

May 3, 2002

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

MAY 08 2002

Subject: Groundwater Treatment & Closure Summary Report
625 Hegenberger Road
Oakland, California
AEI Project No. 4342

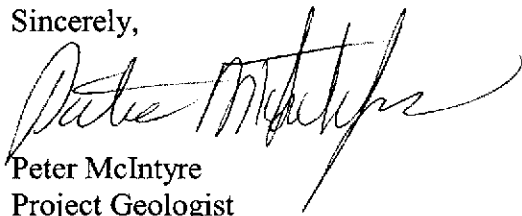
Dear Mr. Chan:

Enclosed is a copy of our report of the groundwater treatment and closure request for the project at the above referenced site.

Please let me know if you would like me to send a copy of the report to your counterpart and the RWQCB for their review and concurrence.

Thank you for your time and consideration of our closure request. If you have any questions or need any additional information, please don't hesitate to contact either Joe Derhake (310/798-4255) or myself at (925/283-6000).

Sincerely,



Peter McIntyre
Project Geologist

Treatment from 6/01 - 2/02
only 1 monitoring after end of treatment in 4/02

MW8, MW11, EW-01, MW-16

Non events during treatment		TPH _g		
		MW8	MW11	EW-1
①	init 5/31/01	14,000	280	300
	final 4/8/02	32000	86	230
②	8/10/01	4400	300	210
③	9/25/01	2100		
④	12/14/01	1800	250	2400

MAY 08 2002

May 3, 2002

**GROUNDWATER TREATMENT AND
SITE CLOSURE SUMMARY
REPORT**

625 Hegenberger Road
Oakland, California

AEI Project No. 4342

Prepared For

Diversified Investment and Management Corporation
400 Oyster Point Boulevard
South San Francisco, CA 94080

Prepared By

AEI Consultants
3210 Old Tunnel Road, Suite B
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TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 SITE DESCRIPTION AND BACKGROUND.....	1
3.0 GEOLOGY AND HYDROGEOLOGY.....	2
4.0 RECEPTOR SURVEY	3
5.0 TREATMENT SYSTEM DESIGN AND INSTALLATION	4
6.0 SYSTEM OPERATION.....	5
7.0 TESTING AND RESULTS	6
8.0 EXPOSURE PATHWAY ANALYSES	6
9.0 CLOSURE SUMMARY.....	8
10.0 REPORT LIMITATIONS AND SIGNATURES	9

LIST OF FIGURES

FIGURE 1	SITE LOCATION MAP
FIGURE 2	SITE MAP WITH DEEP WELL LOCATIONS
FIGURE 3	SITE PLAN
FIGURE 4	WATER TABLE CONTOURS: 8/9/00
FIGURE 5	WATER TABLE CONTOURS: 5/31/01
FIGURE 6	WATER TABLE CONTOURS: 4/8/02
FIGURE 7	TREATMENT SYSTEM COMPONENT LOCATIONS
FIGURE 8	WELL COMPLETION SCHEMATIC
FIGURE 9	HYDROCARBON CONCENTRATIONS: SAMPLING EVENT 4/8/02
FIGURE 10	HYDROCARBONS VS. TIME: MW-8
FIGURE 11	HYDROCARBONS VS. TIME: MW-11
FIGURE 11	HYDROCARBONS VS. TIME: EW-01
FIGURE 12	PHOTOGRAPHS

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LIST OF TABLES

TABLE 1	WATER TABLE ELEVATION DATA
TABLE 2	GROUNDWATER QUALITY PARAMETERS
TABLE 3	GROUNDWATER SAMPLE ANALYTICAL DATA
TABLE 4	SAMPLE ANALYTICAL DATA: AEI B-28

LIST OF APPENDICES

APPENDIX A	WELL FIELD SAMPLING FORMS: 5/31/01 & 4/8/02
APPENDIX B	LABORATORY REPORTS – SAMPLING EVENTS: 5/31/01 THROUGH 4/8/02

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1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Diversified Investment Management Group for the property located at 625 Hegenberger Road in Oakland, California (Figure 1: Site Location Map). This report documents the groundwater treatment program completed at the site and presents arguments for final site closure as it relates to the fuel hydrocarbon release. The project described herein has been designed and implemented under the jurisdiction of the Alameda County Health Care Services Agency (ACHCSA).

Case closure is being requested for this site based on the following conclusions drawn of approximately 9 years of sampling data and research.

- The majority of hydrocarbons were removed from the impacted soil in the vadose zone during the 1996 soil excavation and treatment activities.
- A significant decrease in dissolved phase hydrocarbons was observed within the source area following the soil treatment and during and following the recently completed groundwater treatment program.
- Remaining dissolved phase hydrocarbons are localized to the immediate former source area, with no detectable to very low concentrations in down-gradient and outlying wells. The plume was shown to be limited vertically directly beneath the source area, with hydrocarbon concentrations decreasing by nearly two orders of magnitude by only 20 feet below the water table and evidence of a regional confining layer present below this.
- Survey of nearby groundwater use and surface waters did not reveal any groundwater resources or ecological receptors that may be threatened by the minimal mass of hydrocarbons remaining in the localized former source area.
- No complete human exposure pathways currently exist, nor is it expected that risk screening levels would be exceeded if commercial development and land use occurred at the site.

2.0 SITE DESCRIPTION AND BACKGROUND

In October 1993, three underground gasoline storage tanks (12,000 gallons each), one 260 gallon waste oil tank, and related structures were removed from the site under the observation of Levine Fricke. Approximately 300 cubic yards (cy) of soil was excavated during the tank removal. Levine Fricke and Subsurface Consultants performed several shallow soil borings and installed six groundwater monitoring wells at the site. Results of the comprehensive soil investigation indicated that hydrocarbon contamination was present in elevated levels at the site.

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encountered. Refusal conditions were encountered at 44.5 feet bgs. The presence of a clay aquitard in this depth range was confirmed during a review of deep borings performed at the Oakland Coliseum Complex.

Water level measurements were collected from the eight wells in order to estimate the groundwater flow direction. Water table contours were plotted using the Surfer™ (v. 7.0) program. Please refer to Figures 4 through 6 for the results of these plots for the monitoring episodes of August 9, 2000; May 31, 2001; and April 8, 2002. These plots reveal a complicated water table, however within the source area a westerly or northwesterly flow direction is observed. Well MW-26 exhibits

1. The groundwater contours and flow direction shown throughout the source area are consistent with historical flow directions, which were obtained prior to installation of MW-26. Water table elevations are summarized in Table 1. A rose diagram summarizing groundwater flow directions is presented on Figure 3.

4.0 RECEPTOR SURVEY

A survey of deep wells within ½ mile radius of the site was performed at the Department of Water Resources (DWR) in Sacramento. Additionally, information was provided to AEI by ACHCSA regarding several reportedly abandon well field in the site area. Please refer to the following table for information on the wells identified and to Figure 2 for their locations.

Exhibit 1: Nearby Wells

Location	Site ID #	Distance (feet)	Direction	Depth (feet)	Screen Interval	Use
Fitchburg well group (20 wells?)	1	~ 2,500	Northwest	NA	NA	Municipal
Damon well group	2	~ 4,500	North	NA	NA	Municipal
Oakland Coliseum (11 wells)	3	1,000 – 2,500	Northwest	70 – 112	78 – 98	Observation
7825 San Leandro Street (1 well)	4	1,250	Northeast	510	324 – 479	Industrial
550 85 th Avenue (2 wells?)	6	1,850	Southeast	448	130 – 240	Industrial

Site # were assigned arbitrarily.

