AEI CONSULTANTS
2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597
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April 5, 2004 RO 2449

Mr. Amir Gholami
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501

Subject: 796 66th Avenue
Oakland, CA
AEI Project No. 5526

Dear Mr. Gholami:

Enclosed is the Interim Corrective Action Plan prepared by AEI on behalf of Cruise America, Inc. to address the petroleum hydrocarbon release at the property.

We are permitting and scheduling the site preparation and construction activities and anticipate operation to begin within 2 months. We will notify your office of the startup date as we near completion. If you have any questions or comments please contact me in a timely manner.

I can be reached at (925) 283-6000, extension 104, or at pmcintyre@aeiconsultants.com.

Sincerely,

Peter McIntyre
Project Manager, Geologist

cc: Mr. Cory Kauffman
Cruise America Inc.
11 West Hampton Avenue
Mesa, AZ 85210

April 5, 2004

INTERIM CORRECTIVE ACTION PLAN

796 66th Avenue
Oakland, California

AEI Project No. 8262

Prepared For:

Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94521

Prepared By

AEI Consultants
2500 Camino Diablo, Suite 202
Walnut Creek, CA 94597
(925) 283-6000

AEI

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1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this Interim Corrective Action Plan (ICAP) on behalf of Cruise America, Inc., the owner of the property located at 796 66th Avenue in the City of Oakland, California (Figure 1). AEI has been retained by Cruise America to provide environmental engineering and consulting services related to the release of fuel hydrocarbons from the former 10,000 gallon gasoline underground storage tank (UST).

As requested by the Alameda County Health Care Services Agency (ACHCSA), AEI has prepared this ICAP to present the planned scope of work to initiate mitigation of the fuel release. As outlined below, the primary contaminant present at the site is methyl tertiary butyl ether (MTBE) present in the shallow groundwater beneath the site. The selected method for MTBE removal from groundwater is low flow ozone sparging. This method will provide in-situ oxidation of the MTBE and the minor concentrations of other petroleum hydrocarbons present at the site.

2.0 SITE DESCRIPTION

The site is currently occupied by Cruise America, an RV rental facility. The property is approximately 5 acres in size. Currently, two buildings exist on the site, surrounded by paved vehicle storage areas. The buildings consist of an office building located on the eastern side of the property and a service building located centrally on the property. Cruise America acquired the property from McGuire Huster in August 1988.

3.0 SITE BACKGROUND

In July 2001, AEI performed a Phase II investigation on the site that included advancing six (6) soil borings (labeled SB-1 through SB-6). The investigation was performed to assess whether the soil or groundwater beneath the site was impacted by two former UST locations on the property (Figure 2). Although low concentrations of TPH as gasoline (TPH-g) and TPH as diesel (TPH-d) were reported in the groundwater beneath the site, high levels of methyl tertiary butyl ether (MTBE) were detected in boring SB-1.

In September of 2001, AEI advanced five (5) additional soil borings (labeled SB-7 through SB-11) in order to determine the source of the high levels of MTBE found in SB-1. Samples collected from SB-7 and SB-8 did not contain MTBE above laboratory reporting limits. MTBE concentrations varied from 630 µg/L in SB-9 to 13,000 µg/L in SB-10. These data indicated a leak in the remaining 10,000-gallon gasoline UST on the southern portion of the property as the most likely source of the MTBE.

AEI removed the 10,000-gallon gasoline UST in November of 2001. Concentrations of TPH-g in four of the five soil samples ranged from 4.1 mg/kg to 280 mg/kg. Concentrations of MTBE and benzene, toluene, ethyl benzene, and xylenes (BTEX) were also detected in the five soil samples. The highest concentrations of MTBE and benzene detected in the soil during the tank removal were 53 mg/kg and 13 mg/kg, respectively detected along the southern and eastern sidewalls of the

excavation at approximately 6.5 feet bgs. Elevated concentrations of TPH as gasoline and MTBE were present in the groundwater sample at 44,000 µg/L and 42,000 µg/L, respectively.

Following removal of the tank, the ACHCSA requested further investigation of the release from the 10,000 gallon UST. On September 6, 2002, six (6) borings (labeled SB-12 through SB-17) were advanced. The data from these soil borings was used to determine the placement of five groundwater-monitoring wells, which were installed on September 19, 2002. The wells have been monitored on a quarterly basis since installation.

Soil sample analytical data is summarized in Table 1. Groundwater sample analytical data from soil borings is presented in Tables 2 and groundwater monitoring data in Table 3 and 4. A summary of groundwater flow direction and hydraulic gradient is presented in Table 5. Refer to Figures 2 and 3 for the former location of the USTs and for boring and existing well locations.

4.0 HYDROGEOLOGIC SETTING

The site is located at an elevation of approximately 10 feet above mean sea level (amsl). The Damon Slough is located approximately 150 feet south of the former UST location. The site is level, and the local topography slopes very gently to the southwest.

The near surface sediments encountered during drilling activities consisted of sandy and gravely clays to approximately 7 to 10 feet below ground surface (bgs), underlain by black, silty and gravelly clay with gravels decreasing with depth. Groundwater has been observed at the time of drilling soil borings at between approximately 5 and 13 feet bgs. Soil boring SB-17 was advanced to a depth of 50 feet bgs, and revealed an apparent aquitard, consisting of stiff sandy clay from 29 to 45 feet bgs. Below this clay, saturated well-graded gravely sand was encountered.

Water level measurements collected since monitoring began have revealed that the water table exists at between 4 and 6 feet below ground surface. Based on these measurements, it appears that groundwater beneath the site generally flows in a southeasterly direction, with a hydraulic gradient of 10^{-2} to 10^{-3} feet/feet. This flow direction is consistent with information AEI reviewed for a site on the north side of 66th Avenue. Despite these flow direction measurements, the MTBE plume appears to have migrated primarily in a northerly direction from the former UST location. This contaminant plume may be help back by a "wedge" of saline water hydraulically connected to the tidal slough located to the south of the tank hold, as evidenced by the high conductivity readings in wells MW-2 and MW-3 as compared to the more northerly wells.

5.0 ENVIRONMENTAL CONCERN

Based on review of most recent groundwater sample analytical data, it is apparent that gasoline fuel constituents, primarily MTBE are persisting in the shallow groundwater beneath the site. The most recently reported monitoring data is included in Table 3. Figure 3 is a plot of MTBE concentrations vs. time since monitoring began. In addition, high concentrations of TPH-g, BTEX, and MTBE have been detected in the soil near the former UST and dispenser in 3 to 6.5 foot depth range,

which is within the smear zone (depth between seasonal high and low water table). While TPH-g and BTEX have been detected in moderate concentrations in the soil and in several groundwater samples, the extent of the dissolved phase MTBE plume has expanded well beyond the dissolved phase plume of the other contaminants. Based on this, dissolved phase MTBE and contaminants within the smear zone have been targeted as the primary contaminant of concern to be addressed by interim corrective action.

