 000
1534 000
1535 000
1536 000
ASHLAND ORCHARD TRACT
ORCHARD TRACT
ELGIN ST
AVE
CUMORA CT
ROSEANN
LYNN CTR
KENT CT
KENT
VENTRY WAY
LOS REYES AVE
LOS REYES
BEVILACQUA ST
EL BALCON
CLINTON
MELODY AVE
EAST 14TH ST
170TH AVE
168 TH AVE
171ST
172ND
MISSION BLVD
CASTRO VALLEY FWY
238
LANGTON WAY
MORRILL ST
MORRILL
ST
KENDALL WAY
RAGLAND ST
WESTERMAN
W P R R
BAR AVE
ALISAL CT
EAST LEWELLING BLVD
WICKMAN CT
PROP 543
SOUTH AREA SERVICE CENTER
PARADISE BLVD
HAVEN ST
HARMONY DR
HARMONY CT
LANGTON
GOA
GBG
AM 80A
AM 80B
AM 80C
AM 414
AM 413
TAP LEGEND
TAP IS ON MAIN 1
TAP IS ON MAIN 2
TAP IS ON MAIN 3
1 2 3
ONLY THOSE MAPS ON WHICH THIS LEGEND APPEARS IDENTIFY THE MAIN TAPPED.
0 100 200 300 400 500 600 700 800 900 1000 FEET
12-DEC-2002
EAST BAY MUNICIPAL UTILITY DISTRICT
CITY
COUNTY ALAMEDA
U.S.G.S. HAYWARD
PRESSURE ZONE
GOA CENTRAL
GBG UPPER SAN LEANDRO
DATE ISSUED DEC 2002
1533B436

Appendix C

EDR RECEPTOR & GEOCHECK REPORT

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ABE PETROLEUM
17715 MISSION BLVD/LANGTON WAY
HAYWARD, CA 94541

TARGET PROPERTY COORDINATES

Latitude (North):	37.688000 - 37° 41' 16.8"
Longitude (West):	122.104698 - 122° 6' 16.9"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	578939.6
UTM Y (Meters):	4171371.0
Elevation:	64 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

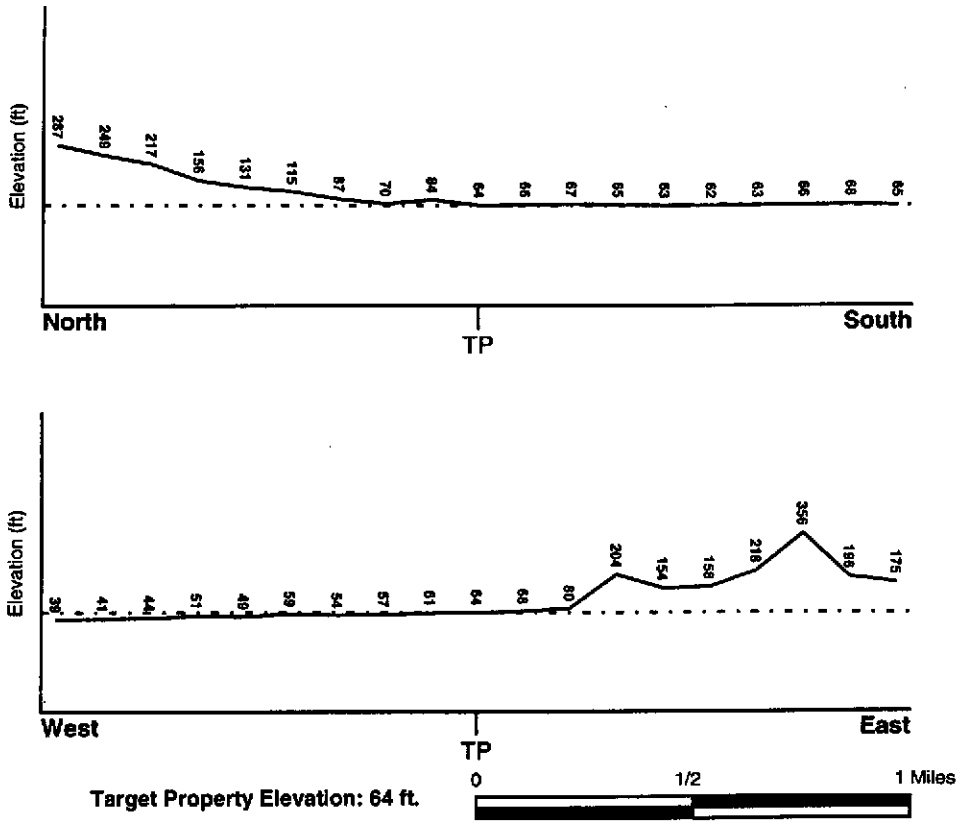
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	2437122-F1 HAYWARD, CA
General Topographic Gradient:	General West
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
ALAMEDA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 0600010090C