NA – Information not available

Although the screened interval of the Fitchburg and Damon well groups were not available, the other well logs indicate that the wells at the Coliseum site are screened in the 70 to 100 foot bgs range. The other two wells are screened below 100 feet deep. Although these various wells may pose as a conduit to deeper water bearing zones for near surface impacted groundwater vertical migration, these wells are all outside of the limit of impacted groundwater associated with this site. The exact locations of the abandoned former municipal well fields have not been determined; however, the dissolved hydrocarbon plume associated with this site is confined to beneath the property in each direction toward the suspected well fields. Unless further information becomes

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available regarding currently unknown deep wells, AEI does not consider any of the deep wells identified to date as threatened by this site.

The site is located approximately 3 miles east of the San Francisco Bay, however several sloughs or channels exist throughout the area. The nearest of which is a portion of the Airport Channel mud flats, which is located approximately 900 feet at it's nearest point to west of the western end of the property. Again due to the distance from the property and the fact that western extent of the hydrocarbon plume is confined to beneath the property, these surface waters will not be considered threatened by the release. In addition, no preferential pathways exist within or directly around the former source area that could lead to preferential contaminant migration.

5.0 TREATMENT SYSTEM DESIGN AND INSTALLATION

The goal of the treatment program was to reduce dissolved hydrocarbon concentrations, specifically TPH-g and BTEX, within the source area, thereby limiting the potential for future migration of the hydrocarbon plume from the site. The system was designed to increase oxygenation of shallow groundwater within the source area and supplement natural bacterial colonies within the shallow groundwater with bacterial species cultured to metabolize aromatic hydrocarbons. Of particular importance when designing the system was the presence of the pea gravel backfill material placed within the bottom of the former excavation in the source area. This material has a higher porosity and hydraulic conductivity than the native soils, therefore allowing for faster distribution of the oxygenated water and injected bacterial waters.

The system consisted of two simultaneously operating system: the air sparge system and bacterial growth cell and distribution system. A total of twelve (12) dual completion wells (labeled IW-01 to IW-12) were installed. The air compressor and generator were stored in a locked shed constructed on the western side of the source area. Please refer to Figure 7 for locations of the wells and system components. Photographs of the site are included in Figure 12.

5.1 AEI Sparge System

The air sparge system consists of a total of twelve air sparge wells constructed to total depths of 15 feet bgs. Each well was constructed with ½" diameter PVC pipe and the bottoms of each was equipped with an air diffuser. The bottom two feet of each was backfilled with #3 sand. A bentonite seal was place above the sand. Refer to Figure 8 for a schematic of the well completion.

The air lines were manifolded at the compressor to allow for targeting injection of air into up to four of the wells simultaneously. The manifold was equipped with pressure gauges and rotometers to measure the pressure and air flow in each well. The compressor was capable of injecting a total of approximately 2 cubic feet per minute at 4 to 5 pounds per square inch (psi).

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5.2 Inoculant Growth & Distribution System

BioTreatment, Inc. of Escondido, California, supplied bacteria and bacterial nutrients to AEI. Well EW-01 was utilized for groundwater extraction. The extracted water was pumped into a 550 gallon above ground tank. The tank was equipped with a pump used to aerate the water. Bacterial medium and nutrients were added to the tank and the culture allowed to grow from 24 to 48 hours prior to injection. Kool™ tests were used to qualitatively assess bacterial density prior to re-injection of the inoculated groundwater. The tank was equipped with a heater during the cooler months, to increase water temperature and therefore bacterial growth.

The distribution system was comprised of 12 injection points constructed within the boreholes used for the air sparge wells. The injection wells were constructed of ¾" PVC pipe to depths of 7 feet bgs, corresponding to just at and below the water table. Holes were drilled in the bottom 2 feet of each pipe to allow for free discharge of water. The discharge from the tank was controlled with a master relief valve and individual valves to direct discharge to individual or multiple points. The aeration pump served a dual purpose to force injection into points outside of the pea gravel backfill material (IW-4, IW-8, and IW-12).

6.0 SYSTEM OPERATION

The initial inoculant batch was cultured on June 22, 2001. Approximately 2 pounds of freeze-dried bacteria and 1 pound of nutrient were added to 400 gallons of hydrocarbon contaminated water. After 12 hours, an additional 100 gallons of extracted water was added. After an additional 24 hours, bacterial density was measured and the first batch injected, leaving 100 gallons remaining in the tank. Upon completion of injection, an additional 400 gallons of extracted water was added. When necessary, additional bacteria and nutrients were added to the tank when additional water was extracted.

A total of 32 [REDACTED] zones. Injections, generally occurred 3 to 5 days apart, during which time air was sparged into the treated area. The air sparge system was operated for approximately 32 hours per week during the treatment period. Generally, the inoculant was injected in four wells in close proximity, for example IW-2, IW-3, IW-6, and IW-7, with air being sparged into the same wells during and for several days following inoculant injection. The next batch was then injected into a different set of wells.

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7.0 TESTING AND RESULTS

A complete monitoring of all wells occurred prior to treatment startup (May 31, 2001) and on selected wells during operation. A final monitoring episode was then performed on April 8, 2002. Prior to sampling wells, water levels were measured and approximately 3 wells volumes of water was purged prior to sample collection. During purging the following parameters were measured, temperature, pH, specific conductivity, and dissolved oxygen. Water samples were then bailed from each well. Samples were collected into 40 ml VOA vials and transported under chain of custody to McCampbell Analytical Inc. (DOHS Cert. 1644). Samples analyzed during this project were analyzed for TPH as gasoline by EPA method 5030/8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX) and MTBE by EPA method 502/8020. Samples with high MTBE detection limits by EPA method 8020 were reanalyzed by EPA method 8260 for MTBE.

Between the sampling events of May 31, 2001 and April 8, 2002, a 93% average reduction of BTEX, MTBE, and TPH-g is observed in EW-01. A reduction of 47% of MTBE, benzene, toluene, and TPH-g is observed in MW-11, over the same period. Although MTBE was not specifically targeted during this treatment program, an average reduction of 56% is noted wells MW-8 (83% reduction), MW-11 (30% reduction), MW-16 (35% reduction), and EW-01 (78% reduction). MTBE was not detected in the other four wells during the April 2002 sampling episode.

A summary of groundwater sample analytical results is presented in Table 3. Plots of hydrocarbon concentrations versus time in selected wells are presented in Figures 10 through 12. Laboratory analytical reports are included in Appendix B.

8.0 EXPOSURE PATHWAY ANALYSES

In an effort to determine whether any potential human health risks are present for occupants of the site, an analysis of exposure pathways is presented. With each medium, pathways for exposure are presented along with whether they are complete at this site. This property is located in a light industrial and commercial area of Oakland, therefore commercial / industrial scenarios only are considered.

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Exhibit 2: Exposure Pathways

Medium	Pathway	Complete at Site	Comments
Soil (surface and subsurface soils)	Ingestion / dermal contact / vapor inhalation	NO	Surface and vadose zone soils treated in 1996
	Inhalation of vapors (indoor & outdoor air)	NO	Surface and vadose zone soils treated in 1996
	Ingestion of groundwater impacted by soil leachate	NO	Soil treated & no groundwater use on-site or in area (see S. 4.0)
Groundwater	Inhalation of vapors (indoor & outdoor air)	NO POSSIBLE	The property is currently vacant and fenced off
	Direct Ingestion	NO	No groundwater use onsite or in area (see Section 4.0)
Surface Waters	Ingestion / dermal contact	NO	No nearby surface waters in area (see Section 4.0)

As shown above, no complete exposure pathways exist with the current land use. ~~Assuming that commercial development occurs at the site, the pathway of vapor inhalation resulting volatilization from groundwater may be considered complete.~~ Although continued decrease in hydrocarbon concentrations is expected, a cursory comparison of the current concentrations with the City of Oakland Tier 1 Risk Based Screening Levels (RBSLs) is presented (City of Oakland Public Works Agency, 2000).