6.0 PROPOSED INTERIM CORRECTIVE ACTION

As discussed above, dissolved MTBE and contaminants within the smear zone are considered the target for interim corrective action. Ozone (O_3) sparging will be performed utilizing the K-V, Associates (KVA) C-sparge ™ process to target both dissolved phase and sorbed contaminants within the aquifer and smear zone. This method is proposed a as proven and cost effective alternative to groundwater extraction and above ground treatment (pump and treat). In addition, traditional pump and treat options do not affect contaminants trapped within smear zone and capillary fringe soils unless coupled with soil vapor extraction. Due to lack of free phase product present at the site, standard vacuum removal, skimmer pumps, or manual bailing are inappropriate for the site.

Ozone has a significant advantage over traditional air sparging in that the ozone directly oxidizes the contaminant but is also nearly 10 times more soluble in water than atmospheric oxygen. As ozone oxidizes MTBE and aquifer materials, oxygen (O_2) is released. This increases the available oxygen in the aquifer, enhancing natural aerobic biodegradation of MTBE and other fuel hydrocarbons.

Sparge points will be installed at depths of approximately 15 feet below the top of the water table, corresponding to the base of the upper-most contaminated aquifer. A conservative estimate for a bubble radius [radius of influence (ROI)] for the sparge wells of 1 to 1.5 foot per foot of depth below the water table has been selected. Based on this (ROI = ~ 15 feet), sparge well spacing has been selected at 30 feet to provide adequate treatment of the most contaminated areas. Proposed well point spacing is presented on Figure 5.

The C-sparge points produces much smaller (3 to 200 micron) bubbles as compared to conventionally screened air sparge wells. The smaller bubbles provide a much larger ratio of bubble surface area to bubble volume, therefore allowing a greater transfer of volatile contaminant from the water into the bubble (stripping) and for ozone transfer into groundwater. Although MTBE has a Henry's law constant of 6.7 X 10-4 atm m^3/mol (about 1/8 that of BTEX compounds), mimizing the effectiveness of traditional air sparging on MTBE plumes, the much higher surface area to volume ratio allows for more favorable mass transfer between aqueous and gaseous phases.

While partitioning of MTBE into the gaseous phase within the air bubbles removes (strips) MTBE mass from groundwater, the primary contaminant removal mechanism is the destruction of MTBE by ozone oxidation. The oxidation takes place both within the bubble as it moves upward through

the soil column and within the groundwater as ozone is exchanged from within the bubble to the groundwater. The higher solubility of ozone enhances the in-situ oxidation of MTBE within the groundwater.

While traditional air sparging relies on high flow rates [>5-10 standard cubic feet per minute (SCFM)] per well to strip MTBE and fuel aromatics from groundwater, the proposed system produces much lower flow rates (<2-3 SCFM) at any given time. The wells are pulsed individually for an initial duration of 6 minutes each. The pulsing reduces the water table "mounding" that occurs during constant higher flow rate sparging. Given the much lower flow rate and that the MTBE and other fuel aromatics are oxidized primarily in the groundwater and secondarily in the rising bubbles, vapor recover and treatment is not necessary.

6.1 System Installation

The treatment system will consist of a KVA C-Sparger ™ panel compound installed in the location shown on Figure 6. The compound will include the air compressor, ozone generator, sequencer (12 well control programmable timer), solenoids, cooling fans, outflow one-way check valves, temperature and ozone sensors and shut-downs, and isolator feet. The ozone generator and compressor are powered by a 110 volt / 20 amp circuit.

Air lines will run from the manifold to each well within 2" diameter PVC conduit installed from the compressor compound to each well point (see Figure 6 for conduit locations). The lines will consist of 3/8" tubing connected to each well as shown in Appendix A. The well points will be installed with standard hollow stem auger drilling equipment in 8 ¼" borings, under appropriate well construction permit. The wells points will consist of 30 inches of 2" diameter micro-porous well screen with ¾ blank PVC risers. A fine sand pack will be installed to just above the top of the sparge point screen, above which a bentonite seal and grout seal will be installed. A detail of the well points and connectors is included in Appendix A.

Initially, the system will be set to run each well point for 6 minutes per cycle for 16 cycles per day, for a total of 96 minutes per point. The system is designed for 20% system rest time (288 minutes per day), with an 80% up-time, for a total run time of 1152 minutes per day (6 min / well point per cycle at 16 cycles per day).

6.2 Performance Monitoring

A regularly scheduled monitoring event occurred on April 5, 2004, the data from which will service as a baseline for TPH-g, BTEX, MTBE and TBA concentrations in the groundwater, along with existing data set from the monitoring wells. Prior to startup and at the end of the first week of operation, monitoring of water quality parameters including dissolved oxygen (DO) and oxidation-reduction potential (ORP) and sample analyses for MTBE and TBA (EPA method 8260) will be performed on wells MW-1, MW-4 and MW-5. Thereafter, monthly monitoring and sample analyses of these three wells will occur.

Upon completion of the 1st month, adjustments may be made to timing of sparging in selected wells to optimize treatment. As required, regular quarterly monitoring of the five well network will continue with analyses for TPH-g, BTEX, and MTBE.

6.3 Reporting

On completion of the first months operation, a report will be prepared for the ACHCSA. The report will include as-built diagrams of well locations, piping and electrical systems, well construction logs, and system operation data (timing, injection rates, up-time percent, etc.,) and sample analytical data. An evaluation of contaminant reduction rates and estimate treatment times will be including along with recommendations, if necessary, for changes alteration or expansion of treatment program. Treatment progress will also be evaluated in the startup report and in subsequent regular quarterly groundwater monitoring reports.

6.4 Schedule

AEI is in the process of scheduling and permitting the installation tasks. The following schedule gives an approximate timeframe as to when installation and operation tasks will be completed. The ACHCSA will be notified of the scheduled startup date so that an inspection can be scheduled if needed.

- Electrical permitting complete ..... Week of April 26, 2004
- Electrical service complete and well points installed ..... Week of April 26, 2004
- Conduit installation and air line connection..... Week of May 3, 2004
- Compound installation and startup..... Week of May 10, 2004
- Startup Report ..... Week of June 28, 2004
- Monthly monitoring.....Monthly, from start-up date
- Quarterly Monitoring .....Quarterly, from April 5, 2004 event

7.0 CLOSING STATEMENT AND SIGNATURES

This plan has been prepared by AEI on behalf of Cruise America, Inc. and outlines a scope of work to address the release of petroleum hydrocarbons from the former 10,000 gallon gasoline UST removed from the property located at 796 66th Avenue in the City of Oakland. The recommendations rendered in this report 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 and will be performed under the direction of appropriate registered professional(s).

We look forward to comment and concurrence with the scope of work outlined herein. Should you need additional information, please contact Mr. McIntyre.