Additional Panels in search area: 0650330003D

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
HAYWARD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
1	1/4 - 1/2 Mile SE	NW
3	1/4 - 1/2 Mile East	W
A4	1/2 - 1 Mile East	W
A5	1/2 - 1 Mile East	N
6	1/2 - 1 Mile SSE	S
B7	1/2 - 1 Mile SE	S
B8	1/2 - 1 Mile SE	S
B9	1/2 - 1 Mile SE	S
C11	1/2 - 1 Mile SW	SSE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
C12	1/2 - 1 Mile SW	SSE
D13	1/2 - 1 Mile NW	SE
D14	1/2 - 1 Mile NW	SW
E15	1/2 - 1 Mile ESE	SW
E16	1/2 - 1 Mile ESE	SW
F17	1/2 - 1 Mile West	E
D18	1/2 - 1 Mile NW	SW
F19	1/2 - 1 Mile West	E
F20	1/2 - 1 Mile West	E
G21	1/2 - 1 Mile ENE	W
22	1/2 - 1 Mile SSW	S
H23	1/2 - 1 Mile SSE	SW
G25	1/2 - 1 Mile ENE	N
I26	1/2 - 1 Mile NW	NE, NW
27	1/2 - 1 Mile ENE	SW
J28	1/2 - 1 Mile ENE	Varies
J29	1/2 - 1 Mile ENE	SE
30	1/2 - 1 Mile ESE	SW
31	1/2 - 1 Mile NNW	W
I32	1/2 - 1 Mile NW	NE, NW
33	1/2 - 1 Mile South	NE
34	1/2 - 1 Mile NW	W

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Permian
Series:	Ultramafic rocks
Code:	uM *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	YOLO
Soil Surface Texture:	silt loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	26 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 6.10
2	26 inches	65 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 2.00 Min: 0.60	Max: 8.40 Min: 6.10

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loam
silty clay loam
clay
clay loam
extremely gravelly - sand

Surficial Soil Types: loam
silty clay loam
clay
clay loam
extremely gravelly - sand

Shallow Soil Types: clay
gravelly - sandy clay loam

Deeper Soil Types: stratified
clay
silty clay loam
sandy clay loam
extremely gravelly - sand

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS0119464	1/4 - 1/2 Mile SW
10	USGS0119381	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