A review of eligibility requirements for Tier 1 RBSLs use indicates that this site qualifies. Based on this qualification, remaining concentrations of MTBE, benzene, and toluene are made against their Tier 1 RBSLs for the vapor volatilization to indoor and outdoor air for commercial / industrial land use scenarios. For both MTBE and toluene, the Tier 1 RBSLs for the inhalation of vapors volatilized to both indoor and outdoor air are both listed as greater than their solubilities, reported as 48,000 mg/l for MTBE and 500 mg/l for toluene, while the highest concentrations remaining at the site are 300 µg/l and 820 µg/l, respectively. The carcinogenic and non-carcinogenic hazard RBSLs for benzene for the outdoor exposure scenario are 21,000 µg/l and 1,300,000 µg/l, respectively, while those for the indoor exposure scenario are 1,800 µg/l and 110,000 µg/l, respectively. The highest concentrations of benzene recently detected ~~have~~ at the site have been in MW-08, with the last four samples ranging from 230µg/l to 2,000 µg/l of benzene, with the average of the four being 975 µg/l. Although one of the last four samples slightly exceeds the indoor scenario, all other samples collected from this well since the beginning of groundwater treatment were well below the RBSL. In addition, this occurrence of this concentration range is very localized, with all other wells having low to non-detected concentrations of benzene.

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Based on this exposure analysis, this site does not appear to pose a risk to human health if future commercial or industrial development of the property occurs.

9.0 CLOSURE SUMMARY

Case closure is being requested for this site based on the following conclusions drawn of approximately 9 years of sampling data and research.

- The majority of hydrocarbons were removed from the impacted soil in the vadose zone during the 1996 soil excavation and treatment activities.
- A significant decrease in dissolved phase hydrocarbons was observed within the source area following the soil treatment and during and following the recently completed groundwater treatment program.
- Remaining dissolved phase hydrocarbons are localized to the immediate former source area, with the lateral extent of the plume having been defined. ND to very low TPH-g, BTEX, or MTBE detections occurred in wells MW-10, MW-12, MW-26 or MW-27. The plume is shown to be limited vertically directly beneath the source area, with hydrocarbon concentrations decreasing by nearly two orders of magnitude by only 20 feet below the water table and evidence of a regional confining layer present below this.
- Survey of nearby groundwater wells and surface waters did not reveal any groundwater resources or ecological receptors that may be threatened by the minimal mass of hydrocarbons remaining in the localized former source area.
- No complete human exposure pathways currently exist, nor is it expected that risk screening levels would be exceeded if commercial development and land use occurred at the site.

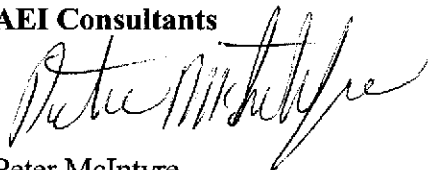
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10.0 REPORT LIMITATIONS AND SIGNATURES

This report presents a summary of work completed by AEI, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and consulting field that existed at the time and location of the work.

Sincerely,
AEI Consultants



Peter McIntyre
Project Manager, Geologist



Joseph P. Derhake, PE
Principal



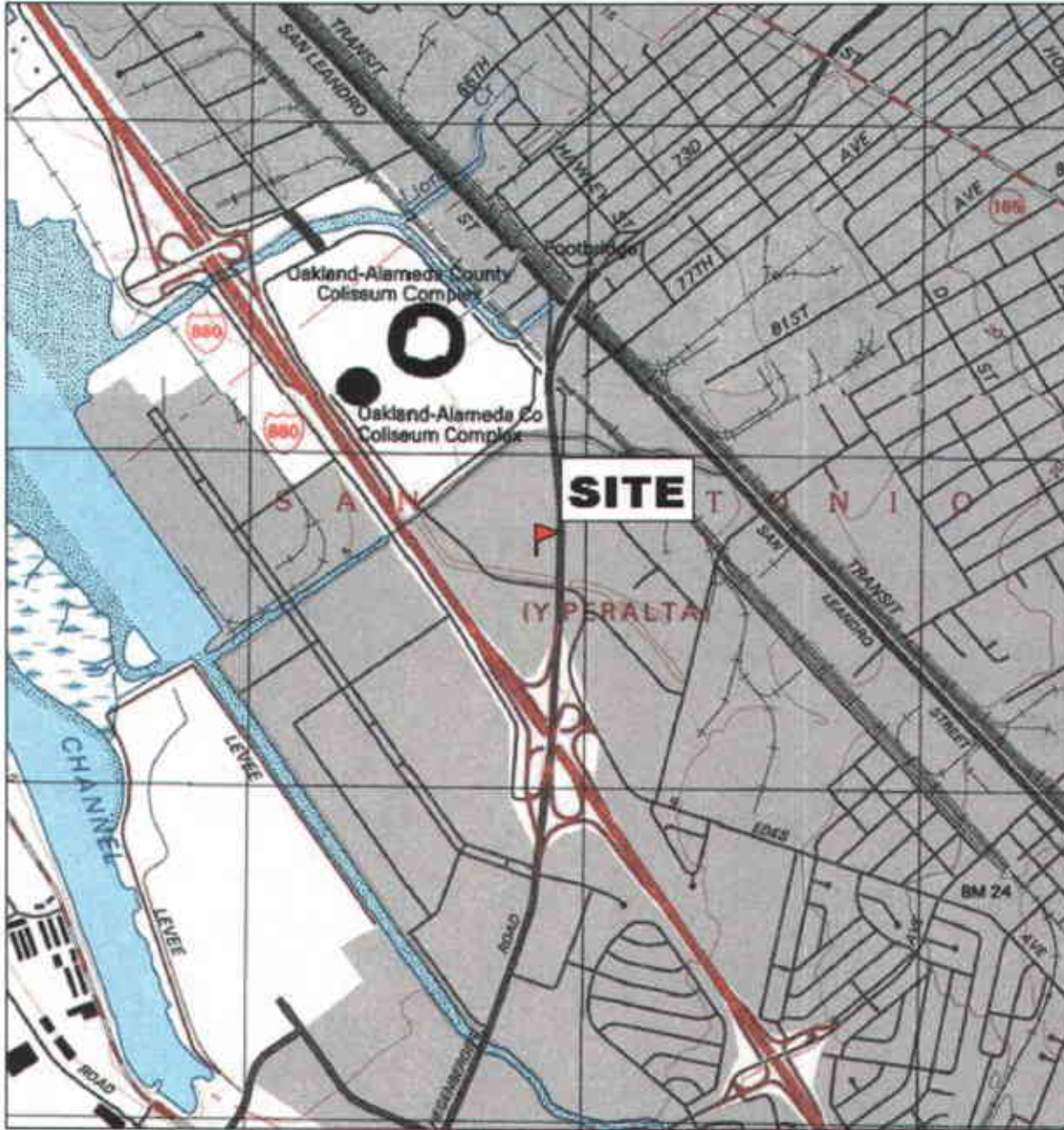
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AEI Files: J. Derhake & P McIntyre (Job # 4342)

