AEI CONSULTANTS
ENVIRONMENTAL & CIVIL ENGINEERING

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August 31, 2006

Attn. Mr. Barney Chan
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Workplan for Monitoring Well Installation & Butane Biosparging and Bioventing System**
1075 40th Street
Oakland, California
ACEH Fuel Leak Case RO0000186
AEI Project No. 116303

Dear Mr. Chan:

AEI Consultants (AEI) has prepared this workplan as a follow-up to the phone conversation with Mr. Barney Chan of Alameda County Environmental Health (ACEH) on or around August 10, 2006, regarding AEI's *High Vacuum Dual Phase Extraction Interim Corrective Action Report*, dated June 20, 2006. This workplan outlines a scope of work to install additional monitoring wells and includes plans to proceed with the design and installation of a butane biosparging and bioventing remediation system onsite as an interim corrective action measure.

AEI proposes to install two (2) additional groundwater monitoring wells, MW-5 and MW-6, at the locations shown on Figure 2: Site Layout Plan to fully delineate the lateral extent of the methyl tertiary-butyl ether (MTBE) plume. Monitoring well construction will be similar to that of monitoring well MW-2. Permitting, scheduling, and installation of the proposed wells will begin upon approval of this workplan. These wells will be sampled at least twice, preferably one month apart, before finalizing the butane biosparging and bioventing system design.

AEI will install a butane biosparging and bioventing remediation system onsite with the help of Global Biosciences, Inc. At several remediation sites in Massachusetts, Florida, and other locations throughout the United States (U.S.), significant reductions in hydrocarbons and MTBE have been documented one to two months after startup. Since butane utilizing bacteria are ubiquitous in soils through the U.S., significant testing for bioparameters is not usually required or recommended for small projects. More information on Global Biosciences' patented Butane Biostimulation Technologies® is available on their website www.globalbiosciences.com. Please refer to Figure 4: Process Flow Diagram for a detailed description of the process.

AEI will convert existing monitoring well MW-3 into a butane re-injection well and proposes to install two additional vapor extraction wells, VE-3 and VE-4, at locations shown on Figure 3: System Layout Plan. Vapor extraction well construction will be similar to that of extraction well VE-1. AEI proposes to convert MW-2 into butane biosparging well AS-3 and to utilize the

existing sparging wells AS-1 and AS-2 as butane biosparging wells. No additional biosparging wells will be required unless elevated levels of hydrocarbons or MTBE are detected in proposed monitoring wells MW-5 and MW-6. Therefore, defining the lateral extent and magnitude of the MTBE plume is crucial prior to proposing any additional vapor extraction or biosparging wells and finalizing the system design. Proposed monitoring wells MW-5 and MW-6 can also be used as biosparging wells if needed.

While a small amount of free product, ranging from sheen to 0.02 feet, is present in monitoring well MW-3, this does not pose a significant problem to the proposed butane biosparging and bioventing remediation system. While butane biosparging and bioventing technology is not recommend at sites with significant amounts of free phase hydrocarbons, it has been successfully implemented at sites with limited or isolated amounts of free product ranging from a heavy sheen up to several inches. Furthermore, it has been successfully employed at sites with dissolved phase hydrocarbon and MTBE contamination at concentrations greater than 100,000 micro grams per liter (ug/L).

Although a significant amount of free product is not expected to return to MW-3, AEI will make contingency plans to install a small free product recovery skimmer pump in MW-3 if needed. Installing a skimmer pump is relatively inexpensive and with minor modifications can be pneumatically-powered by the air compressor used for the biosparging component of the system.

Monitoring Well Installation

The purpose of installing two additional monitoring wells is to completely delineate the lateral extent of the MTBE plume. The proposed scope of work consists of installing two (2) monitoring wells, MW-5 and MW-6, down-gradient of MW-2, the known MTBE hotspot. The proposed wells will be screened across the same stratigraphy as MW-2, which has the highest detected concentrations of MTBE. The groundwater flow direction is predominately to the northwest with a hydraulic gradient in the range of 10^{-2} feet per foot. See Table 2a for a summary of the historical groundwater flow directions and hydraulic gradients.

The proposed well locations on are shown on Figure 2. Analytical data obtained from these wells will be used to update the MTBE groundwater isopleths shown on Figure 6: MTBE Groundwater Isopleths. The screen intervals stated below may be adjusted by AEI's supervising Professional Geologist or Engineer based on field observations and the data collected during drilling activities.

The construction details for these monitoring wells are as follows:

- One 2-inch diameter monitoring well (MW-5), installed to 21 feet below ground surface (bgs), screened from 6 to 21 feet bgs, located approximately 40 feet north and about 10 feet to the east of MW-2 to help delineate the northern extent of the MTBE plume.

- One 2-inch diameter monitoring well (MW-6), installed to 21 feet bgs, screened from 6 to 21 feet bgs, located approximately 60 feet northwest of MW-2 to help delineate the northern extent of the MTBE plume.

- The wells will be constructed with 2-inch nominal diameter schedule 40 PVC well casing and factory slotted 0.010-inch well screen.

A drilling permit will be obtained for each well from the Alameda County Public Works Agency. Underground Service Alert North will be notified to identify any public utilities conflicts in the work area. A private utility locating service will be retained to clear boring locations and confirm location of sewer lines and any other previously unidentified underground utilities.

The boreholes for the groundwater monitoring wells will be sampled at a minimum of five foot intervals. Borehole logging and sample collection will be performed under the direct supervision of an AEI California-licensed Professional Geologist or Engineer. At least one soil sample will be retained from each 5 feet cored for possible chemical analysis. Additional samples may be retained at lithologic breaks or as determined by the supervising engineer or geologist.

Selected samples will be sealed with Teflon tape and plastic end caps, labeled with a unique identifier, entered onto chain of custody, and place in a cooler on ice pending transportation to the laboratory. An adjacent sample will be placed in a 1-quart zipper locking plastic bag and used for field screening. The samples will be screened using a Mini-Rae Plus Classic photo ionization detector (PID).

Samples will be transported on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Bay Point, California (Department of Health Services Certification #1644). Select soil and groundwater samples will be analyzed for total petroleum hydrocarbon as gasoline (TPH-g) and as diesel (TPH-d) by Method SW8015Cm and benzene, toluene, ethylbenzene, and xylenes (BTEX) and MTBE by Method SW8021B.

The monitoring wells will be installed in borings drilled with a CME-75 or similar rotary drilling rig, running 8-inch nominal diameter hollow stem augers. The blank well casing and slotted screen will be installed through the augers. The well casing will be flush threaded PVC and fitted with a bottom cap. An annular sand pack consisting of #2/12 Monterey or similar sand will be installed through the augers, which will be lifted from the borehole in 1-foot lifts. A bentonite seal will be placed above the sandpack and the remainder of the boring will be sealed with cement grout.

The wells will be developed no sooner than 3 days after installation by surging, bailing, and purging to stabilize the sand pack and to remove accumulated fines. If installed and developed before the next sampling event, a summary of field activities and analytical results will be included in the next monitoring report.

Each new groundwater monitoring well will be surveyed relative to each other and mean sea level by a California-licensed Professional Land Surveyor, with accuracy appropriate for GeoTracker uploads. The survey will include property boundaries and significant onsite structures.

Butane Biosparging and Bioventing System Overview

As recommended in AEI's *High Vacuum Dual Phase Extraction Interim Corrective Action Report*, dated June 20, 2006, AEI proposes to install a butane biosparging and bioventing system to operate concurrently at the site.

The butane biosparging component will be used to deliver oxygen and high purity n-butane to the subsurface at a rate of 0.5 to 3 actual cubic feet per minute (acfm) per injection well. The bioventing component of the system will help to control the potential migration of unwanted vapors into occupied buildings onsite as wells as recover and re-inject any unused butane back into the subsurface. This further oxygenates the soils in the capillary fringe and vadose zone.

Butane, also known as n-butane, is a highly soluble, simple, straight-chain hydrocarbon that is readily metabolized by many different types of aerobic bacteria commonly referred to as "butane-utilizing bacteria". Butane biosparging and bioventing focuses on stimulating the indigenous aerobic bacteria to enhance natural attenuation processes in soil and groundwater. The byproducts of aerobic respiration produced by the bacteria are non-toxic carbon dioxide and water. The process uses high purity n-butane with purity of greater than 99% without scent additives, such as ethyl mercaptan, since these are toxic to butane-utilizing bacteria.

The butane biosparging design radius of influence is approximately 30 feet, conservatively based on strong pressure response (up to 165 inches of water) observed in MW-2 during AEI's AS/SVE pilot test. The bioventing design radius of influence is approximately 20 feet, conservatively based on AEI's practical experience with clays to clayey sands and gravels and the vacuum response observed during the AS/SVE pilot test.

Butane Biosparging System Component

The butane biosparging component of the system will consist of the butane mixing panel provided by Global Biosciences, Inc., a small air compressor, conveyance piping, flow meters and pressure gauges, and injection well network. The air compressor will be capable of producing flow rates of approximately 0.5 to 3 acfm per injection well and injection pressure of greater than what is required to depress the column of water above the well screen plus any line losses.

Existing monitoring well MW-2 and previously installed sparging wells AS-1 and AS-2 will be incorporate into the injection well network. However, additional sparging wells may be required if high MTBE concentrations are detected in the proposed monitoring wells MW-5 and MW-6,

in which case one or both of these wells may be used as biosparging wells as well as monitoring wells.

The butane sparging system conveyance piping will be constructed of 1 to 1.25-inch nominal diameter high density polyethylene air-line pipe, such as Durtec™ or similar material. The air-lines will be sized and selected to reduce pressure loss from the system header to the injection wells.

Butane Bioventing System Component

The butane bioventing component of the system will consist of a small regenerative blower, conveyance piping, flow meters and vacuum gauges, and extraction and re-injection well networks. The blower will be capable of producing 2 to 10 acfm per extraction well at a vacuum of up to 10 inches of mercury (Hg). The bioventing conveyance piping will consist of 1.5 to 2-inch nominal diameter schedule 40 PVC pipe or similar material. The bioventing header will be constructed of 3 to 4-inch nominal diameter schedule 40 PVC pipe or similar material. The bioventing re-injection lines will also be constructed of 2 to 3-inch nominal diameter schedule 40 PVC pipe or similar material. The vacuum pump and piping will be sized to minimize vacuum loss from the system header to the vapor extraction wells.

Since the butane biosparging and bioventing system is a closed loop system, a Bay Area Air Quality Management District (BAAQMD) air permit will not be required for this project. A savings of $16,000.00 or more can be realized that would otherwise go to permit fees and time associated with compiling data, emissions calculations, and filing the necessary BAAQMD forms, routine sampling, and reporting.