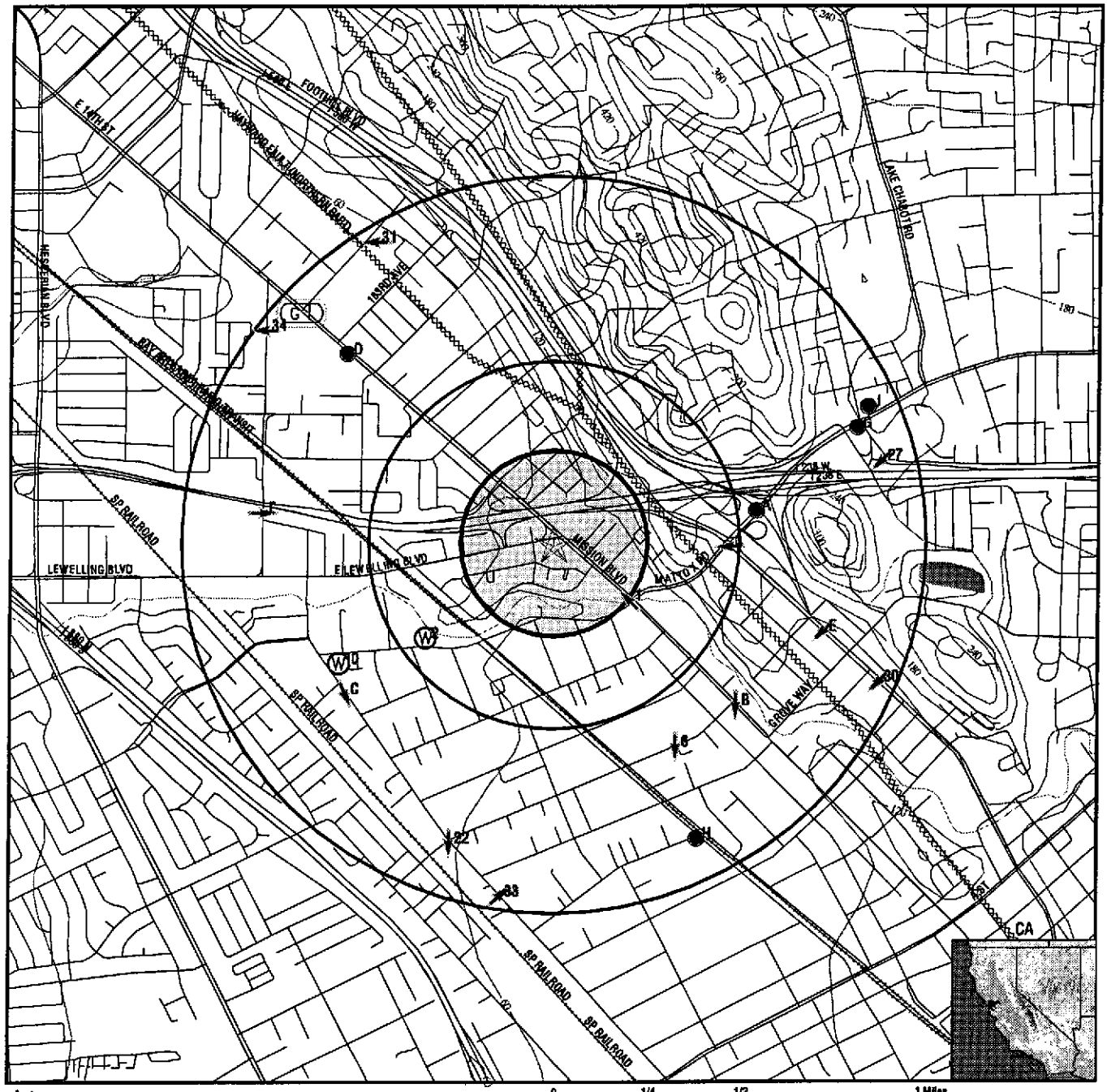
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 0977897.1s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

TARGET PROPERTY:	ABE Petroleum	CUSTOMER:	Sierra Environmental Inc.
ADDRESS:	17715 Mission Blvd/Langton Way	CONTACT:	Mitch Hajlaghai
CITY/STATE/ZIP:	Hayward CA 94541	INQUIRY #:	0977897.1s
LAT/LONG:	37.6880 / 122.1047	DATE:	May 15, 2003 6:07 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1 **SE** **1/4 - 1/2 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1160 NW Not Reported Not Reported 40 08/28/1991	**AQUIFLOW**	**50290**

2
SW
1/4 - 1/2 Mile
Lower

FED USGS **USGS0119464**

Agency:	USGS	Site ID:	374103122063901
Site Name:	003S002W08L003M		
Dec. Latitude:	37.68427		
Dec. Longitude:	-122.11099		
Coord Sys:	NAD83		
State:	CA		
County:	Alameda County		
Altitude:	64.61		
Hydrologic code:	Not Reported		
Topographic:	Not Reported		
Site Type:	Ground-water other than Spring		
Const Date:	Not Reported	Inven Date:	19990129
Well Type:	Single well, other than collector or Ranney type		
Primary Aquifer:	Not Reported		
Aquifer type:	Not Reported	Well depth:	Not Reported
Hole depth:	Not Reported	Source:	Not Reported
Project no:	Not Reported		