Sincerely,
AEI Consultants

Peter McIntyre
Project Manager, Geologist

Robert F. Flory, RG
Senior Project Geologist

Registered Geologist
Robert F. Flory
No. 5825
State of California
10/4/04

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Mesa, AZ 85210

Mr. Amir Gholami
ACHCSA
1131 Harbor Bay Parkway, Suite 250
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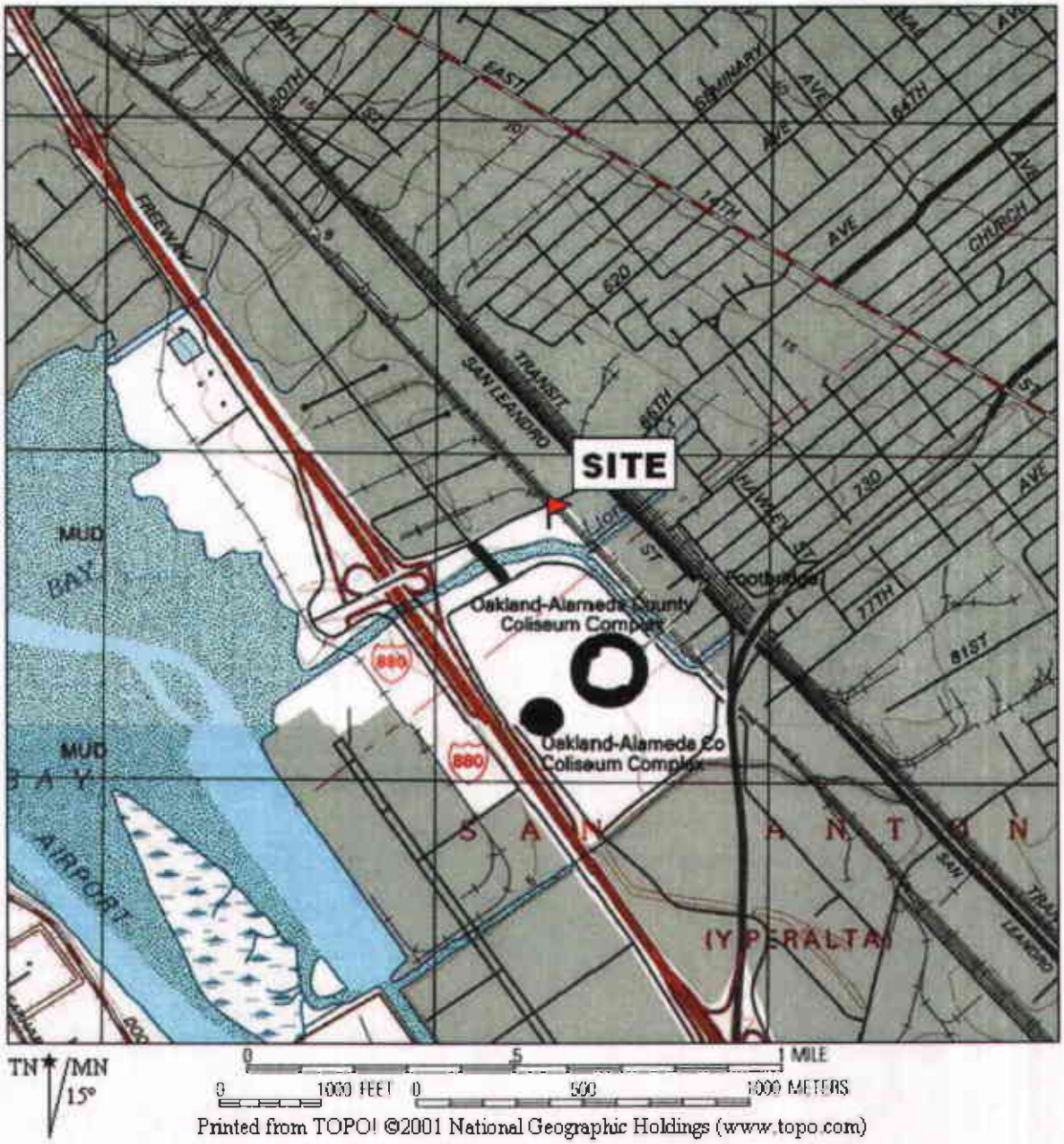

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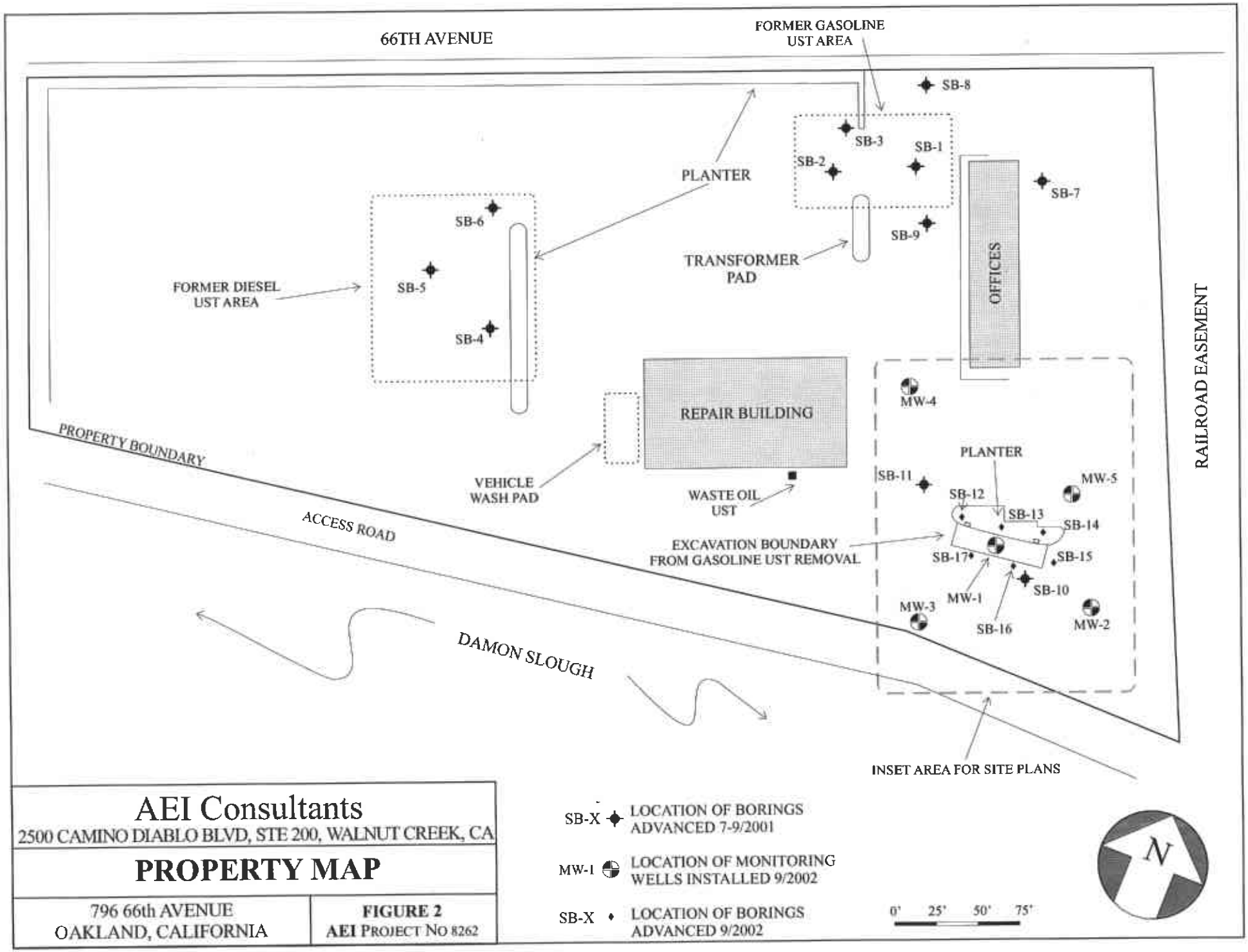
AEI CONSULTANTS	
SITE LOCATION MAP	
796 66th AVENUE OAKLAND, CALIFORNIA	**FIGURE 1** PROJECT NO. 8262