Project Costs

The following table summarizes the monitoring well and butane biosparging and bioventing installation costs and costs for one year of operation and monitoring. Please note that this table provides only rough costs estimates with actual costs based on the final system design.

Task	Unit	Est. Cost	Amount	Total Est.
Monitoring Well Permitting, Setup, and Installation (MW-5 and MW-6)	each	$ 3,300.00	2	$ 6,600.00
Vapor Extraction Well Permitting, Setup, and Installation (VE-3 and VE-4)	each	$2,600.00	2	$ 5,200.00
GBI Butane Injection Panel & Licensing Fees	lump	$ 40,000.00	1	$ 40,000.00
GBI Equipment, Labor, and Startup Assistance	lump	$ 5,000.00	1	$ 5,000.00
GBI General Consulting Fees (optional, if necessary)	hour	$ 150.00	16	$ 2,400.00
Bioventing & Biosparging Equipment	lump	$ 12,000.00	1	$ 12,000.00

Trenching, Piping, and System Installation	lump	$ 10,000.00	1	$ 10,000.00
System Start-up and Sampling	lump	$ 5,000.00	1	$ 5,000.00
Quarterly O&M	lump	$ 2,200.00	4	$ 8,800.00
Quarterly Groundwater Monitoring	lump	$3,200.00	4	$ 12,800.00
TOTAL ESTIMATE				**$ 107,800.00**

Project Schedule

AEI will begin the process of permitting and scheduling the well and system installation tasks upon approval of this workplan. The following schedule gives an approximate timeframe as to when installation and operation tasks will be completed. The ACEH will be notified of the well installation and scheduled startup date so that an inspection can be scheduled if required.

Installation of new monitoring wells……...……...within 4 weeks of approval
Installation of new vapor extraction wells……...……..within 4 weeks of approval
Electrical permitting and contracting……..……...within 6 weeks of approval
Trenching, piping installation and connections……..within 8 weeks of approval
Electrical service complete……within 8 weeks of approval
System installation and startup……..…...within 12 weeks of approval
System startup report……...within 16 weeks of approval
Quarterly monitoring and O&M……..……...…..….quarterly, from startup date

Closing Statement and Signatures

This workplan has been prepared by AEI on behalf of Mr. Monte Upshaw of Fidelity Roof Company and outlines a scope of work to address the release of petroleum hydrocarbons from the former underground storage tank (UST) system previously removed from the property located at 1075 40th Street, Oakland, Alameda County, California. The recommendations rendered in this workplan were based on previous field investigations and laboratory testing of soil and groundwater samples. This report does not reflect subsurface variations that may exist between sampling points. These variations cannot be anticipated, nor could they be entirely accounted for, in spite of exhaustive additional testing. This plan should not be regarded as a guarantee that no further contamination, beyond that which could have been detected within the scope of this investigation is present beneath the said property or that all contamination present at the site will be treated or removed. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation that may or may not become apparent at a later time. All specified work would be performed in accordance with generally accepted practices in geotechnical and environmental engineering, engineering geology, and hydrogeology fields and will be performed under the direction of appropriate registered professional(s).

We look forward to hearing your comments regarding this report and our recommendations for well installation and site remediation. Should you have any questions or comments you may reach me at (925) 283-6000, ext 148.

Sincerely,
AEI Consultants

Richard J. Bradford
Senior Staff Engineer

Robert F. Flory, PG
Senior Project Manger

Peter McIntyre, PG
Senior Project Geologist

REGISTERED GEOLOGIST
PETER J MCINTYRE
Exp 6/30/08
No. 7102
STATE OF CA

FIGURES

TABLES

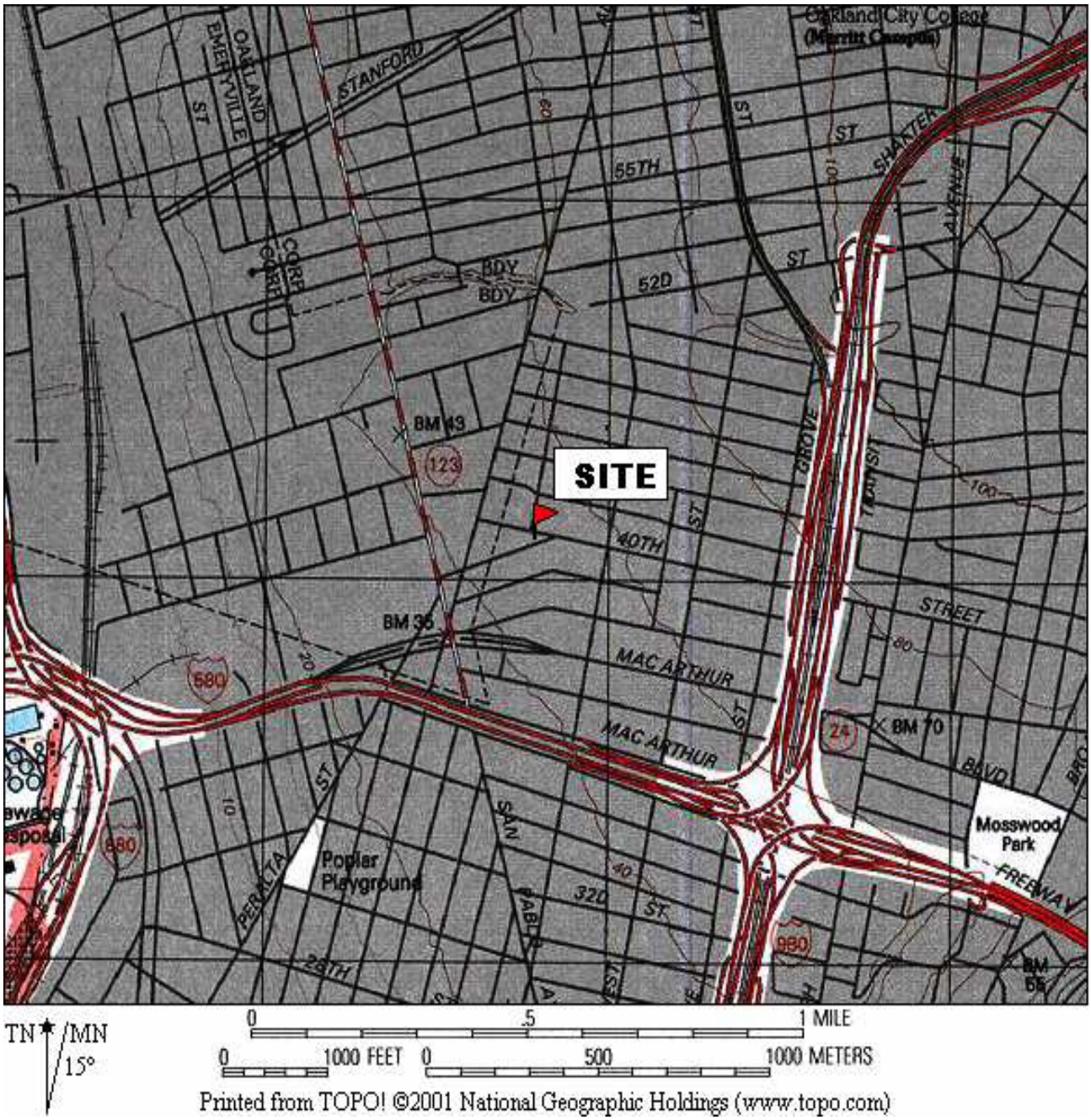
Distribution List

Mr. Monte Upshaw
Fidelity Roof Company
1075 40th Street, Oakland, CA 94608

Mr. Barney Chan (electronic copy)
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

Mr. Sunil Ramdass
California UST Cleanup Fund
1001 I Street, Sacramento, CA 94224

FIGURES



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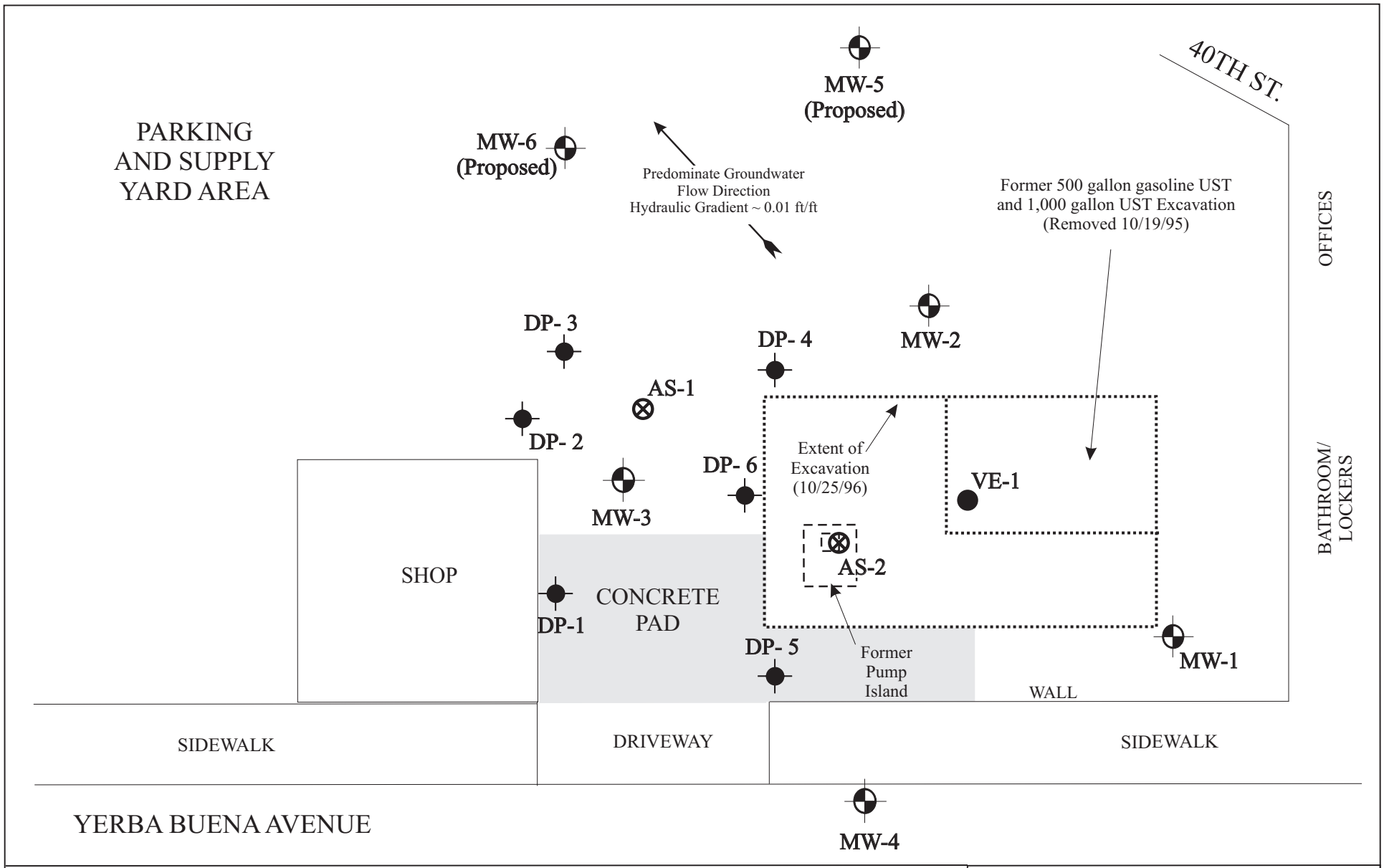
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA 94597