3 **East** **1/4 - 1/2 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0238 W Not Reported Not Reported 37 01/1993	**AQUIFLOW**	**50111**
A4 **East** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1384 W Not Reported Not Reported 3.8.5 07/16/1986	**AQUIFLOW**	**53598**
A5 **East** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1476 N 3.70 11.00 Not Reported 04/16/1996	**AQUIFLOW**	**53596**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID / Direction / Distance / Elevation			Database	EDR ID Number
C11 **SW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0822 SSE 15.5 20.04 Not Reported 03/08/1995	**AQUIFLOW**	**53506**
C12 **SW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0822 SSE 6.53 6.60 Not Reported 07/16/1992	**AQUIFLOW**	**53505**
D13 **NW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0771 SE 13.5 14.5 Not Reported 11/27/1990	**AQUIFLOW**	**52398**
D14 **NW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0771 SW 2.5 10.0 Not Reported 05/26/1999	**AQUIFLOW**	**52396**
E15 **ESE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0216 SW Not Reported Not Reported 24 09/26/1996	**AQUIFLOW**	**55643**
E16 **ESE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1880 SW Not Reported Not Reported 15 04/06/1995	**AQUIFLOW**	**55647**
F17 **West** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1095 E 5.0 7.0 Not Reported 09/29/1993	**AQUIFLOW**	**52517**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
D18 **NW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0771 SW Not Reported Not Reported 10 12/09/1998	**AQUIFLOW**	**52397**
F19 **West** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1095 E 6.5 7.0 Not Reported 08/19/1993	**AQUIFLOW**	**52518**
F20 **West** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1095 E 4.55 9.41 Not Reported 12/16/1996	**AQUIFLOW**	**52519**
G21 **ENE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1384 W Not Reported Not Reported Not Reported 05/05/1999	**AQUIFLOW**	**53599**
22 **SSW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1269 S Not Reported Not Reported 3-6 04/25/1993	**AQUIFLOW**	**50288**
H23 **SSE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0431 SW 18.66 25.27 Not Reported 09/27/1996	**AQUIFLOW**	**52523**
H24 **SSE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0431 Not Reported Not Reported Not Reported 7 12/22/1994	**AQUIFLOW**	**52522**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
G25 **ENE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1476 N 3.85 9.85 Not Reported 04/16/1999	**AQUIFLOW**	**53597**
I26 **NW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-3745 NE, NW 9.5 10.0 Not Reported 09/10/1991	**AQUIFLOW**	**67600**
27 **ENE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1789 SW 2.5 9.0 Not Reported 07/16/1993	**AQUIFLOW**	**50305**
J28 **ENE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1247 Varies Not Reported Not Reported 18 bg 02/08/1991	**AQUIFLOW**	**51554**
J29 **ENE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1246 SE Not Reported Not Reported 5 05/06/1996	**AQUIFLOW**	**50100**
30 **ESE** **1/2 - 1 Mile** **Higher**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported SW Not Reported Not Reported 14 04/17/1992	**AQUIFLOW**	**55669**
31 **NNW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1436 W Not Reported Not Reported 7.10 09/28/1989	**AQUIFLOW**	**67884**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
I32 **NW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1164 NE, NW 1.5 8.5 Not Reported 03/06/1992	**AQUIFLOW**	**67886**
33 **South** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0176 NE 20.0 30.0 Not Reported 06/25/1999	**AQUIFLOW**	**53514**
34 **NW** **1/2 - 1 Mile** **Lower**	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported W 6.05 9.23 Not Reported 12/06/1994	**AQUIFLOW**	**52511**

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 94541

Number of sites tested: 3

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.033 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations for District 2, 3, 5 and 6
Source: Department of Conservation
Telephone: 916-323-1779

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

EDR Offsite Receptor Report

ABE Petroleum
17715 Mission Blvd/Langton Way
Hayward, CA 94541

Inquiry Number: 0977897.2s

May 15, 2003

Environmental Data Resources, Inc.

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-SHA

EXECUTIVE SUMMARY

A search of available records was conducted by Environmental Data Resources, Inc. (EDR). The EDR Offsite Receptor Report provides information which may be used to comply with the Clean Air Act Risk Management Program 112-R. *"The rule requires that you estimate in the RMP residential populations within the circle defined by the endpoint for your worst-case and alternative release scenarios (i.e., the center of the circle is the point of release and the radius is the distance to the endpoint). In addition, you must report in the RMP whether certain types of public receptors and environmental receptors are within the circles."*

The address of the subject property, for which the search was intended, is:

ABE PETROLEUM
17715 MISSION BLVD/LANGTON WAY
HAYWARD, CA 94541

Distance Searched: 1.000 miles from subject property

RECEPTOR SUMMARY
An X indicates the presence of the receptor within the search radius.

Residential Population
Estimated population within search radius: 25289 persons.