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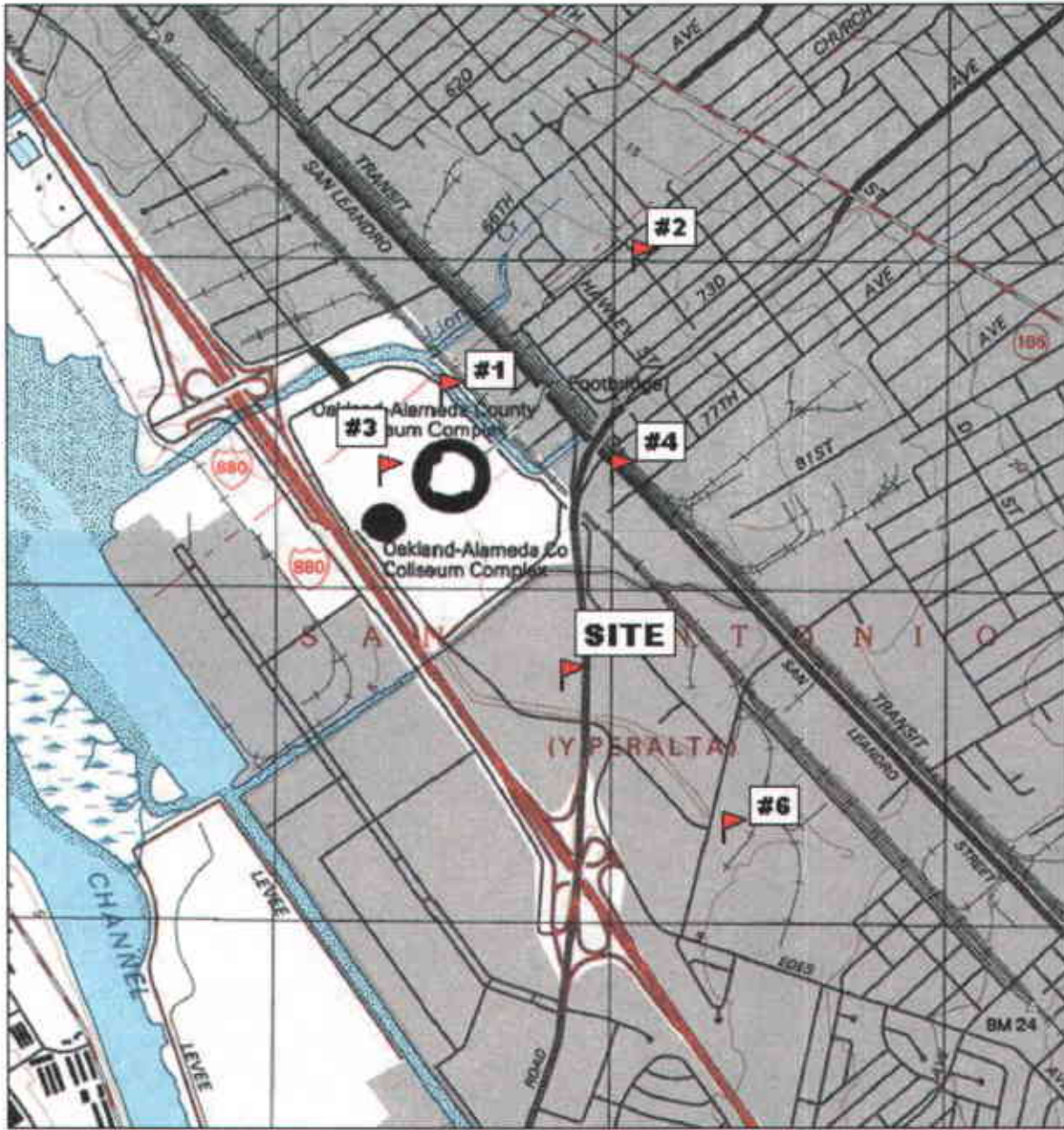


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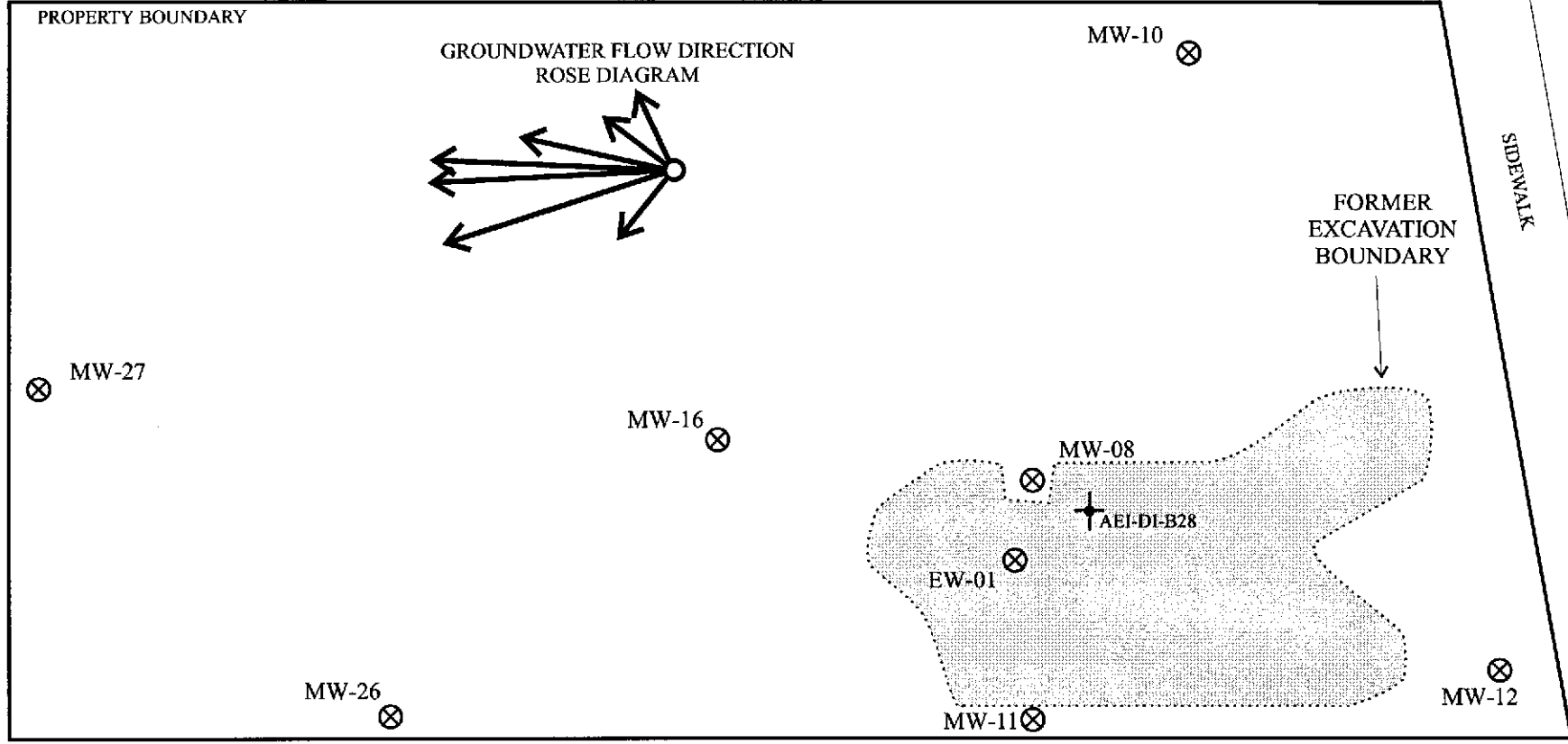
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AEI CONSULTANTS 3210 OLD TUNNEL RD. STE B. LAFAYETTE, CA	
SITE LOCATION MAP	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 1 PROJECT NO. 4342



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AEI CONSULTANTS 3210 OLD TUNNEL RD, STE B, LAFAYETTE, CA	
DEEP WELL LOCATIONS	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 2 PROJECT NO. 4342