SITE LOCATION MAP

1075 40th STREET
OAKLAND, CALIFORNIA

FIGURE 1
AEI PROJECT NO. 116303



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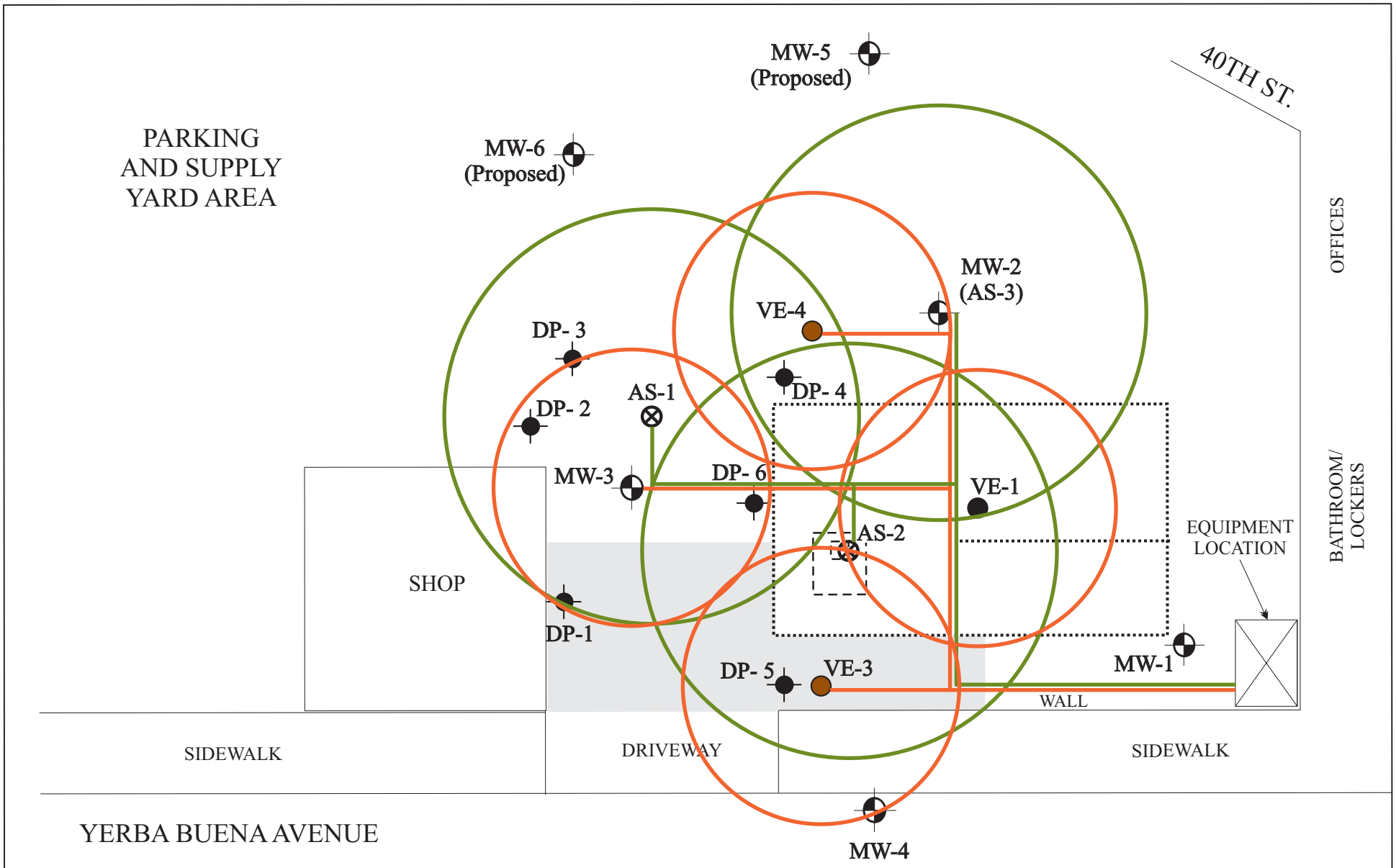
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

SITE LAYOUT PLAN

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 2
AEI Project No. 116303



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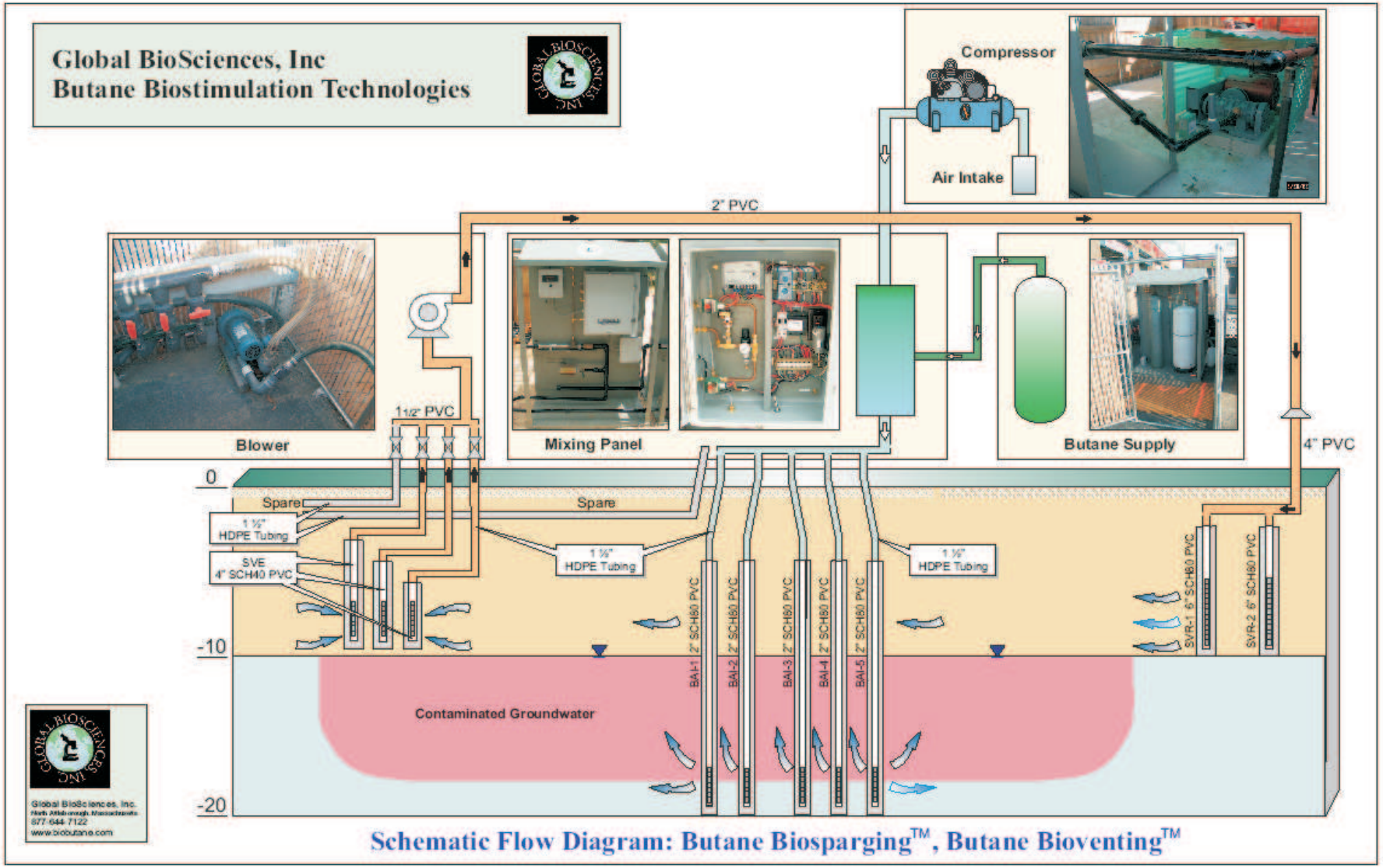
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