Other Public Receptors

Type	Within Search Radius	Sites Total
Day Care Centers:	X	5
Medical Centers:		
Nursing Homes:	X	4
Schools:	X	17
Hospitals:		
Colleges:	X	2
Arena:		
Prison:		

Environmental Receptors

Type	Within Search Radius	Sites Total
Federal Land:		

CENSUS MAP - 0977897.2s

★ Target Property
Roads
Waterways
Census Tracts

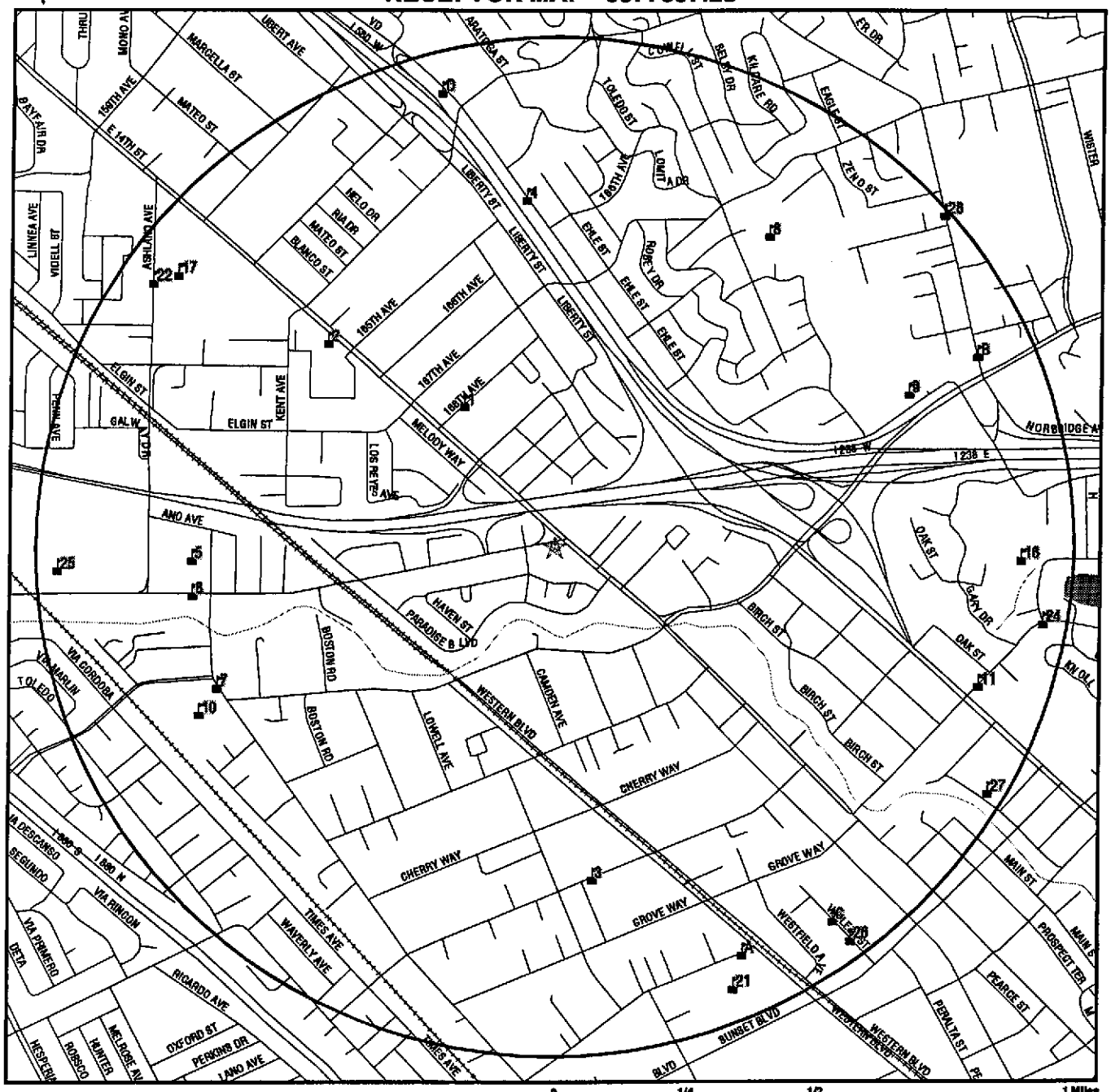
0 1/4 1/2 1 Miles

TARGET PROPERTY:	ABE Petroleum	CUSTOMER:	Sierra Environmental Inc.
ADDRESS:	17715 Mission Blvd/Langton Way	CONTACT:	Mitch Hajiaghai
CITY/STATE/ZIP:	Hayward CA 94541	INQUIRY #:	0977897.2s
LAT/LONG:	37.6880 / 122.1047	DATE:	May 15, 2003 6:03 pm