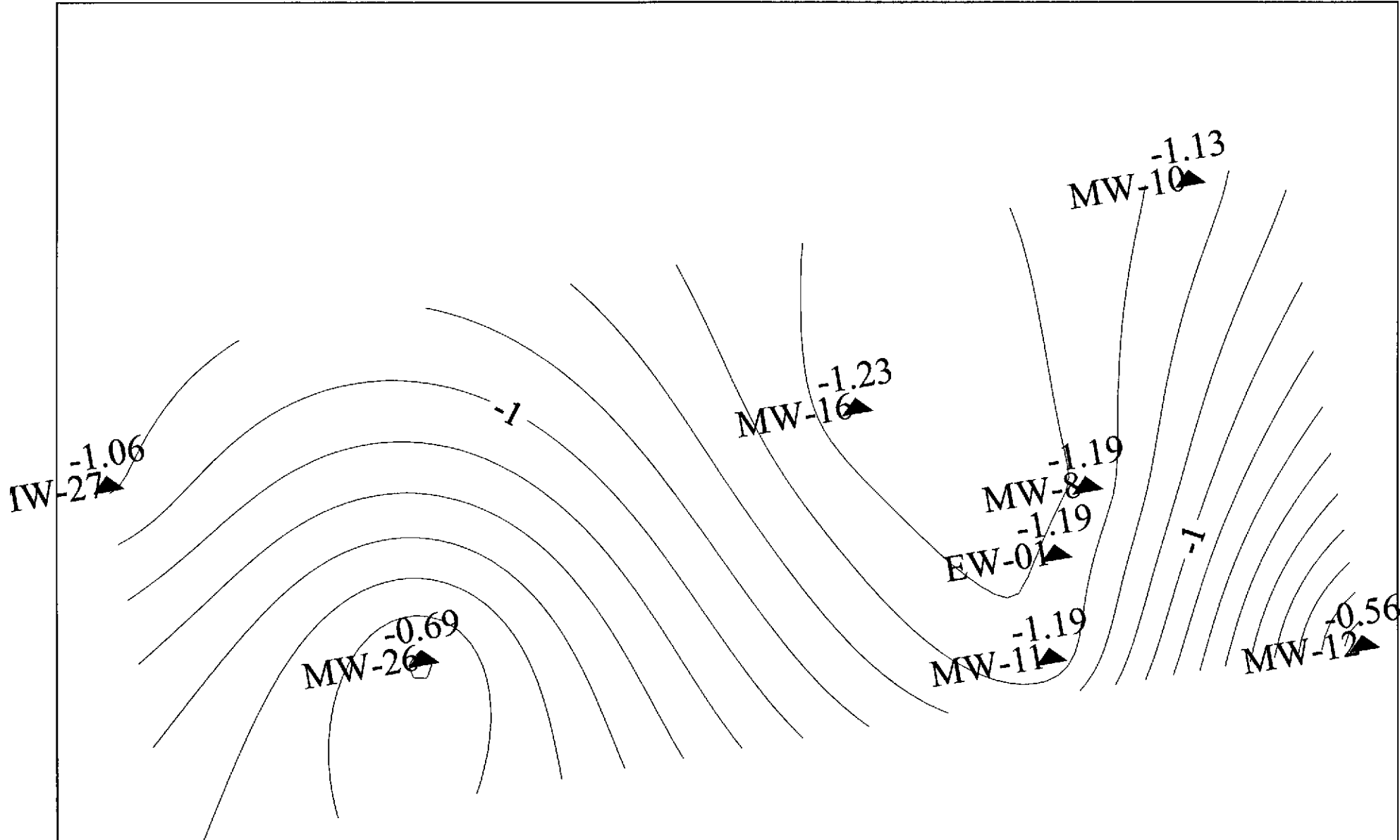


⊗ MONITORING WELL LOCATIONS

† DEEP BORING LOCATION

SCALE: 1 in. = 45 ft.
 ROSE DIAGRAM SCALE: 1/2 in = 1 episode
 NOTE: Rose diagram does not include effects of MW-26 & MW-27

AEI CONSULTANTS 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
SITE PLAN	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 3 AEI PROJECT NO 4342



▲ MONITORING WELL LOCATIONS

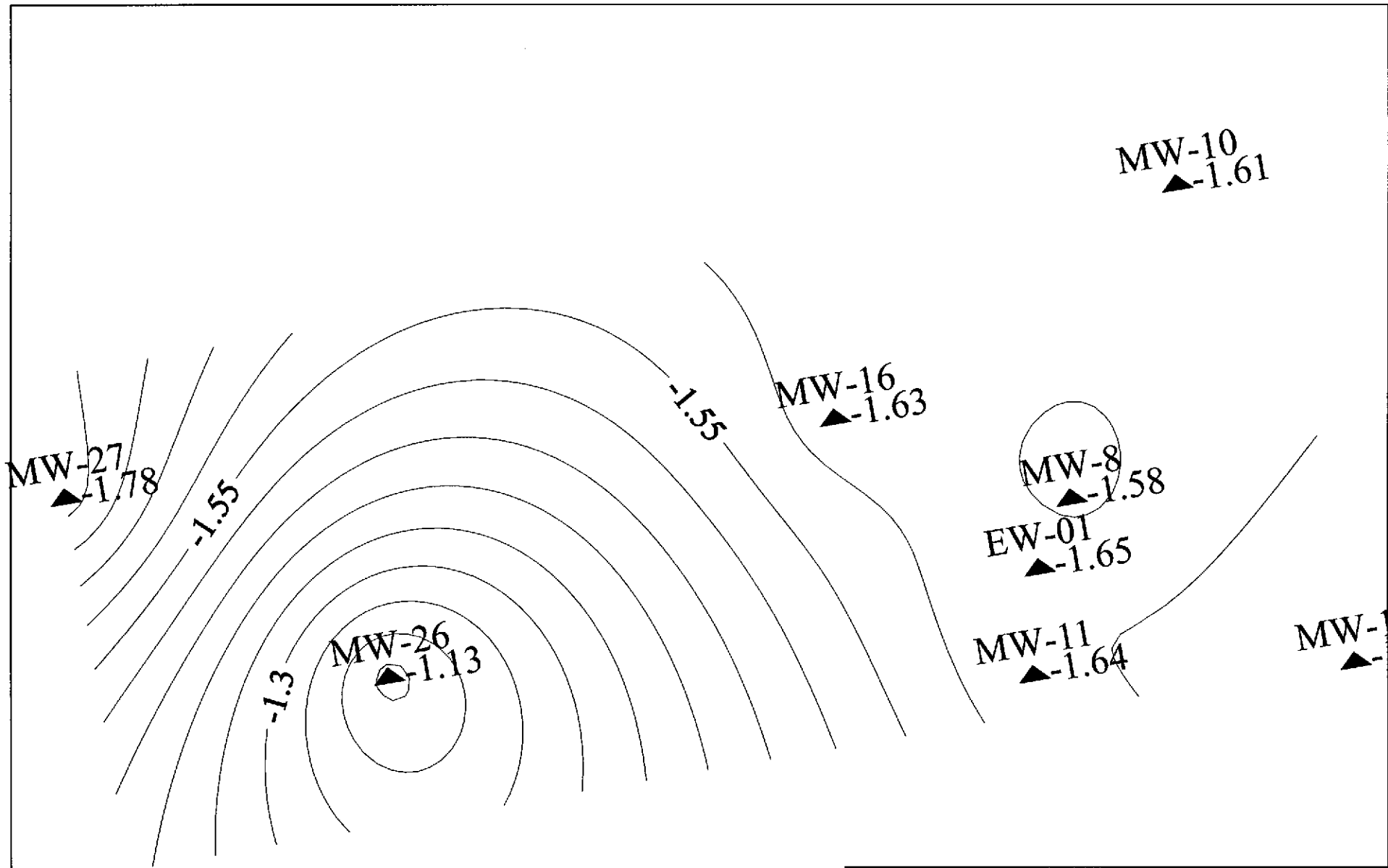
All elevation in feet above mean sea level
 Contours created with Surfer V. 7.0
 SCALE: 1 in. = ~ 60 ft.