SYSTEM LAYOUT PLAN

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 3
AEI Project No. 116303



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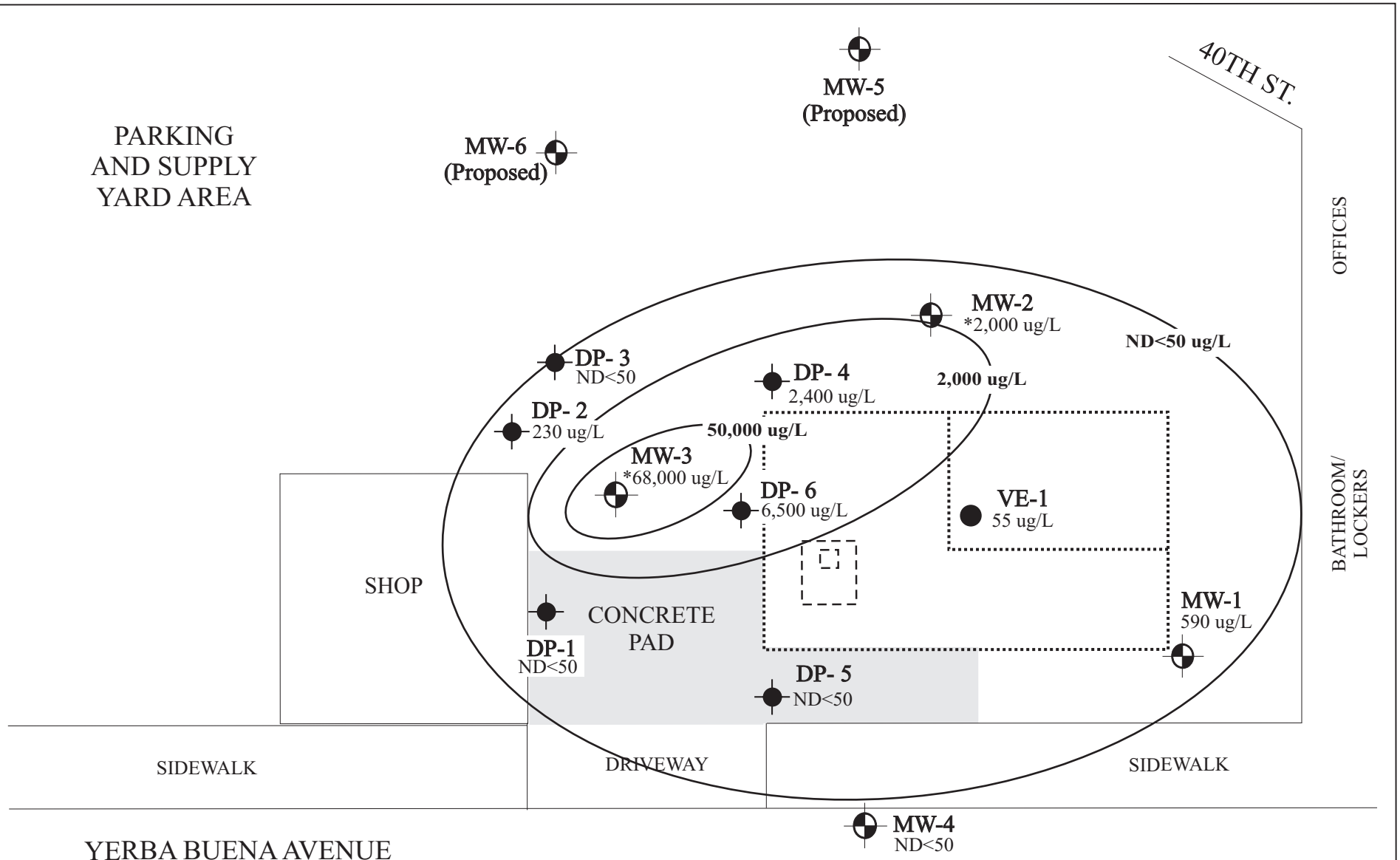
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

PROCESS FLOW DIAGRAM

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 4
AEI Project No. 116303



Monitoring Well

VE Well

DP Well

AS Well

Groundwater sample results reported in µg/L
TPH-g = Total Petroleum Hydrocarbons as gasoline
TPH-d = Total Petroleum Hydrocarbons as diesel
MTBE = Methyl tertiary-Butyl Ether
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
*Sampled 04/17/06, all others from 03/07/06
na = not analyzed ns-fp = not sampled - free product present

Inferred boundary

N

Scale: 1" = 20'
0 10 20

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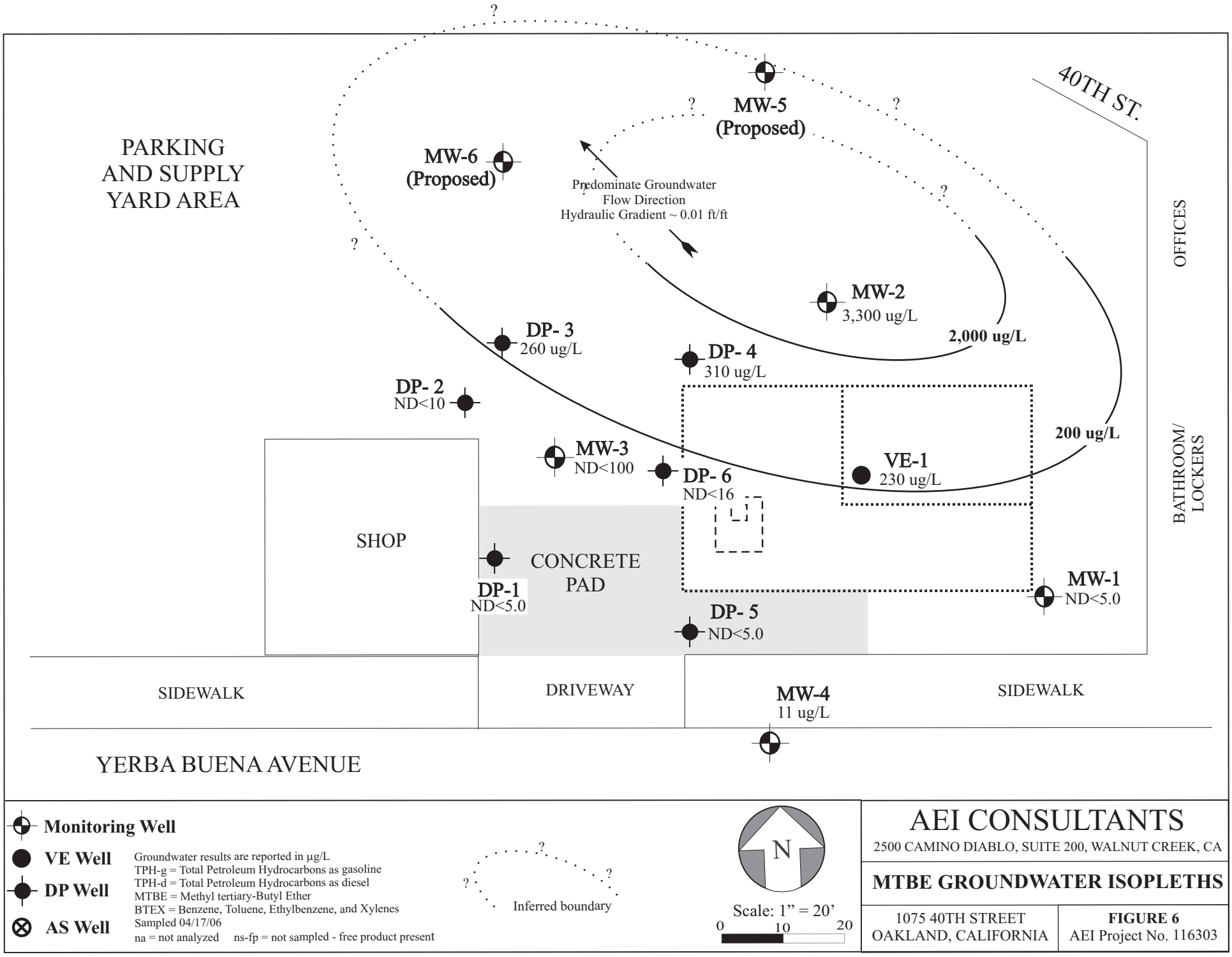
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

TPH GROUNDWATER ISOPLETHS

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 5
AEI Project No. 116303



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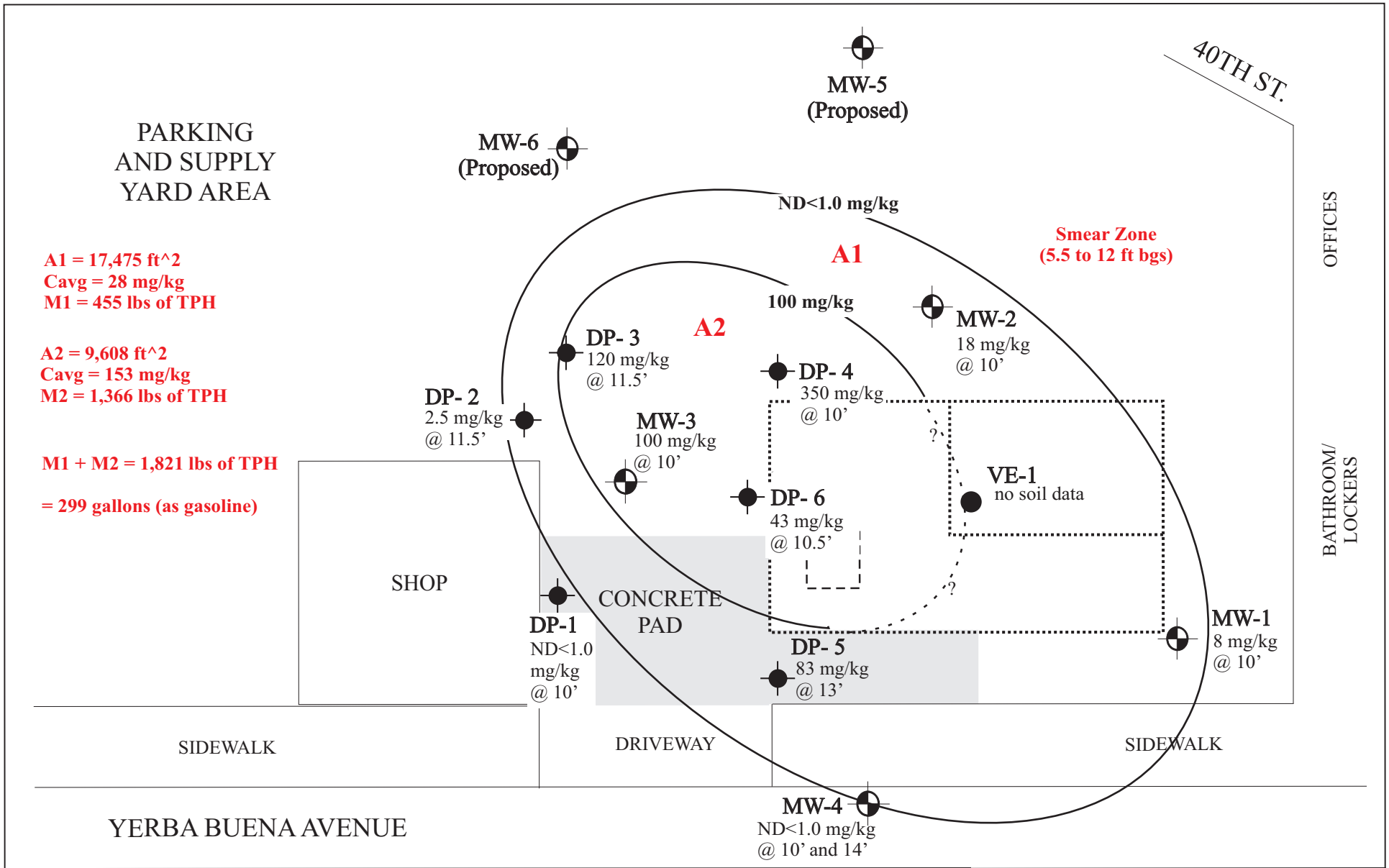
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