CENSUS FINDINGS

Map ID	Tract Number	Total Population	Population in Radius	Total Area(sq.mi.)	Area in Radius(sq.mi.)
T1	4306.00	5070	1314.1	0.89	0.23
T2	4305.00	4807	2440.2	0.63	0.32
T3	4338.00	5321	508.3	0.73	0.07
T4	4339.00	4999	3276.8	0.31	0.20
T5	4309.00	3884	189.3	0.43	0.02
T6	4340.00	3857	3841.0	0.45	0.45
T7	4310.00	2106	246.2	0.36	0.04
T8	4337.00	2511	1637.9	0.61	0.40
T9	4312.00	4869	1236.3	0.78	0.20
T10	4355.00	3057	2261.2	0.39	0.29
T11	4356.00	7714	6480.4	0.78	0.66
T12	4357.00	3758	1857.3	0.50	0.25

RECEPTOR MAP - 0977897.2s



★ Target Property
Roads
Waterways
Environmental or Public Receptor
Federal Lands Linear Features
Federal Lands Area

TARGET PROPERTY:	ABE Petroleum	CUSTOMER:	Sierra Environmental Inc.
ADDRESS:	17715 Mission Blvd/Langton Way	CONTACT:	Mitch Hajiaghai
CITY/STATE/ZIP:	Hayward CA 94541	INQUIRY #:	0977897.2s
LAT/LONG:	37.6880 / 122.1047	DATE:	May 15, 2003 6:04 pm

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation — **Site** — **EDR ID / Database**

1
NNW
1/4-1/2 mi
1739
Higher

SRNH555779
Nursing Homes

Provnum: 555779
Street: 1440 168TH AVENUE
State: CA
Phone: 5104818575
Num Beds: 176
Occupied %: 3
Owner Type: Non profit - Corporation
Multi Nursing home ownership?: NO
Has Resident and Family Councils?: NONE

Name: KAISER PERMANENTE POST ACUTE
City: SAN LEANDRO
Zipcode: 94578
Last Insp: 20020116
Num Residents: 6
Description: Participating in Medicare and Medicaid
Within Hosp?: NO

2
NW
1/2-1 mi
3146
Lower

GNS0159639
GNIS Schools

Name: Ashland School
ID: 218435
Site Type: school
Latitude: 37.69400
Longitude: -122.10000

3
South
1/2-1 mi
3455
Higher

SRNH555611
Nursing Homes

Provnum: 555611
Street: 494 BLOSSOM WAY
State: CA
Phone: 5105827676
Num Beds: 97
Occupied %: 94
Owner Type: For profit - Corporation
Multi Nursing home ownership?: YES
Has Resident and Family Councils?: BOTH

Name: MORTON BAKAR CENTER
City: HAYWARD
Zipcode: 94541
Last Insp: 20011003
Num Residents: 91
Description: Participating in Medicare and Medicaid
Within Hosp?: NO

4
North
1/2-1 mi
3629
Higher

COL119085
Colleges

Schoolid: 119085
Name: MONTESSORI TEACHER EDUCATION CENTER-SAN FRAN BAY
Address: 16492 FOOTHILL BLVD
City: SAN LEANDRO
State: CA
Zip: 94578
Telephone: 5102781115
Sector: Less than 2-year private, not-for-profit
Level: Less than 2 years (below associate)
Control: Private, nonprofit
Affiliation: Private, not for-profit, no religious affiliation
Has Hospital?: 2
Open to Pub?: Insititution is open to the public
Active?: Active - institution active and not a new institution