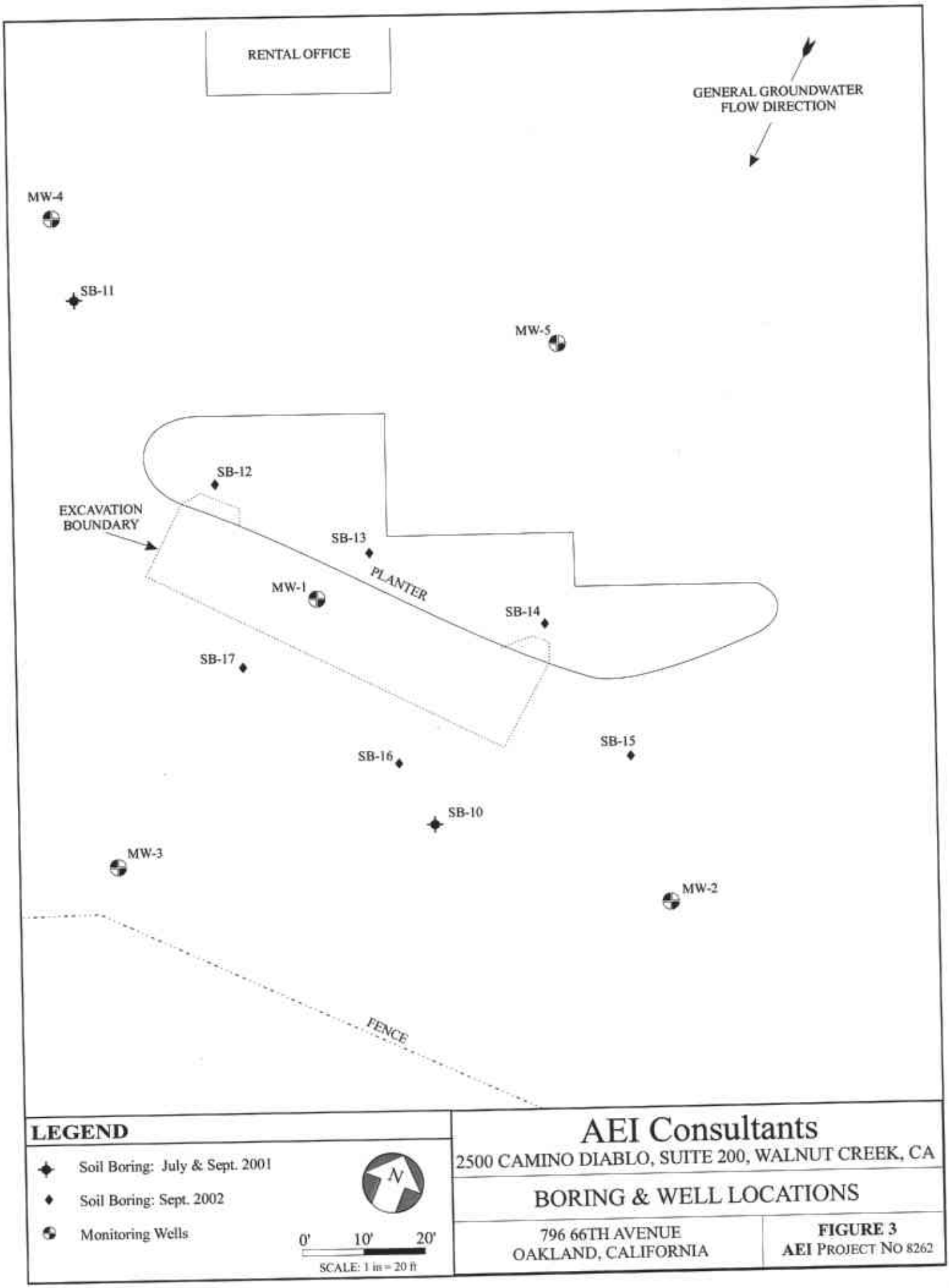


AEI Consultants
2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK, CA

PROPERTY MAP

796 66th AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
AEI PROJECT NO 8262



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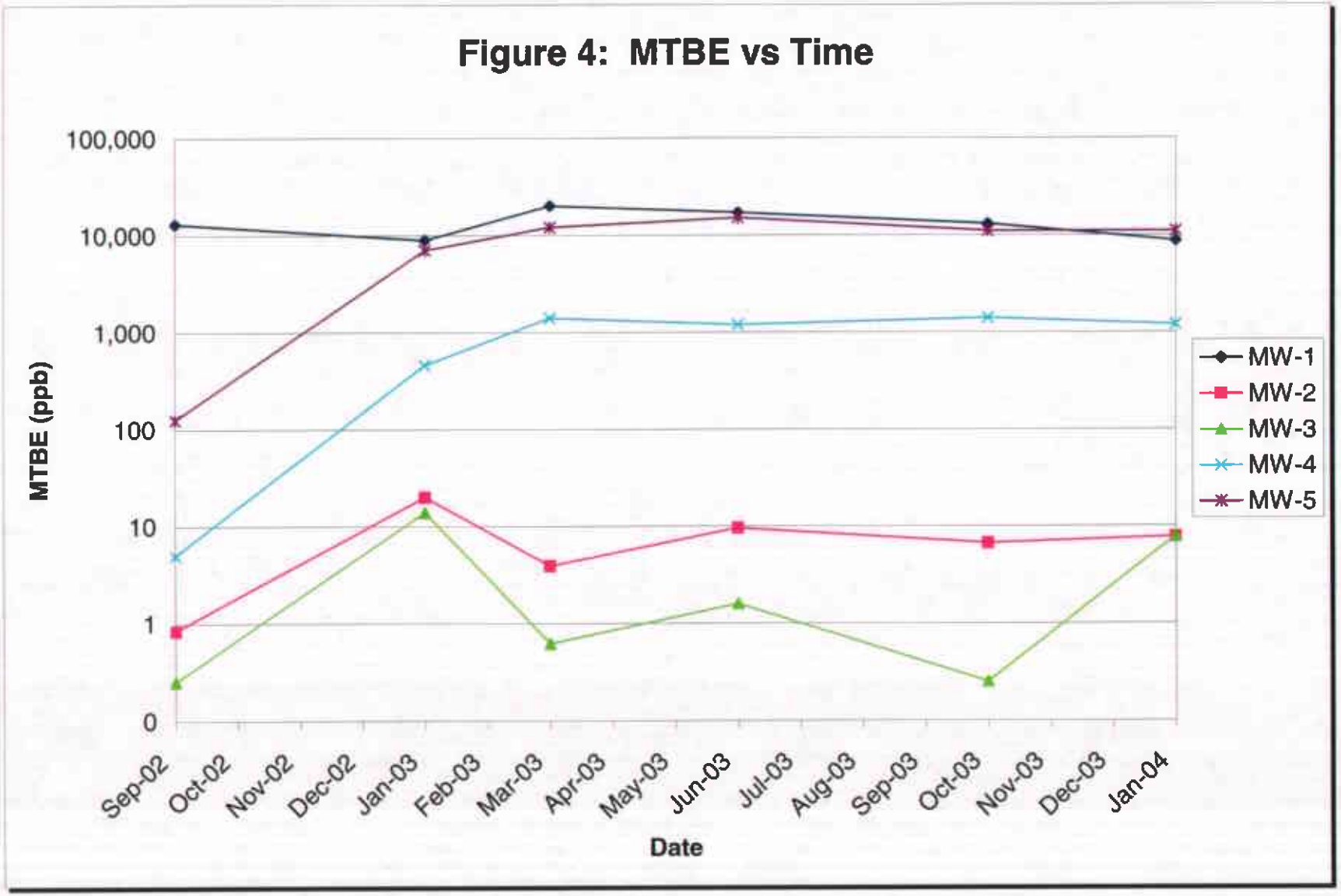
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