MTBE GROUNDWATER ISOPLETHS

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 6
AEI Project No. 116303



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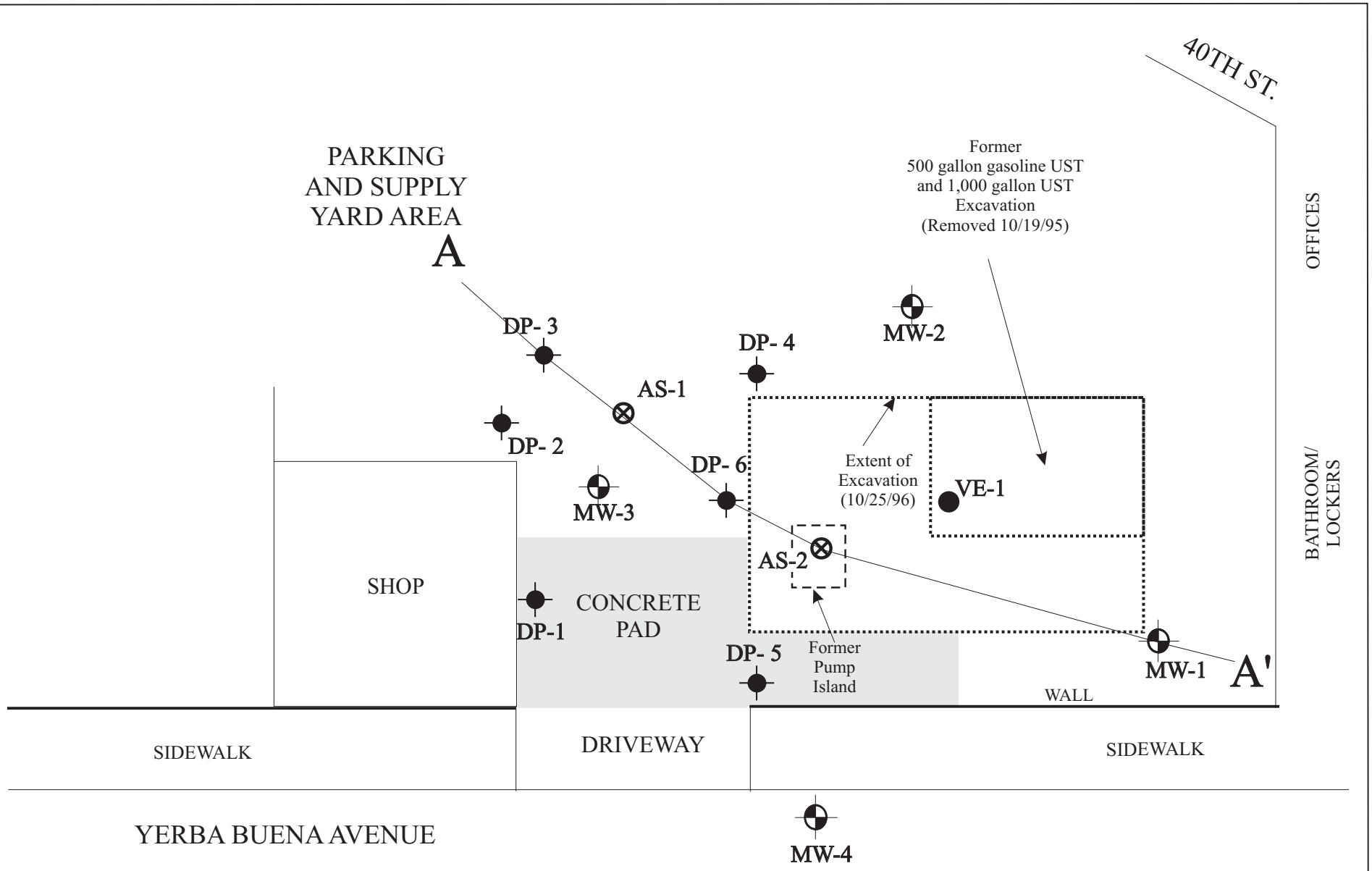
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

TPH SMEAR ZONE ISOPLETHS

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 7
AEI Project No. 116303



Monitoring Well

VE Well

DP Well

AS Well

Groundwater results reported in µg/L
TPH-g = Total Petroleum Hydrocarbons as gasoline
TPH-d = Total Petroleum Hydrocarbons as diesel
MTBE = Methyl tertiary-Butyl Ether
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
Sampling Event: 12/01/05
na = not analyzed ns-fp = not sampled - free product present

N

Scale: 1" = 20'

0 10 20

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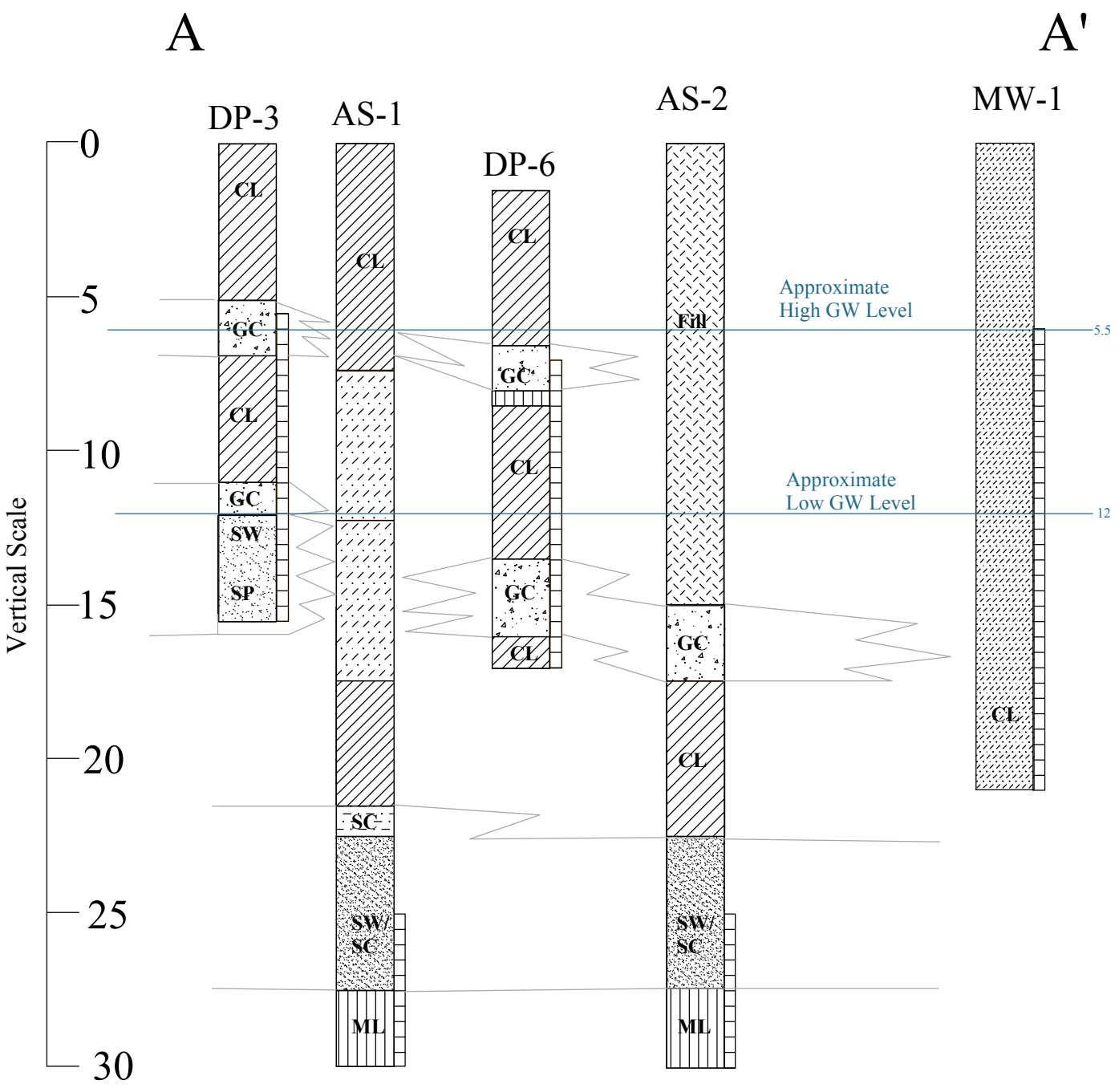
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

CROSS SECTION A-A'

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 8
AEI Project No. 116303



Drafted 9/18/05 by RFF
Revised 6/16/06 by RJB

KEY

- Clay
- Sandy Clay
- Clayey Sand
- Sand
- Gravel

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2500 CAMINO DIABLO, SUITE 100 WALNUT CREEK, CA

EAST-WEST CROSS SECTION

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 9
PROJECT NO. 116303

TABLES

Table 1: Well Construction Details
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID	Date Drilled	TOC Elevation (ft amsl)	Boring Depth (ft)	Well Diameter (inches)	Slotted Casing (ft)	Slot Size (in)	Blank Casing (ft)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	03/06/97	45.41	21.0	2.0	6-21	0.020	0.5-6	5-21	#3	4-5	0.5-4
MW-2	03/19/97	44.94	21.0	2.0	6-21	0.020	0.5-6	5-21	#3	4-5	0.5-4
MW-3	03/19/97	44.32	21.0	2.0	6-21	0.020	0.5-6	5-21	#3	4-5	0.5-4
MW-4	08/05/99	43.48	20.0	2.0	5-21	0.020	0.55	4-20	#3	3-4	0.5-3
AS-1	05/06/04	45.2 est	30.0	1.0	25-30	0.010	0.75-25	22-30	2/12	19-22	1.0-19
AS-2	05/06/04	45.2 est.	30.0	1.0	25-30	0.010	0.75-25	22-30	2/12	19-22	1.0-19
VE-1	05/06/04	45.0 est.	10.0	4.0	5-10	0.010	0.75-10	4-10	2/12	3-4	1.0-3
DP-1	05/13/04	44.0 est.	16.0	0.75	5.5-15.5	# 40 mesh	0.5-5.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-2	05/13/04	44.6 est.	16.0	0.75	5.5-15.5	# 40 mesh	0.5-5.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-3	05/13/04	44.7 est.	16.0	0.75	5.5-15.5	# 40 mesh	0.5-5.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-4	05/13/04	44.8 est.	16.0	0.75	5.5-15.5	# 40 mesh	0.5-5.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-5	05/13/04	45.0 est.	16.0	0.75	5.5-15.5	# 40 mesh	0.5-5.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-6	05/13/04	44.3 est.	16.0	0.75	5.5-15.5	# 40 mesh	0.5-5.5	4.5-15.5	#30	3.5-4.5	0.75-3.5