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 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

WATER TABLE CONTOURS: 8/9/00

625 HEGENBERGER ROAD
 OAKLAND, CALIFORNIA

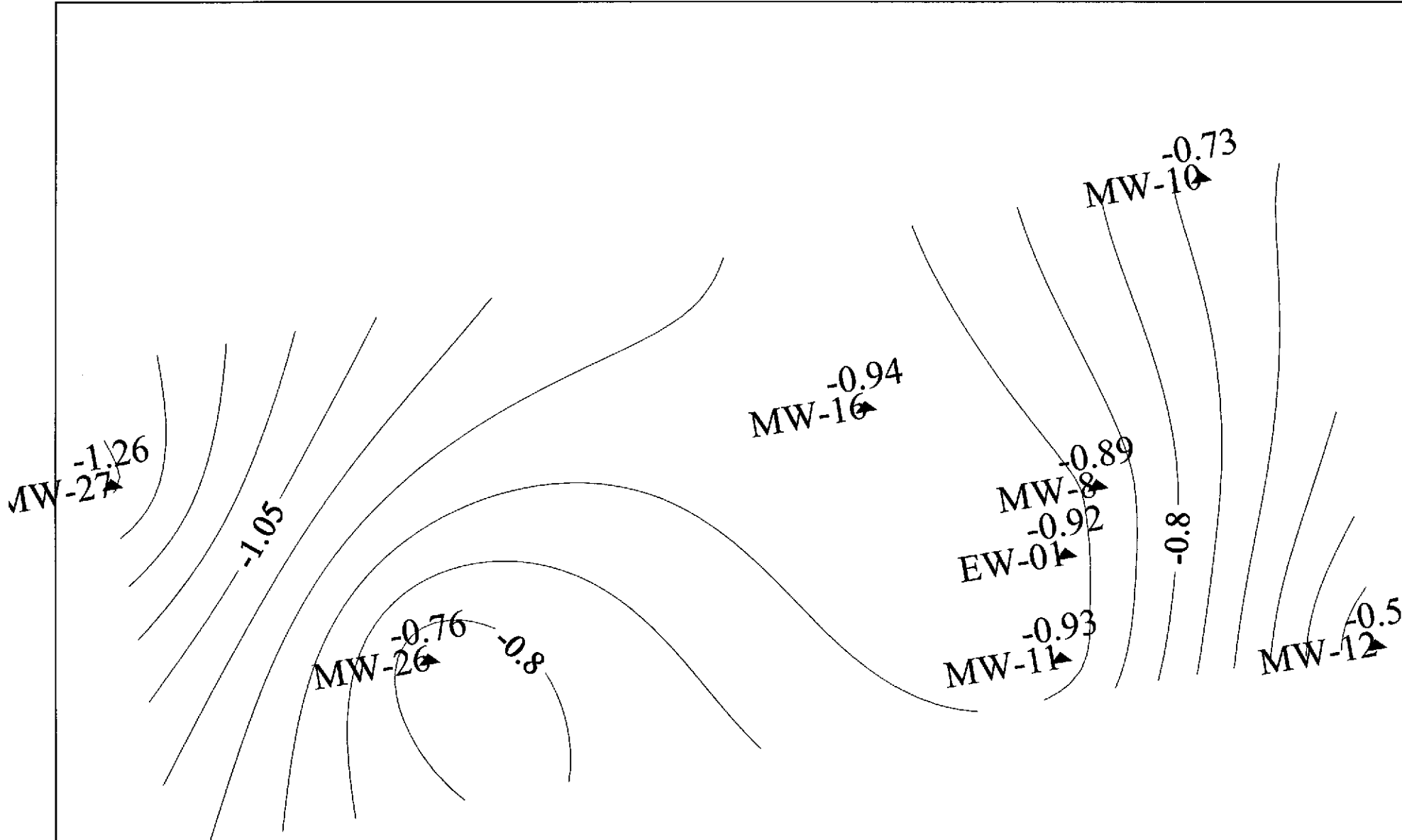
FIGURE 4
 AEI PROJECT NO 4342



▲ MONITORING WELL LOCATIONS

All elevation in feet above mean sea level
 Contours created with Surfer V. 7.0
 SCALE: 1 in. = ~ 60 ft.

AEI CONSULTANTS 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
WATER TABLE CONTOURS: 5/31/01	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 5 AEI PROJECT NO 4342

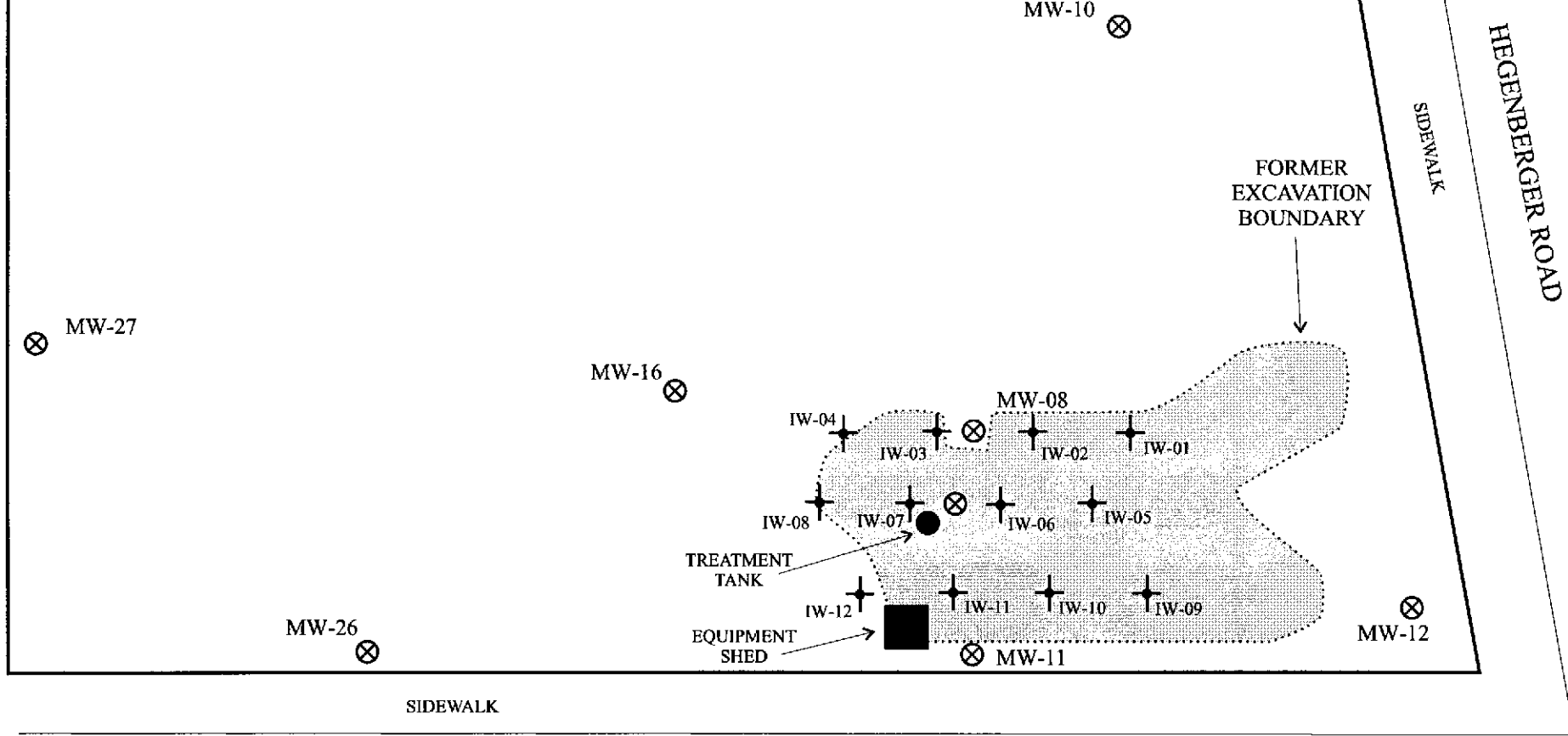


▲ MONITORING WELL LOCATIONS

All elevation in feet above mean sea level
 Contours created with Surfer V. 7.0
 SCALE: 1 in. = ~ 60 ft.