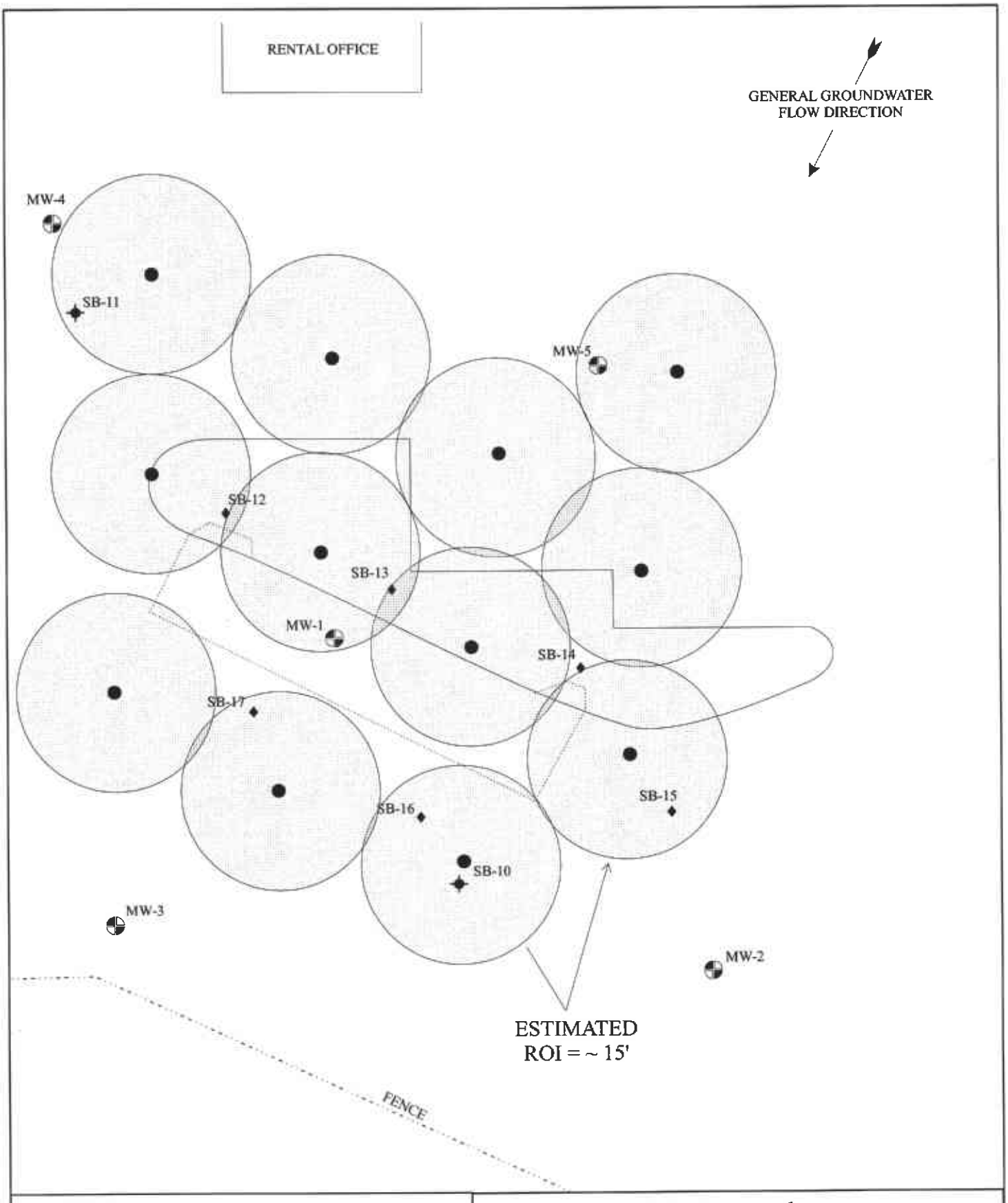
BORING & WELL LOCATIONS

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 3
AEI PROJECT NO 8262

Figure 4: MTBE vs Time





LEGEND

- Soil Boring: July & Sept. 2001
- Soil Boring: Sept. 2002
- Monitoring Wells
- Proposed Sparge Well Points

N

0' 10' 20'