Notes:
All well elevations are measured from the top of the casing
ft amsl = feet above mean sea level
toc = top of casing

Table 2: Groundwater Elevation Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID	Date	Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	03/19/97	45.41	8.25	37.16
	06/20/97	45.41	9.10	36.31
	10/08/97	45.41	9.95	35.46
	01/16/98	45.41	7.57	37.84
	08/05/99	45.49	10.16	35.33
	11/18/99	45.49	8.52	36.97
	02/24/00	45.49	7.65	37.84
	05/24/00	45.49	8.47	37.02
	08/29/00	45.49	10.28	35.21
	01/12/01	45.49	8.50	36.99
	04/18/01	45.49	8.77	36.72
	07/27/01	45.49	10.50	34.99
	11/06/01	45.49	10.28	35.21
	02/13/02	45.49	8.47	37.02
	05/14/02	45.49	9.50	35.99
	08/15/02	45.49	10.39	35.10
	11/14/02	45.49	9.08	36.41
	02/12/03	45.49	8.36	37.13
	05/16/03	45.49	8.49	37.00
	08/29/03	45.49	9.91	35.58
	12/02/03	45.49	8.88	36.61
	03/08/04	45.49	7.66	37.83
	06/08/04	45.49	9.39	36.10
	09/10/04	45.49	9.95	35.54
	12/13/04	45.49	6.94	38.55
	03/11/05	45.49	7.35	38.14
	06/15/05	45.49	8.29	37.20
	09/08/05	45.49	9.57	35.92
	12/01/05	45.49	7.66	37.83
	03/07/06	45.49	7.32	38.17
	06/05/06	**45.49**	**8.46**	**37.03**
MW-2	03/19/97	44.94	8.40	36.54
	06/20/97	44.94	8.85	36.09
	10/08/97	44.94	9.80	35.14
	01/16/98	44.94	5.28	39.66
	08/05/99	44.98	9.32	35.66
	11/18/99	44.98	10.20	34.78
	02/24/00	44.98	7.03	37.95
	05/24/00	44.98	8.01	36.97
	08/29/00	44.98	11.07	33.91
	01/12/01	44.98	8.60	36.38
	04/18/01	44.98	8.80	36.18
	07/27/01	44.98	11.10	33.88
	11/06/01	44.98	12.21	32.77
	02/13/02	44.98	7.98	37.00
	05/14/02	44.98	10.48	34.50
	08/15/02	44.98	10.64	34.34
	11/14/02	44.98	11.69	33.29
	02/12/03	44.98	9.07	35.91
	05/16/03	44.98	11.25	33.73
	08/29/03	44.98	12.19	32.79
	12/02/03	44.98	10.92	34.06
	03/08/04	44.98	8.41	36.57
	06/08/04	44.98	10.19	34.79
	09/10/04	44.98	10.84	34.14
	12/13/04	44.98	9.26	35.72
	03/11/05	44.98	7.81	37.17
	06/15/05	44.98	10.80	34.18
	09/08/05	44.98	11.58	33.40
	12/01/05	44.98	9.03	35.95
	03/07/06	44.98	7.78	37.20
	06/05/06	**44.98**	**9.28**	**35.70**

Table 2: Groundwater Elevation Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID	Date	Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-3	03/19/97	44.32	7.59	36.73
	10/08/97	44.32	9.98	34.34
	06/20/97	44.32	8.36	35.96
	01/16/98	44.32	9.18	35.14
	08/05/99	44.37	10.56	33.81
	11/18/99	44.37	10.92	33.45
	02/24/00	44.37	8.49	35.88
	05/24/00	44.37	8.42	35.95
	08/29/00	44.37	12.00	32.37
	01/12/01	44.37	10.50	33.87
	04/18/01	44.37	9.50	35.22
	07/27/01	44.37	11.61	32.76
	11/06/01	44.37	11.73	32.64
	02/13/02	44.37	9.36	35.01
	05/14/02	44.37	9.00	35.37
	08/15/02	44.37	11.72	32.65
	11/14/02	44.37	11.28	33.09
	02/12/03	44.37	10.17	34.20
	05/16/03	44.37	11.47	32.90
	08/29/03	44.37	11.92	32.45
	12/02/04	44.37	10.96	33.41
	03/08/04	44.37	10.49	33.88
	06/08/04	44.37	9.89	34.48
	09/10/04	44.37	11.54	32.83
	12/13/04	44.37	8.96	35.41
	03/11/05	44.37	6.99	37.38
	06/15/05	44.37	7.72	36.65
	9/8/2005 *	44.37	10.61	33.76
	12/01/05*	44.37	ng	-
	3/07/2006*	44.37	5.26	39.11
	6/5/06*	**44.37**	**8.09**	**36.28**
MW-4	08/05/99	43.48	8.79	34.69
	11/18/99	43.48	8.11	35.37
	02/24/00	43.48	5.19	38.29
	05/24/00	43.48	7.23	36.25
	08/29/00	43.48	9.04	34.44
	01/12/01	43.48	6.40	37.08
	04/18/01	43.48	7.30	36.18
	07/27/01	43.48	9.16	34.32
	11/06/01	43.48	9.03	34.45
	02/13/02	43.48	6.60	36.88
	05/14/02	43.48	7.19	36.29
	08/15/02	43.48	8.97	34.51
	11/14/02	43.48	7.52	35.96
	02/12/03	43.48	6.37	37.11
	05/16/03	43.48	6.81	36.67
	08/29/03	43.48	8.56	34.92
	12/02/03	43.48	6.02	37.46
	03/08/04	43.48	5.75	37.73
	06/08/04	43.48	8.19	35.29
	09/10/04	43.48	8.84	34.64
	12/13/04	43.48	5.51	37.97
	03/11/05	43.48	5.26	38.22
	06/15/05	43.48	6.79	36.69
	09/08/05	43.48	8.20	35.28
	12/01/05	43.48	6.93	36.55
	03/07/06	43.48	4.17	39.31
	06/05/06	**43.48**	**6.88**	**36.60**

Notes:
All well elevations are measured from the top of the casing and not from the ground surface
ft msl = feet above mean sea level
ng = not gauged
* = Apparent groundwater elevation, free product present

Table 2a: Groundwater Flow Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Episode	Date	Average Water Table Elevation (ft msl)	Water Table Elevation Change (ft)	Hydraulic Gradient/ Flow Direction (ft/ft)
1	03/19/97	36.81	----	----
2	06/20/97	35.58	-1.23	----
3	10/08/97	35.52	-0.06	----
4	01/16/98	37.55	2.03	----
5	08/05/99	34.87	-2.67	----
6	11/18/99	35.14	0.27	----
7	02/24/00	37.49	2.35	----
8	05/24/00	36.55	-0.94	----
9	08/29/00	33.98	-2.57	NW (0.09)
10	01/12/01	36.08	2.10	W (0.06)
11	04/18/01	36.08	0.00	W (0.02)
12	07/27/01	33.99	-2.09	W (0.02)
13	11/06/01	33.77	-0.22	NW (0.05)
14	02/13/02	36.48	2.71	NW (0.05)
15	05/14/02	35.54	-0.94	N (0.04)
16	08/15/02	34.15	-1.39	W (0.05)
17	11/14/02	34.69	0.54	N (0.08)
18	02/12/03	36.09	1.40	NW (0.03)
19	05/16/03	35.08	-1.01	NW (0.06)
20	08/29/03	33.94	-1.14	NW (0.04)
21	12/02/03	35.39	1.45	NW (0.05)
22	03/08/04	36.50	1.12	NW (0.04)
23	06/08/04	35.17	-1.34	NW (0.02)
24	09/10/04	34.29	-0.88	NW (0.007)
25	12/13/04	36.91	2.63	NW (0.05)
26	03/11/05	37.73	0.81	NW (0.016)
27	06/15/05	36.18	-1.55	NW (0.015)
28	09/08/05	34.59	-1.59	NW (0.042)
29	12/01/05	36.78	2.19	NW (0.040)
30	03/07/06	38.45	1.67	NE (0.033)
31	**06/05/06**	**36.40**	**-2.05**	**NNW (0.022)**