AEI CONSULTANTS 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
WATER TABLE CONTOURS: 4/8/02	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 6 AEI PROJECT NO 4342

PROPERTY BOUNDARY



⊗ MONITORING WELL LOCATIONS

⊕ DUEL COMPLETION WELLS

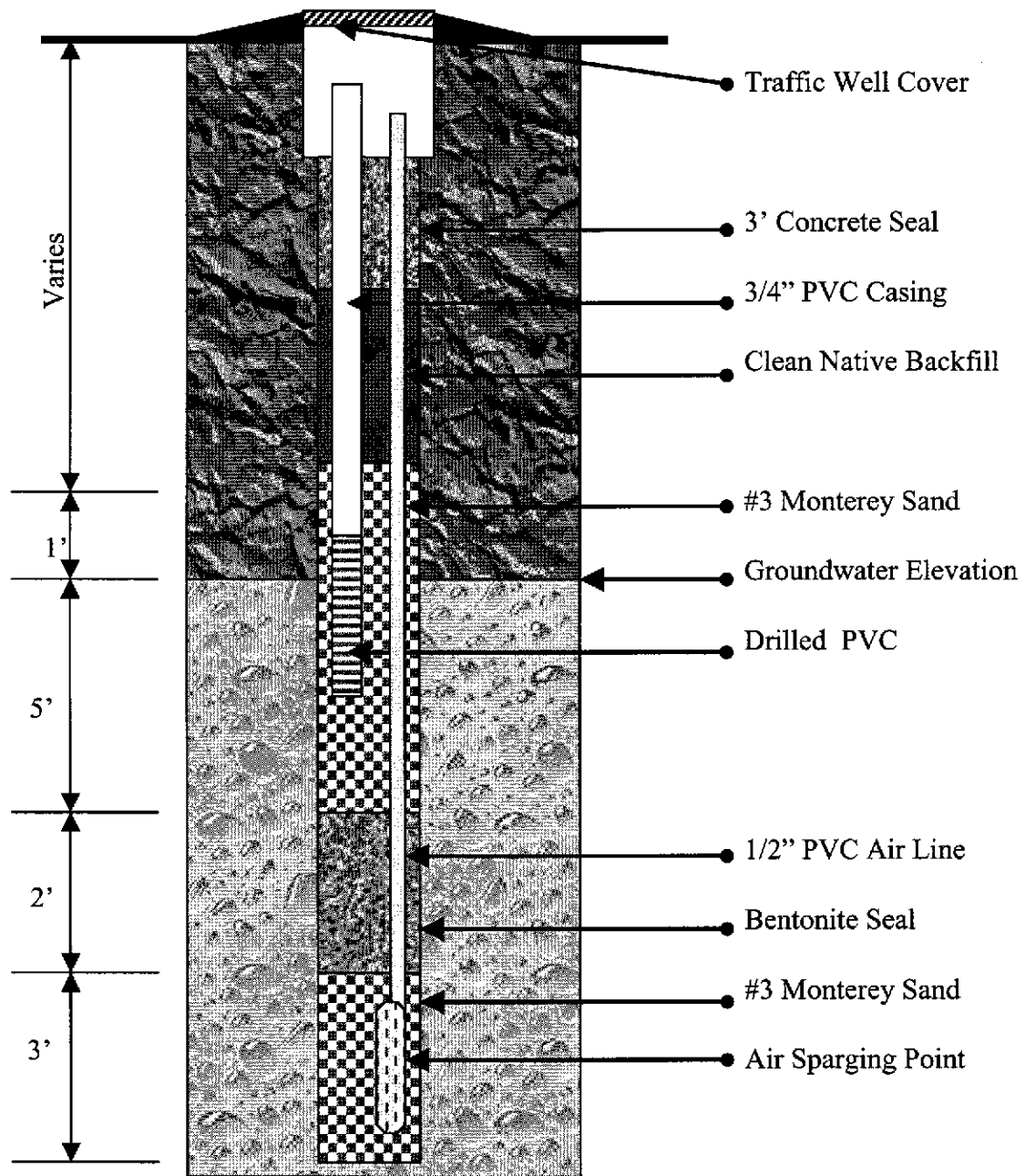
SCALE: 1 in. = 45 ft.

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3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

**TREATMENT SYSTEM COMPONENT
LOCATIONS**

625 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE 7
AEI PROJECT NO 4342



AEI CONSULTANTS 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
WELL COMPLETION SCHEMATIC	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 8 AEI PROJECT NO 4342

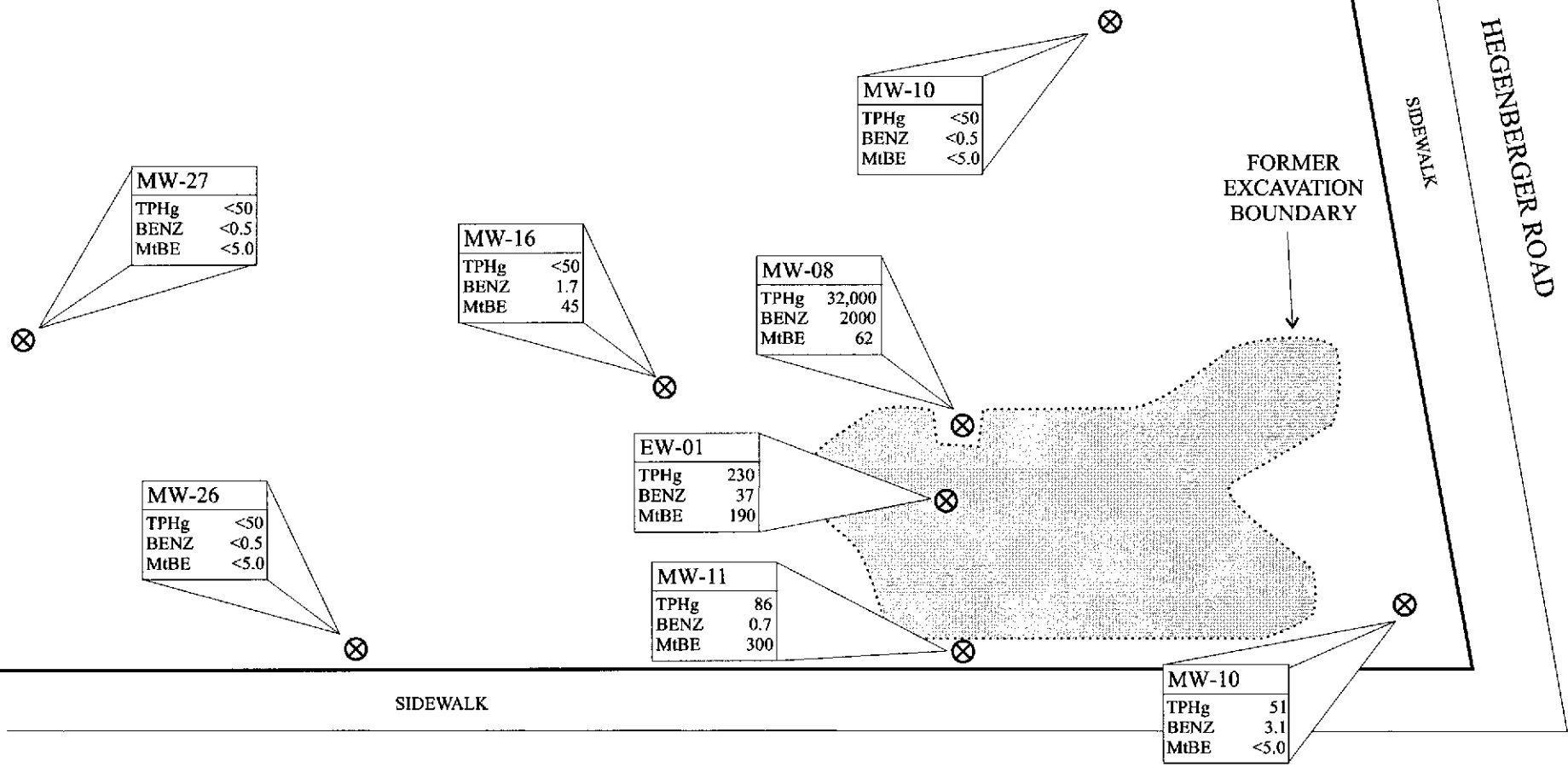
PROPERTY BOUNDARY

HEGENBERGER ROAD

SIDEWALK

FORMER EXCAVATION BOUNDARY

SIDEWALK



⊗ MONITORING WELL LOCATIONS

ALL CONCENTRATIONS IN ug/l

SCALE: 1 in. = 45 ft.