SCALE: 1 in = 20 ft

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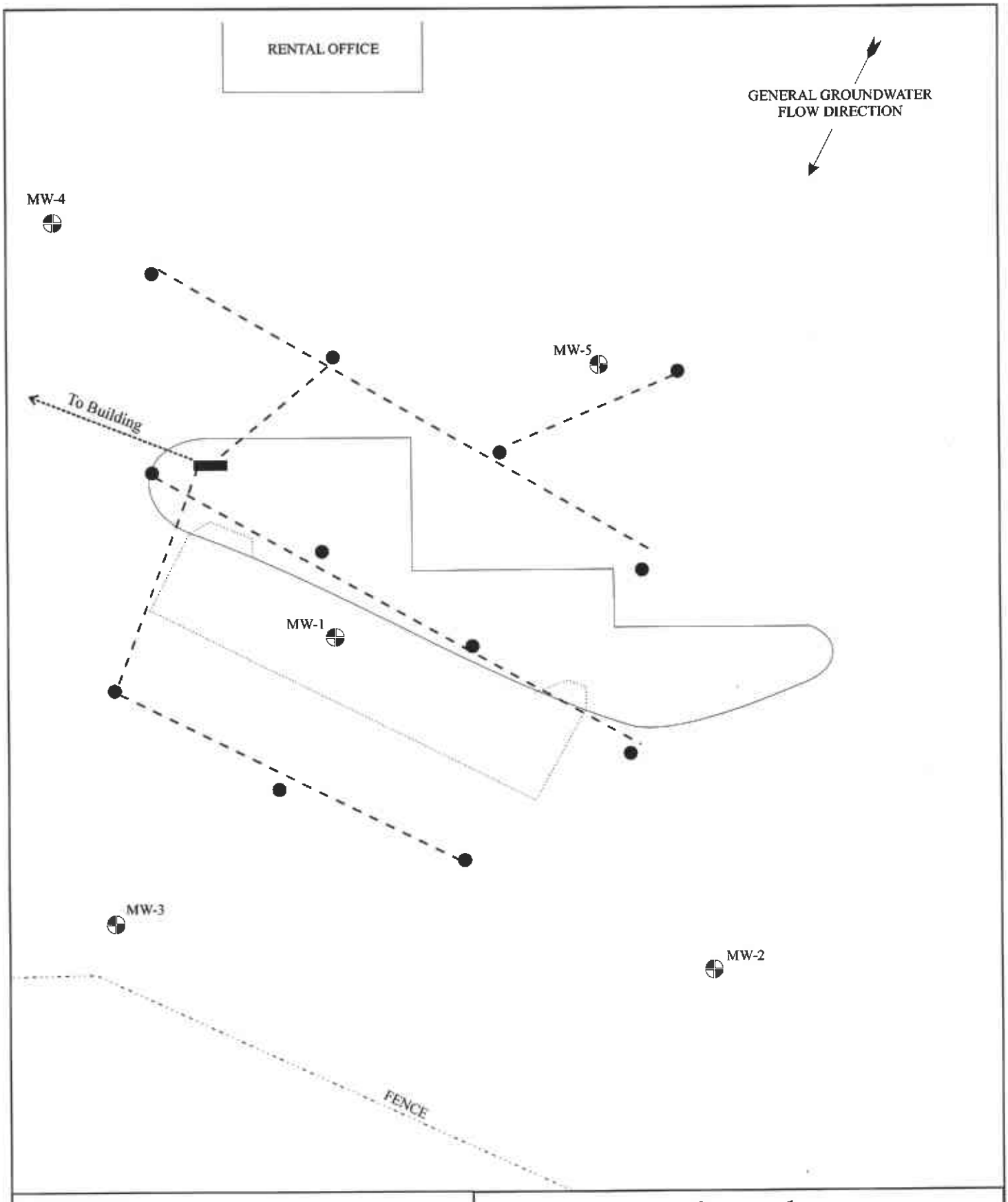
SPARGE WELL LOCATIONS

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
AEI PROJECT NO 8262



LEGEND

- Monitoring Wells
- Proposed Sparge Well Points
- Air Line Conduit
- Electrical Conduit

N

0' 10' 20'

SCALE: 1 in = 20 ft

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SPARGE WELL LOCATIONS

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 6
AEI PROJECT NO 8262

Table 1
Soil Sample Analytical Data

Sample ID	Date	TPH-g mg/kg	TPH-d mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	Lead	
									TTLC	STLC
SB-1 7'	7/17/2001	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	-	
SB-2 6'	7/17/2001	<1.0	26	<0.05	<0.005	<0.005	<0.005	<0.005	-	
SB-2 10'	7/17/2001	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	-	
SB-3 4'	7/17/2001	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	-	
SB-4 6'	7/17/2001	<1.0	2.8	<0.05	<0.005	<0.005	<0.005	<0.005	-	
SB-5 4'	7/17/2001	5.0	13	<0.05	0.1600	0.058	0.11	0.21	-	
SB-5 7'	7/17/2001	9.7	37	<0.05	0.059	0.012	0.007	0.056	-	-
SB-6 7'	7/17/2001	1.5	11	<0.05	0.008	0.018	<0.005	<0.005	-	-
SB-6 15'	7/17/2001	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	-	-
SB-8 4'	9/28/2001	16	-	<0.05	0.053	0.11	0.031	0.14	-	-
SB-8 11'	9/28/2001	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	-	-
Disp-East 3'	11/30/2001	110	-	<0.20	0.07	1.2	0.16	5.2	-	-
Disp-West 3'	11/30/2001	280	-	6	0.25	7.5	4.1	26	-	-
South 6 1/2	11/30/2001	4.1	-	53	0.038	0.16	0.034	0.19	-	-
West 6 1/2	11/30/2001	<50	-	0.99	<0.005	0.014	0.011	0.046	-	-
East 6 1/2	11/30/2001	140	-	50	13	3.9	7.9	18	-	-
SB-12 5'	9/6/2002	<50	-	<0.05	<0.005	<0.005	<0.005	<0.005	1200	23
SB-13 4'	9/6/2002	15,000	-	<50	21	840	300	1700	830	7.5
SB-14 4'	9/6/2002	<50	-	<0.05	<0.005	<0.005	<0.005	<0.005	110	2.7
SB-15 4'	9/6/2002	<50	-	<0.05	<0.005	<0.005	<0.005	<0.005	5	-
SB-16 4'	9/6/2002	73	-	1.5	<0.05	0.18	<0.05	<0.05	20	-
SB-17 4'	9/6/2002	1.2	-	2.1	0.0073	0.007	<0.005	0.011	3.2	-
SB-17 39'	9/6/2002	<50	-	<0.05	<0.005	<0.005	<0.005	<0.005	3.3	-
MW-1 4'	9/19/2002	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	5.9	-
MW-2 4"	9/19/2002	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	25	-
MW-3 4'	9/19/2002	<1.0	-	<0.05	<0.005	<0.005	<0.005	<0.005	25	-
MW-4 4'	9/19/2002	6.2	-	<0.05	<0.005	0.0080	0.0078	0.021	160	-
MW-5 4'	9/19/2002	<1.0	-	2.0	0.0053	0.0088	<0.005	0.010	190	-
MDL		1.0	1.0	0.05	0.005	0.005	0.005	0.005	3	0.200

MDL = Method Detection Limit
ug/kg = micrograms per kilogram (ppb)
mg/kg = milligrams per kilogram (ppm)
- = Sample not analyzed by this method

Table 2
Groundwater Sample Analytical Data

Sample ID	Date	TPH-g µg/L	TPH-d µg/L	MTBE(µg/L) (EPA 8020)	MTBE(µg/L) (EPA 8260)	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	Lead mg/L
SB-1 W	7/17/2001	<50	-	650	-	0.63	<0.5	<0.5	<0.5	-
SB-2 W	7/17/2001	<50	-	<5.0	-	<0.5	<0.5	<0.5	<0.5	-
SB-3 W	7/17/2001	120	-	<5.0	-	<0.5	4.6	<0.5	<0.5	-
SB-4 W	7/17/2001	<50	990	<5.0	-	<0.5	<0.5	<0.5	<0.5	-
SB-5 W	7/17/2001	68	410	<5.0	-	<0.5	0.66	<0.5	<0.5	-
SB-6 W	7/17/2001	240	590	<5.0	-	<0.5	2.9	<0.5	<0.5	-
SB-7 W	9/28/2001	<50	-	<5.0	<0.5	<0.5	0.74	<0.5	<0.5	-
SB-9 W	9/28/2001	<50	-	670	630	<0.5	1.0	<0.5	<0.5	-
SB-10 W	9/28/2001	<500	-	15,000	13,000	<2.0	<2.0	2.5	<2.0	-
SB-11 W	9/28/2001	58	-	1,900	1,700	2.4	1.8	<0.5	0.79	-
GW*	11/30/2001	44,000	-	42,000	-	590	5100	640	3500	-
SB-12	9/6/2002	<1000	-	31,000	32,000	44	<10	<10	<10	<0.005
SB-13	9/6/2002	13,000	-	51,000	49,000	300	1700	320	1,800	<0.005
SB-14	9/6/2002	<500	-	11,000	9,500	<5.0	<5.0	<5.0	<5.0	<0.005
SB-15	9/6/2002	300	-	730	770	<0.5	3.2	0.71	3.5	0.039
SB-16	9/6/2002	<200	-	3,900	2,700	<1	2.1	<1	2.5	<0.005
SB-17	9/6/2002	<200	-	5,900	5,500	<1.7	3.8	<1.7	4.2	<0.005
SB-17-W 47'	9/6/2002	90	-	150	120	1.7	3.5	1.9	3.5	-
MDL		50	50	5.0		0.5	0.5	0.5	0.5	0.005