Notes:
ft msl = feet above mean sea level

Table 3: Groundwater Sample Analytical Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID (screen interval)	Date	Depth to Water (ft)	TPHg (ug/L) Method SW8015Cm/C	TPHd (ug/L) Method SW8015Cm/C	MTBE (ug/L) Method SW8021B	Benzene (ug/L) Method SW8021B	Toluene (ug/L) Method SW8021B	Ethyl-benzene (ug/L) Method SW8021B	Xylenes (ug/L) Method SW8021B
MW - 1	03/19/97	8.25	<50	<50	23	<0.5	<0.5	<0.5	<0.5
(6 to 21)	06/23/97	9.10	1,300	420	14	150	2.1	12	19
	10/08/97	9.95	56	66	5.8	2.8	<0.5	<0.5	<0.5
	01/16/98	7.57	1,500	910	<33	95	0.72	69	8.4
	08/05/99	10.16	160	63	<15	1.6	<0.5	0.56	1.1
	11/18/99	8.52	79	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	02/24/00	7.65	300	160	<5.0	14	0.82	3.5	1.6
	05/24/00	8.47	1,300	480	<10	93	<0.5	17	1.6
	08/29/00	10.28	120	<0.5	<5.0	0.93	<0.5	<0.5	<0.5
	01/12/01	8.50	360	170	<5.0	16	<0.5	9.3	0.69
	04/18/01	8.77	1,100	410	2,800	63	<0.5	34	0.73
	07/27/01	10.50	130	66	<5.0	1.6	<0.5	<0.5	<0.5
	11/06/01	10.28	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	02/13/02	8.47	430	270	<5.0	17	0.51	11	0.64
	05/14/02	9.50	340	170	<5.0	21	<0.5	5.3	0.67
	08/15/02	10.39	96	53	<5.0	0.66	<0.5	<0.5	<0.5
	11/14/02	9.08	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	02/12/03	8.36	710	120	<5.0	28	4.3	32	130
	05/16/03	8.49	1,100	340	<15	54	4.1	40	100
	08/29/03	9.91	1,200	280	<5.0	46	5.1	55	230
	12/02/03	8.88	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	03/08/04	7.66	120	240[1,2]	<5.0	2.9	<0.5	<0.5	0.71
	06/08/04	9.39	<50	78[2]	<5.0	<0.5	<0.5	<0.5	<0.5
	09/10/04	9.95	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/13/04	6.94	240	150	<5.0	11	<0.5	5.6	<0.5
	03/11/05	7.35	1,100	420	<40	43	0.60	12	0.80
	06/15/05	7.35	440	220	<15	26	<0.5	0.60	<0.5
	09/08/05	9.57	120[3]	76[1]	<5.0	2.0	<0.5	<0.5	<0.5
	12/01/05	7.66	<50	<50	<5.0	1.3	<0.5	0.74	<0.5
	03/07/06	7.32	590	150	<5.0	29	0.89	4.4	1.1
	06/05/06	**8.46**	**74[1]**	**120[1,2]**	**<5.0**	**1.2**	**<0.5**	**<0.5**	**<0.5**
MW - 2	03/19/97	8.40	<50	<50	65	<0.5	<0.5	<0.5	<0.5
(6 to 21)	06/23/97	8.85	<50	<50	70	3.4	<0.5	<0.5	<0.5
	10/08/97	9.80	<50	<50	90	<0.5	<0.5	<0.5	<0.5
	01/16/98	5.28	<50	<50	65	<0.5	<0.5	<0.5	<0.5
	08/05/99	9.32	<50	<50	600	<0.5	<0.5	<0.5	<0.5
	11/18/99	10.20	<50	<50	370	<0.5	<0.5	<0.5	<0.5
	02/24/00	7.03	<50	<50	880	<0.5	<0.5	<0.5	<0.5
	05/24/00	8.01	<250	62	2,200	<0.5	<0.5	<0.5	<0.5
	08/29/00	11.07	<200	<50	1,900	<0.5	<0.5	<0.5	<0.5
	01/12/01	8.60	470	70	2,000	8.7	3.1	16	73
	04/18/01	8.80	<50	<50	2,800	<0.5	<0.5	<0.5	<0.5
	07/27/01	11.10	<100	<50	3,300	<0.5	<0.5	<0.5	<0.5
	11/06/01	12.21	<100	<50	3,000	<0.5	<0.5	<0.5	<0.5
	02/13/02	7.98	54	<50	3,200	<0.5	<0.5	<0.5	<0.5
	05/14/02	10.48	<150	<50	3,800	4.8	<1.0	<1.0	<1.0
	08/15/02	10.64	<50	<50	2,900	<0.5	<0.5	<0.5	<0.5
	11/14/02	11.69	<120	<50	3,800	<1.0	<1.0	<1.0	<1.0
	02/12/03	9.07	1,100	120	3,200	57	7	55	210
	05/16/03	11.25	530	85	6,000	35	3.6	22	79
	08/29/03	12.19	2,400	1200	4,800	39	5.8	77	320
	12/02/03	10.96	<100	<50	3,300	<1.0	<1.0	<1.0	<1.0
	03/08/04	8.41	<250	<50	4,600	<2.5	<2.5	<2.5	<2.5
	06/08/04	10.19	<120	<50	3,400	<1.2	<1.2	<1.2	<1.2
	09/10/04	10.84	<250	<250	4,100	<2.5	<2.5	<2.5	<2.5
	12/13/04	8.41	77	<50	4,200	<0.5	0.83	<0.5	1.9
	03/11/05	7.81	120	<50	4,900	14	<0.5	0.56	<0.5
	06/15/05	7.81	1,200	<50	12,000	85	<5.0	<5.0	<5.0
	09/08/05	11.58	<500	<50	8,600	<5.0	<5.0	<5.0	<5.0
	12/01/05	9.03	<500	<50	12,000	<5.0	<5.0	<5.0	<5.0
Before HVDPE	03/07/06	7.78	<500	<50	10,000	44	<5.0	<5.0	<5.0
1 week after	03/14/06	ng	<500	na	3,200	<1.7	<1.7	<1.7	<1.7
4 weeks after	04/17/06	6.33	2,000	na	3,300	57	2.3	1.5	19
	06/05/06	**9.28**	**890[6]**	**1,000[1,2]**	**19,000**	**110**	**<5.0**	**<5.0**	**31**

Table 3: Groundwater Sample Analytical Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID (screen interval)	Date	Depth to Water (ft)	TPHg (ug/L) Method SW8015Cm/C	TPHd (ug/L) Method SW8015Cm/C	MTBE (ug/L) Method SW8021B	Benzene (ug/L) Method SW8021B	Toluene (ug/L) Method SW8021B	Ethyl-benzene (ug/L) Method SW8021B	Xylenes (ug/L) Method SW8021B
MW -3	03/19/97	7.59	26,000	5,000	230	3,000	530	340	2,300
(6 to 21)	06/23/97	9.98	25,000	7,000	270	4,400	120	540	1,500
	10/08/97	8.36	17,000	5,100	<280	4,400	47	280	410
	01/16/98	9.18	29,000	7,300	<360	5,600	740	950	3,500
	08/05/99	10.56	31,000	5,100	<200	5,400	150	1100	2,300
	11/18/99	10.92	74,000	49,000	<1,000	8,100	5,000	2,100	8,100
	02/24/00	8.49	110,000	6,300	<200	12,000	1,400	2,900	14,000
	05/24/00	8.42	87,000	26,000	<200	13,000	1,900	2,900	14,000
	08/29/00	12.00	49,000	9,400	<200	7,400	800	1,800	7,400
	01/12/01	10.50	69,000	21,000	<300	8,600	980	2,600	11,000
	04/18/01	9.50	75,000	13,000	<500	9,200	1,200	2,500	12,000
	07/27/01	11.61	75,000	85,000	<650	8,700	1,100	2,600	12,000
	11/06/01	11.73	89,000	86,000	<200	7,900	910	2,800	12,000
	02/13/02	9.36	85,000	13,000	<2,000	8,500	830	2,600	11,000
	05/14/02	9.00	94,000	35,000	<1,000	9,700	1,100	3,400	15,000
	08/15/02	11.72	37,000	9,700	<1,200	5,200	430	1,800	5,900
	11/14/02	11.28	66,000	23,000	<1,200	8,300	860	3,000	11,000
	02/12/03	10.17	61,000	8,400	<500	6,800	500	2,400	9,800
	05/16/03	11.47	59,000	17,000	<500	6,200	320	2,000	6,500
	08/29/03	11.92	78,000	100,000	<1,200	6,800	440	2,900	11,000
	12/02/03	11.32	68,000	46,000	<1,000	7,600	450	2,900	10,000
	03/08/04	10.49	79,000	160,000	<250	7,700	570	300	13,000
	06/08/04	9.89	90,000	26,000	<1,200	6,700	580	2,500	13,000
	06/08/04	11.54	NA - Free Product		<100*	7,600*	540*	3,500*	14,000*
	12/13/04	8.91	NA - Free Product = 0.05 ft		-	-	-	-	-
	03/11/05	6.94	NA - Free Product = 0.05 ft		-	-	-	-	-
	06/15/05	6.99	NA - Free Product = 0.12 ft		-	-	-	-	-
	09/08/05	10.61	NA - Free Product = 0.64 ft		-	-	-	-	-
	12/01/05	ng	NA - Free Product		-	-	-	-	-
Before HVDPE	03/07/06	5.26	NA - Free Product = 0.95 ft		-	-	-	-	-
1 week after	03/14/06	ng	45,000 [4]	na	<100	130	14	990	7,200
4 weeks after	04/17/06	5.63	68,000	na	<100	310	21	1,400	5,700
	06/05/06	**8.09**	**37,000** [7,4,8]	**690,000** [1,2,4,5]	**<100**	**110**	**10**	**960**	**4,400**
	06/13/06	**8.99**	**41,000** [6]	**28,000** [1,2]	**<170**	**350**	**24**	**1,100**	**4,600**
MW-4	08/05/99	8.79	<50	<50	37	<0.5	<0.5	<0.5	<0.5
(5 to 20)	11/18/99	8.11	<50	<50	20	<0.5	<0.5	<0.5	<0.5
	02/24/00	5.19	<50	<50	20	<0.5	<0.5	<0.5	<0.5
	05/24/00	7.23	120	140	31	1.3	<0.5	<0.5	<0.5
	08/29/00	9.04	<50	<50	22	<0.5	<0.5	<0.5	<0.5
	01/12/01	6.40	<50	81	25	<0.5	<0.5	<0.5	<0.5
	04/18/01	7.30	30	170	35	2.4	1.1	0.66	4.2
	07/27/01	9.16	87	110	26	1.8	<0.5	2	10
	11/06/01	9.03	200	59	21	4.5	1	5.2	24
	02/13/02	6.60	<50	91	15	<0.5	<0.5	<0.5	<0.5
	05/14/02	7.19	260	140	26	12	2.7	11	49
	08/15/02	8.97	<50	<50	12	<0.5	<0.5	<0.5	<0.5
	11/14/02	7.52	<50	<50	11	<0.5	<0.5	<0.5	<0.5
	02/12/03	6.37	170	130	16	3.1	0.66	6.4	27
	05/16/03	6.81	<50	60	23	<0.5	<0.5	<0.5	<0.5
	08/29/03	8.56	610	120	10	16	2.7	30	130
	12/02/03	6.02	<50	<50	7.7	<0.5	<0.5	<0.5	<0.5
	03/08/04	5.75	<50	<50	10	<0.5	<0.5	<0.5	<0.5
	06/08/04	8.19	<50	<50	11	<0.5	<0.5	<0.5	<0.5
	09/10/04	8.84	<50	<50	10	<0.5	<0.5	<0.5	<0.5
	12/13/04	5.75	<50	<50	16	<0.5	<0.5	<0.5	<0.5
	03/11/05	5.26	<50	<50	16	<0.5	<0.5	<0.5	<0.5
	06/15/05	5.26	<50	<50	15	<0.5	<0.5	<0.5	<0.5
	09/08/05	8.20	<50	54 [2]	16	<0.5	<0.5	<0.5	<0.5
	12/01/05	6.93	<50	<50	13	<0.5	<0.5	<0.5	<0.5
	03/07/06	4.17	<50	<50	11	<0.5	<0.5	<0.5	<0.5
	06/05/06	**6.88**	**<50**	**<50**	**11**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