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site		EDR ID / Database
5 West 1/2-1 mi 3694 Lower	Name: ID: Site Type: Latitude: Longitude:	Saint John School 232175 school 37.68800 -122.10000	GNS0223152 GNIS Schools
6 West 1/2-1 mi 3715 Lower	Schoolid: Address: County num: State: Zip5: Phone: Hi grde: Locale: School type: School level: Affiliation: Association:	00074753 270 E LEWELLING BLVD 6001 CA 94580 510-276-6632 Grade 8 Urban fringe of Large City Regular elementary or secondary Elementary Roman Catholic No Membership Association	Name: City: County: Fips: Zip4: Low grade: Gender: ST JOHN SCHOOL SAN LORENZO ALAMEDA 6 Not Reported Kindergarten Coed	PVTSCH00074753 Private Schools
7 WSW 1/2-1 mi 3721 Lower	Name: NCES ID: Address: Telephone: Local Code: School Type: School Level: Lowest Grade: Highest Grade:	COLONIAL ACRES ELEMENTARY 063471005847 17115 MEEKLAND AVE. HAYWARD, CA 94541 5103174500 Urban Fringe of Large City Regular Elementary and Secondary Schools Primary Kindergarten 05		PBS063471005847 Public Schools
8 NE 1/2-1 mi 3894 Higher	Name: ID: Site Type: Latitude: Longitude:	El Portal School 223052 school 37.69700 -122.10000		GNS0180587 GNIS Schools
9 ENE 1/2-1 mi 3938 Higher	Name: Address: City: State: Zip:	HAPPINESS HILL PRE-SCHOOL Not Reported Not Reported CA Not Reported		DAY1037025 Daycare
10 WSW 1/2-1 mi 4001 Lower	Name: ID: Site Type: Latitude: Longitude:	Colonial Acres Elementary School 221401 school 37.68300 -122.10000		GNS0173155 GNIS Schools

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site				EDR ID / Database
11 ESE 1/2-1 mi 4554 Higher	Schoolid: Name: Address: City: State: Telephone: Sector: Level: Control: Affiliation: Has Hospital?: Open to Pub?: Active?:	114345 SPECTRUM COMMUNITY SERVICES INCORPORATED 1435 GROVE WAY HAYWARD CA 5108810300228 Less than 2-year private, not-for-profit Less than 2 years (below associate) Private, nonprofit Private, not for-profit, no religious affiliation 2 Insititution is open to the public Active - institution active and not a new institution	Zip:	94546	COL114345 Colleges
A12 SSE 1/2-1 mi 4628 Higher	Name: Address: City: State: Zip:	H.U.S.D. CHILD DEV. PROG.-CHERRYLAND SCHOOL Not Reported Not Reported CA Not Reported			DAY1037068 Daycare
A13 SSE 1/2-1 mi 4641 Higher	Name: NCES ID: Address: Telephone: Local Code: School Type: School Level: Lowest Grade: Highest Grade:	CHERRYLAND ELEMENTARY 061674002108 585 WILLOW AVE. HAYWARD, CA 94541 5102938569 Urban Fringe of Large City Regular Elementary and Secondary Schools Primary Kindergarten 06			PBS061674002108 Public Schools
B14 ENE 1/2-1 mi 4726 Higher	Name: Address: City: State: Zip:	BRIGHT WORLD NURSERY Not Reported Not Reported CA Not Reported			DAY1037021 Daycare

Map ID Direction Distance Distance (ft.) Elevation	Site	EDR ID Database

B15
ENE
1/2-1 mi
4734
Higher

PVTSCHK9300794
Private Schools

Schoolid:	K9300794	Name:	BRIGHT WORLD PRE SCHOOL
Address:	20613 STANTON AVENUE	City:	CASTRO VALLEY
County num:	6001	County:	ALAMEDA
State:	CA	Fips:	6
Zip5:	94546	Zip4:	Not Reported
Phone:	510-581-1580	Low grade:	Prekindergarten
Hi grde:	Kindergarten		
Locale:	Urban fringe of Large City	Gender:	Coed
School type:	Early Childhood Program/Day Care Center		
School level:	Elementary		
Affiliation:	Assembly of God		
Association:	Association of Christian Schools International (ACSI)		

16
East
1/2-1 mi
4748
Higher

GNS0231567
GNIS Schools

Name:	Strobridge Elementary School
ID:	235602
Site Type:	school
Latitude:	37.68800
Longitude:	-122.10000

17
NW
1/2-1 mi
4776
Lower

GNS0180158
GNIS Schools

Name:	Edendale Elementary School
ID:	222975
Site Type:	school
Latitude:	37.69600
Longitude:	-122.10000