MDL = Method Detection Limit
µg/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)

- = Sample not analyzed by this method
* Sample GW was collected from standing water within the tank excavation

Table 3
Groundwater Monitoring Data

Sample ID	Date	Well Elevation *ft (amsl)*	Depth to Water *ft (TOC)*	Water Table Elevation *ft (amsl)*	TPH-g µg/L *(8015Cm)*	Benzene µg/L	Toluene µg/L *(EPA method 8021B)*	Ethylbenzene µg/L *(EPA method 8021B)*	Xylenes µg/L *(EPA method 8021B)*	MTBE µg/L *(8021B)*	MTBE µg/L *(8260B)*
MW-1	9/30/2002	10.88	5.41	5.47	1,800	50	15	16	18	19,000	13,000
	1/2/2003	10.88	4.77	6.11	660	24	6.4	<2.5	<2.5	7,800	8,900
	3/31/2003	10.88	4.95	5.93	660	11	6.4	<5.0	<5.0	16,000	20,000
	6/30/2003	10.88	4.54	6.34	830	<5.0	6.8	<5.0	<5.0	16,000	17,000
	10/1/2003	10.88	4.66	6.22	720	<5.0	<5.0	<5.0	<5.0	14,000	13,000
	1/5/2004	10.88	4.07	6.81	<300	7.8	2.9	<3.0	<3.0	-	8,700
MW-2	9/30/2002	10.77	8.00	2.77	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.84
	1/2/2003	10.77	5.91	4.86	<50	<0.5	<0.5	<0.5	<0.5	19	20
	3/31/2003	10.77	5.15	5.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.9
	6/30/2003	10.77	5.91	4.86	<50	<0.5	<0.5	<0.5	<0.5	7.0	9.6
	10/1/2003	10.77	6.69	4.08	<50	<0.5	<0.5	<0.5	<0.5	7.7	6.7
	1/5/2004	10.77	6.18	4.59	71	4.7	13	2.7	12	-	7.8
MW-3	9/30/2002	10.20	5.21	4.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	1/2/2003	10.20	5.31	4.89	<50	0.89	0.50	<0.5	0.72	15	14
	3/31/2003	10.20	4.58	5.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.62
	6/30/2003	10.20	3.83	6.37	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.6
	10/1/2003	10.20	4.02	6.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
	1/5/2004	10.20	5.03	5.17	63	4.4	11	2.2	9.9	-	7.9
MW-4	9/30/2002	11.07	5.50	5.57	<100	<0.5	<0.5	<0.5	<0.5	790	<10
	1/2/2003	11.07	4.90	6.17	<50	<0.5	<0.5	<0.5	<0.5	420	460
	3/31/2003	11.07	4.81	6.26	<50	<0.5	<0.5	<0.5	<0.5	1,500	1,400
	6/30/2003	11.07	4.61	6.46	<50	<0.5	<0.5	<0.5	<0.5	1,600	1,200
	10/1/2003	11.07	4.76	6.31	<50	<0.5	<0.5	<0.5	<0.5	1,800	1,400
	1/5/2004	11.07	4.32	6.75	<50	3.0	6.7	1.4	6.1	-	1,200
MW-5	9/30/2002	11.18	5.62	5.56	<2,000	<5.0	<5.0	<5.0	<5.0	19,000	<250
	1/2/2003	11.18	5.12	6.06	<50	<0.5	<0.5	<0.5	<0.5	7,000	7,000
	3/31/2003	11.18	4.93	6.25	<500	<5.0	<5.0	<5.0	<5.0	14,000	12,000
	6/30/2003	11.18	4.75	6.43	<500	<5.0	<5.0	<5.0	<5.0	13,000	15,000
	10/1/2003	11.18	4.88	6.30	<500	<5.0	<5.0	<5.0	<5.0	12,000	11,000
	1/5/2004	11.18	4.19	6.99	<1000	<10	<10	<10	<10	-	11,000

ND = Not detected above the Method Detection Limit (unless otherwise noted)
mg/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
- = Sample not analyzed by this method
TOC = Top of well casing
amsl = mean seal level
Please refer to Appendix B: Sample Analytical Documentation for detailed lab data including reporting limits and dilution factors

Table 4
Fuel Oxygenate and Lead Scavenger Data

Sample ID	Date	Diisopropyl ether (DIPE) µg/L	Ethyl tert-butyl ether (ETBE) µg/L	Methyl-t-butyl ether (MTBE) µg/L	tert-Amyl methyl ether (TAME) µg/L	t-Butyl alcohol (TBA) µg/L	1,2-Dibromoethane (EDB) µg/L	1,2-Dichloroethane (1,2-DCA) µg/L
MW-1	9/30/2002	<500	<500	13,000	<500	<500	<500	<500
MW-2	9/30/2002	<0.5	<0.5	0.84	<0.5	<0.5	<0.5	<0.5
MW-3	9/30/2002	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	9/30/2002	<10	<10	750	<10	<100	<10	<10
MW-5	9/30/2002	<250	<250	18,000	<250	<2,500	<250	<250
MDL		0.5	0.5	0.5	0.5	5	0.5	0.5

MDL = Method Detection Limit

ND = Not detected above the Method Detection Limit (unless otherwise noted)

µg/L = micrograms per liter (ppb)