Table 3: Groundwater Sample Analytical Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID (screen interval)	Date	Depth to Water (ft)	TPHg *Method SW8015Cm/C* (ug/L)	TPHd *Method SW8015Cm/C* (ug/L)	MTBE *Method SW8021B* (ug/L)	Benzene *Method SW8021B* (ug/L)	Toluene *Method SW8021B* (ug/L)	Ethyl-benzene *Method SW8021B* (ug/L)	Xylenes *Method SW8021B* (ug/L)
VE-1	12/01/05	5.19	140 [3]	540 [2,5]	250	26	13	4.5	15
(5 to 10)	03/07/06	2.82	55	na	230	5.2	1.4	2.3	4.5
	06/05/06	**5.37**	**180 [6]**	**490 [5,2,1]**	**410**	**30**	**4.6**	**5.8**	**8.2**
AS-1 (25 to 30)	12/01/05	8.11	<50	na	<5.0	<0.5	0.81	<0.5	1.5
AS-2 (25 to 30)	12/01/05	9.64	<50	na	<5.0	<0.5	<0.5	<0.5	<0.5
DP-1	12/01/05	7.22	220 [2]	na	<5.0	<0.5	2.8	<0.5	0.94
(5.5 to 15.5)	03/07/06	4.40	<50	na	<5.0	<0.5	0.71	<0.5	1.1
	06/13/06	**7.99**	**<50**	**67 [2]**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
DP-2	12/01/05	6.83	<50	na	59	<0.5	<0.5	<0.5	<0.5
(5.5 to 15.5)	03/07/06	6.09	230	na	<10	1.2	2.6	<0.5	1.2
	06/13/06	**7.98**	**280 [9]**	**110 [1,2]**	**<5.0**	**<0.5**	**1.2**	**<0.5**	**0.67**
DP-3	12/01/05	7.14	120	na	140	2.1	0.96	<0.5	0.78
(5.5 to 15.5)	03/07/06	6.62	<50	na	260	<0.5	<0.5	<0.5	<0.5
	06/13/06	**9.34**	**220 [6,9]**	**88 [1,2]**	**67**	**0.57**	**0.83**	**<0.5**	**<0.5**
DP-4	12/01/05	8.43	ns	ns	ns	ns	ns	ns	ns
(5.5 to 15.5)	03/07/06	7.19	2,400	na	310	570	3.2	38	0.94
	06/13/06	**8.71**	**1,100 [6,9]**	**250 [1,2]**	**330**	**210**	**2.0**	**9.2**	**1.2**
DP-5	12/01/05	4.69	<50	na	<5.0	<0.5	<0.5	<0.5	<0.5
(5.5 to 15.5)	03/07/06	2.33	<50	na	<5.0	<0.5	<0.5	<0.5	<0.5
	06/13/06	**5.03**	**<50**	**140 [2]**	**5.4**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
DP-6	12/01/05	5.91	7,000	na	<120	1000	7.8	860	230
(5.5 to 15.5)	03/07/06	7.11	6,500	na	<160	850	5.9	650	350
	04/19/06	5.71	1,200	na	<15	56	1.1	77	31
	06/13/06	**8.73**	**3,100 [6]**	**1,500 [1,2]**	**28**	**250**	**1.2**	**270**	**120**

Notes:

ug/L= micrograms per liter
MTBE= Methyl Tertiary Butyl Ether
TPHg= Total Petroleum Hydrocarbons as gasoline
TPHd= Total Petroleum Hydrocarbons as diesel
na = not analyzed
ns = not sampled
ng = not gauged
* + Analysis by EPA Method 8260

1 - gasoline range compounds are significant
2 - diesel range compounds are significant; no recognizable pattern
3 - unmodified or weakly modified diesel is significant
4 - lighter than water immiscible sheen/product is present
5- oil range compounds are significant
6 - unmodified or weakly modified gasoline is significant
7 - heavier gasoline range compounds are significant (aged gasoline?)
8 - no recognizable pattern
9 - one to a few isolated non-target peaks present

Table 4: Groundwater Sample Analytical Data - Fuel Oxygenates
Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID	Date	TAME (µg/L)	TBA (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	MTBE (µg/L)
MW-1	06/08/04	ND<0.5	ND<5.0	ND<0.5	1.5	ND<0.5	ND<0.5	1.0
	09/10/04	ND<0.5	ND<5.0	ND<0.5	NA	ND<0.5	ND<0.5	1.0
	12/13/04			Not anlayzed, MTBE anlayzed by 8021B				
	03/11/05			Not anlayzed, MTBE anlayzed by 8021B				
MW-2	06/08/04	ND<100	ND<1000	ND<100	ND<100	ND<100	ND<100	4,300
	09/10/04	ND<50	ND<500	ND<50	ND<50	ND<50	ND<50	2,800
	12/13/04			Not anlayzed, MTBE anlayzed by 8021B				
	03/11/05			Not anlayzed, MTBE anlayzed by 8021B				
MW-3	06/08/04	ND<5.0	ND<50	ND<5.0	ND<5.0	ND<5.0	ND<5.0	99
	09/10/04	ND<100	ND<1000	ND<100	ND<100	ND<100	ND<100	ND<100
	03/11/05			Not anlayzed, MTBE anlayzed by 8021B				
MW-4	06/08/04	ND<0.5	ND<5.0	ND<0.5	0.79	ND<0.5	ND<0.5	15
	09/10/04	ND<0.5	ND<5.0	ND<0.5	NA	ND<0.5	ND<0.5	8.2
	12/13/04			Not anlayzed, MTBE anlayzed by 8021B				
	03/11/05			Not anlayzed, MTBE anlayzed by 8021B				

Notes:

(µg/L)	micrograms per liter	1,2-DCA	1,2-Dichloroethane
TAME	tert-Amyl methyl ether	DIPE	Diisopropyl ether
TBA	t-Butyl alcohol	ETBE	Ethyl tert-butyl ether
EDB	1,2-Dibromethane	MTBE	Methyl Tertiary Butyl Ether

Table 5: Soil Sample Analytical Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Sample ID	Sample Depth (ft)	Date	TPHg (mg/kg)	TPHd (mg/kg)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)
BH-1 (MW-1)	10	03/06/97	7.7	2.5	ND<0.05	0.028	0.021	0.06	0.058
BH-2 (MW-2)	10	03/06/97	7.7	18	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
BH-3 (MW-3)	10	03/06/97	110	6.8	ND<0.9	1.1	0.36	1.9	7.5
MW-4	10	07/15/99	ND<1.0	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-4	14	07/15/99	ND<1.0	ND<1.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
AS1-20	20	05/06/04	ND<1.0	ND<50	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
AS2-15	15	05/06/04	ND<1.0	1.4 [1]	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
AS2-20	10	05/06/04	ND<1.0	ND<50	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
DP1-10	10	05/13/04	ND<1.0	NA	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
DP2-11.5	11.5	05/13/04	2.5	NA	ND<0.05	0.12	ND<0.005	0.082	0.071
DP3-11.5	11.5	05/13/04	120 [2]	45 [3, 4]	ND<1.5	0.18	0.20	0.31	0.21
DP4-7.5	7.5	05/13/04	ND<1.0	NA	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
DP4-10	10	05/13/04	350 [2]	94 [3, 4]	ND<4.5	0.40	0.53	0.81	0.44
DP5-11.5	11.5	05/13/04	2900	830 [3, 4]	ND<10	12	9.3	66	320
DP5-13	13	05/13/04	83	77 [3, 4]	ND<0.25	0.52	0.11	1.6	2.3
DP6-8	8	05/13/04	11 [2]	NA	ND<0.5	0.012	0.022	0.0075	0.014
DP6-13	13	05/13/04	74	11 [3]	ND<1.0	1.3	ND<0.10	2.9	3.7

Notes:

ug/kg = milligrams per kilogram of soil
MTBE = Methyl Tertiary Butyl Ether
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel

1 - oil range compounds are significant
2 - no recogniazable pattern
3 - diesel range compounds are significant; no recognizable pattern
4 - gasoline range compounds are significant

Table 6: Soil Sample Analytical Data - Fuel Oxygenates
Fidelity Roof Company, 1075 40th Street, Oakland, California

Sample ID	Sample Depth	Date	TAME	TBA	EDB	1,2-DCA	DIPE Method 8260	Ethanol	ETBE	Methanol	MTBE
	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
AS1-20	20.0	05/06/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	14
AS2-15	15.0	05/06/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	49
AS2-20	10.0	05/06/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
DP1-10	10	05/13/04	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP2-11.5	11.5	05/13/04	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP3-11.5	11.5	05/13/04	ND<5.0	ND<25	ND<5.0	NA	ND<5.0	NA	ND<5.0	NA	ND<5.0
DP4-7.5	7.5	05/13/04	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP4-10	10	05/13/04	ND<5.0	ND<25	ND<5.0	NA	ND<5.0	NA	ND<5.0	NA	12
DP5-11.5	11.5	05/13/04	ND<2000	ND<10,000	NA	NA	ND<2000	NA	ND<2000	NA	ND<2000
DP5-13	13	05/13/04	ND<5.0	ND<25	ND<5.0	NA	ND<5.0	NA	ND<5.0	NA	ND<5.0
DP6-8	8	05/13/04	NA	NA	NA	NA	NA	NA	NA	NA	NA
DP6-13	13	05/13/04	ND<20	ND<100	NA	NA	ND<20	NA	ND<20	NA	ND<20

Notes:
µg/kg = micrograms per kilogram of soil
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel
TAME = tert-Amyl methyl ether
TBA = t-Butyl alcohol
EDB = 1,2-Dibromethane
1,2-DCA = 1,2-Dichloroethane
DIPE = Diisopropyl ether
ETBE = Ethyl tert-butyl ether

Table 7: AS/SVE Pilot Test Air Sample Analytical Data
Fidelity Roof Company, 1075 40th Street, Oakland, California

Sample ID	Date	Time	TPHg (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Comments
VE1	5/20/2004	1020	16,000	ND<90	14	60	ND<5.0	25	VE
VE1-2	5/20/2004	1400	96	ND<2.5	ND<0.25	0.45	ND<0.25	0.23	VE/sparge
MW3	5/20/2004	1015	140,000	1,400	1,800	280	330	1,200	VE
MW-3-2	5/20/2004	1416	150,000	ND<2000	1,500	310	440	1,600	VE/sparge
MW-3-3-1	05/21/04	1035	83,000	ND<1000	1,100	110	ND<50	110	VE
MW-3-3-2	05/21/04	1230	74,000	590	1,000	160	120	380	VE/sparge
DP3-1	05/21/04	1040	150	ND<2.5	ND<0.25	2.0	0.60	1.5	VE
DP3-2	05/21/04	1300	490	ND<2.5	7.4	1.8	4.40	16	VE/sparge

Notes:
ug/L= micrograms per liter of air
MTBE = Methyl Tertiary Butyl Ether
TPHg = Total Petroleum Hydrocarbons as gasoline