C18
SE
1/2-1 mi
4779
Higher

PVTSCHA9100625
Private Schools

Schoolid:	A9100625	Name:	CAMELOT
Address:	21753 VALLEJO ST	City:	HAYWARD
County num:	6001	County:	ALAMEDA
State:	CA	Fips:	6
Zip5:	94541	Zip4:	Not Reported
Phone:	510-581-1304	Low grade:	Prekindergarten
Hi grde:	Grade 1		
Locale:	Urban fringe of Large City	Gender:	Coed
School type:	Regular elementary or secondary		
School level:	Elementary		
Affiliation:	Nonsectarian		
Association:	National Association for the Education of Young Children (NAEYC),Other Special Emphasis Association(s)		

D19
NNW
1/2-1 mi
4815
Higher

DAY1037006
Daycare

Name:	MONTESSORI SCHOOL OF SAN LEANDRO
Address:	Not Reported
City:	Not Reported
State:	CA
Zip:	Not Reported

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site		EDR ID / Database
25 West 1/2-1 mi 5064 Lower	Name: ID: Site Type: Latitude: Longitude:	San Lorenzo High School 232435 school 37.68800 -122.10000	GNS0224492 GNIS Schools

26
SE
1/2-1 mi
5072
Higher

SRNH05A199
Nursing Homes

Provnum:	05A199		Name:	ST. THERESE CONVALESCENT HOSP
Street:	21863 VALLEJO STREET		City:	HAYWARD
State:	CA		Zipcode:	94541
Phone:	5105388076		Last Insp:	20020226
Num Beds:	36		Num Residents:	34
Occupied %:	94		Description:	Participating in Medicaid Only
Owner Type:	For profit - Corporation		Within Hosp?:	NO

Multi Nursing home ownership?: NO
Has Resident and Family Councils?: RESIDENT

27 ESE 1/2-1 mi 5099 Higher	Name: ID: Site Type: Latitude: Longitude:	Kimball School 226578 school 37.68100 -122.10000	GNS0197175 GNIS Schools

28
NE
1/2-1 mi
5243
Higher

SRNH555082
Nursing Homes

Provnum:	555082		Name:	VALLEY POINTE NURSING & REHAB.
Street:	20090 STANTON AVE.		City:	CASTRO VALLEY
State:	CA		Zipcode:	94546
Phone:	5105388464		Last Insp:	20020222
Num Beds:	50		Num Residents:	48
Occupied %:	96		Description:	Participating in Medicare and Medicaid
Owner Type:	For profit - Corporation		Within Hosp?:	NO

Multi Nursing home ownership?: YES
Has Resident and Family Councils?: BOTH

RECORDS SEARCHED/DATA CURRENCY TRACKING

Census
Source: U.S. Census Bureau
Telephone: 301-457-4100
1990 U.S. Census data was used to estimate residential population following these EPA guidelines:
"Census data are presented by Census tract. If your circle covers only a portion of the tract, you should develop an estimate for that portion...Determine the population density per square mile (total population of the Census tract divided by the number of square miles in the tract) and apply that density figure to the number of square miles within your circle."

FED_LAND: Federal Lands
Source: USGS
Telephone: 888-275-8747
Federal lands data. Includes data from several Federal land management agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; . Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

GNIS Hospitals: Geographic Names Information System
Source: USGS
Telephone: 888-275-8747
The Geographic Names Information System (GNIS), developed by the USGS in cooperation with the U.S. Board on Geographic Names (BGN), contains information about almost 2 million physical and cultural geographic features in the United States. The GNIS is our Nation's official repository of domestic geographic names information.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Colleges - Integrated Postsecondary Education Data
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on integrated postsecondary education in the United States.

GNIS Schools: Geographic Names Information System
Source: USGS
Telephone: 888-275-8747
The Geographic Names Information System (GNIS), developed by the USGS in cooperation with the U.S. Board on Geographic Names (BGN), contains information about almost 2 million physical and cultural geographic features in the United States. The GNIS is our Nation's official repository of domestic geographic names information.

RECORDS SEARCHED/DATA CURRENCY TRACKING

Arenas
Source: Dunhill International
EDR indicates the location of buildings and facilities - arenas - where individuals who are public receptors are likely to be located.

Prisons: Bureau of Prisons Facilities
Source: Federal Bureau of Prisons
Telephone: 202-307-3198
List of facilities operated by the Federal Bureau of Prisons.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041