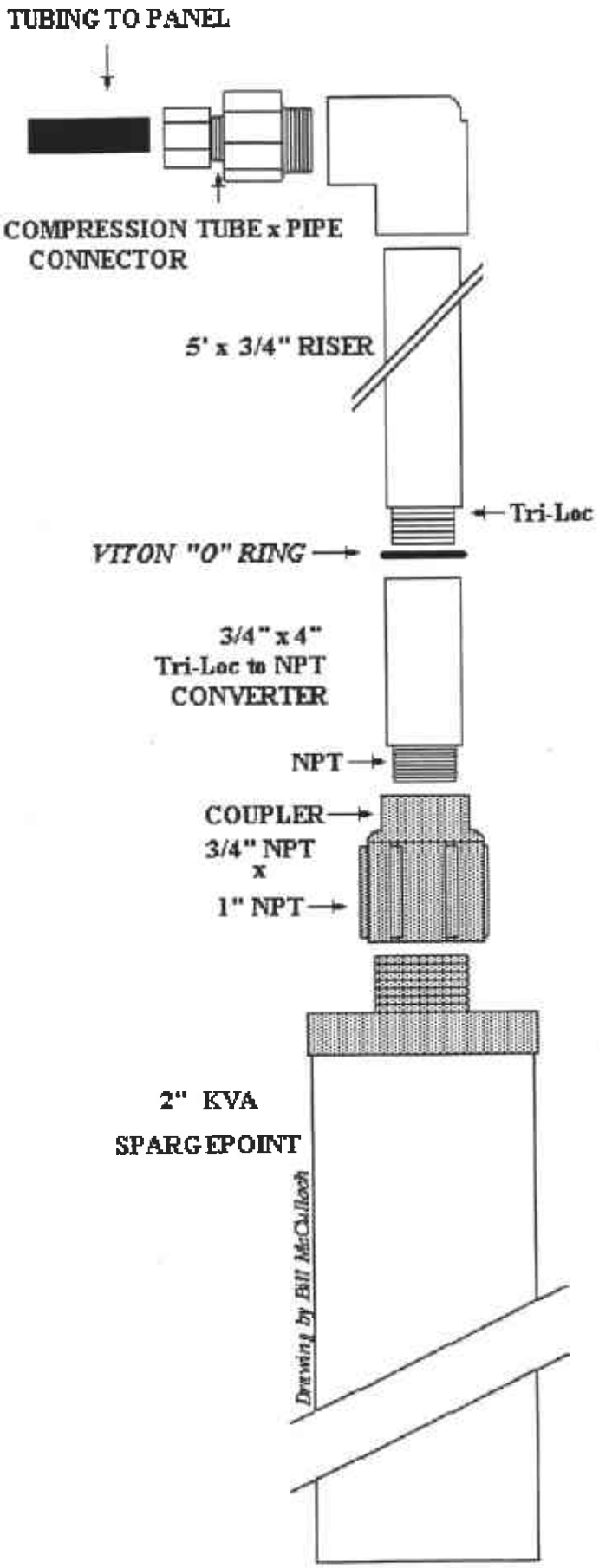
mg/L = milligrams per liter (ppm)

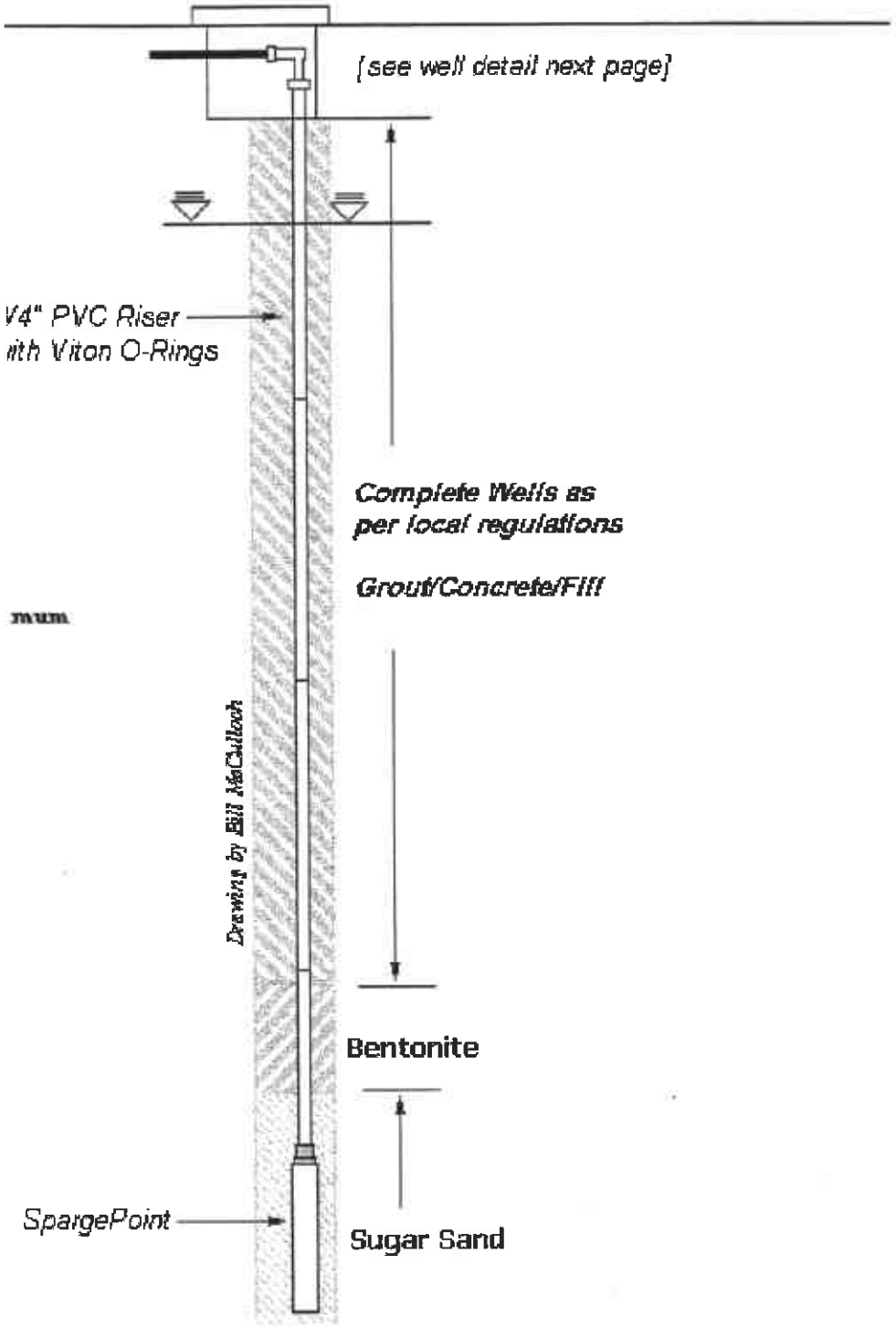
- = Sample not analyzed by this method

Table 5
Groundwater Flow Summary

Episode	Date	Average Water Table Elevation	Change From Previous	Gradient (direction)
1	9/30/2002	4.87	-	0.005 (S)
2	1/2/2003	5.62	0.75	0.022 (SSE)
3	3/31/2003	6.12	0.50	0.006 (SSE)
4	6/30/2003	6.09	-0.03	0.020 (SE)
5	10/1/2003	5.82	-0.27	0.029-0.001 (SE)
6	1/5/2004	6.06	0.24	0.03 (SE)

All well elevations and depths to water are measured from the top of the casing (TOC)
ft (amsl) = feet above mean sea level
Average Water Table calculated in Excel


TUBING TO PANEL
COMPRESSION TUBE x PIPE CONNECTOR
5' x 3/4" RISER
Tri-Loc
VITON "O" RING
3/4" x 4" Tri-Loc to NPT CONVERTER
NPT
COUPLER
3/4" NPT x 1" NPT
2" KVA SPARGEPOINT
Drawing by Bill McCulloch


[see well detail next page]
V4" PVC Riser
ith Viton O-Rings
Complete Wells as
per local regulations
Grout/Concrete/Fill
Bentonite
SpargePoint
Sugar Sand
Drawing by Bill McCulloch