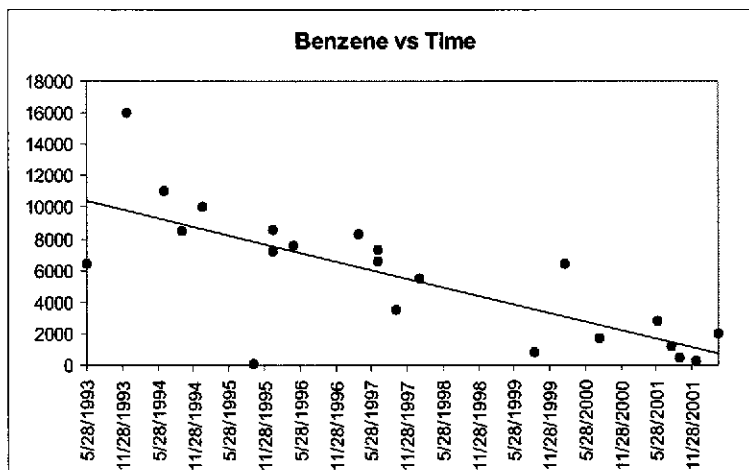
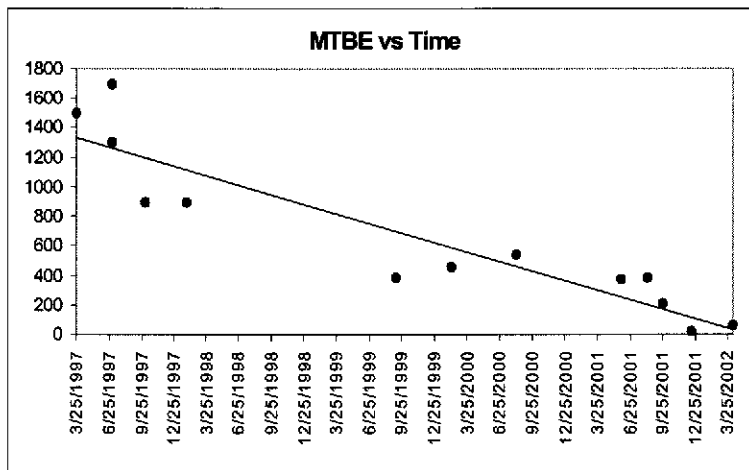
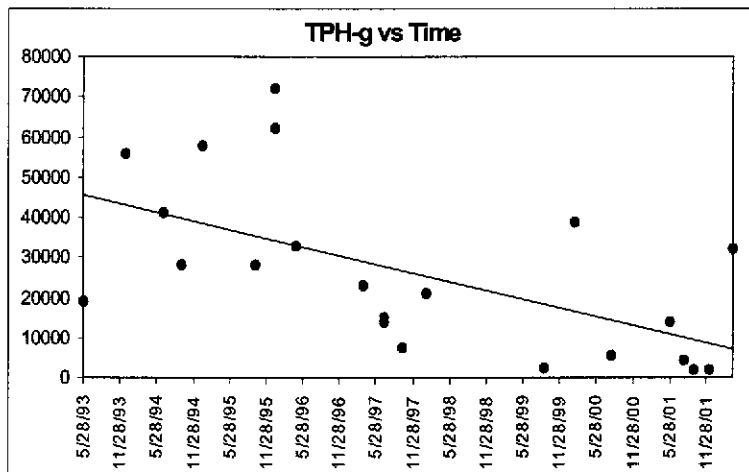
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3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

HYDROCARBON CONCENTRATIONS: 4/8/02

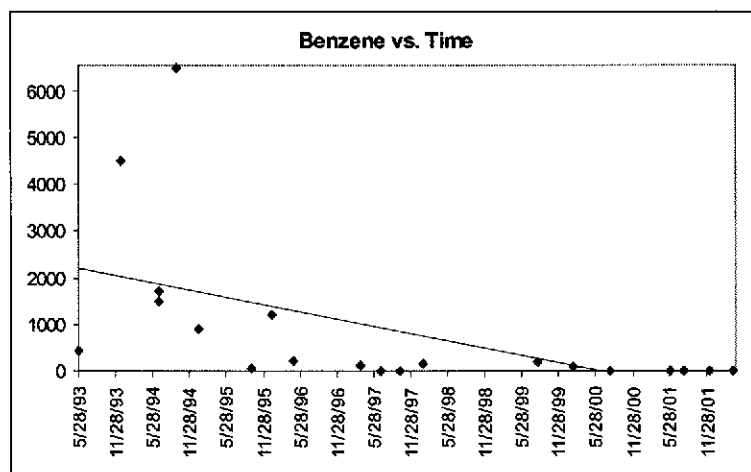
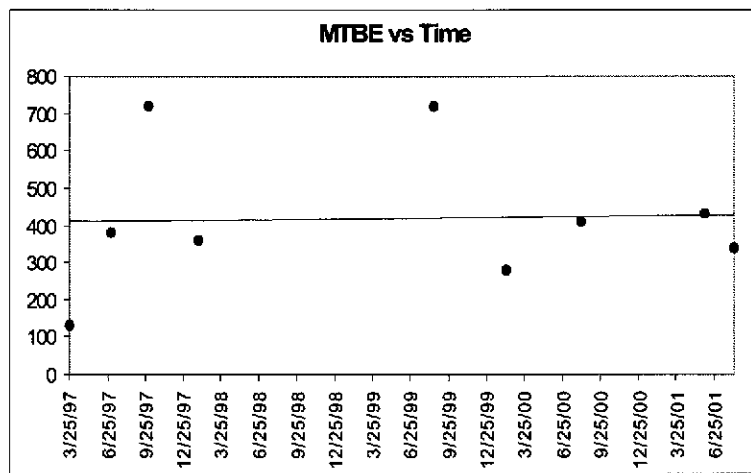
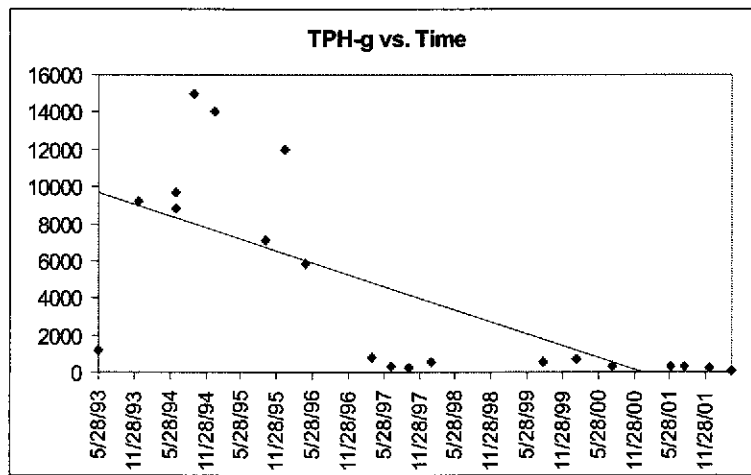
625 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE 9
AEI PROJECT NO 4342



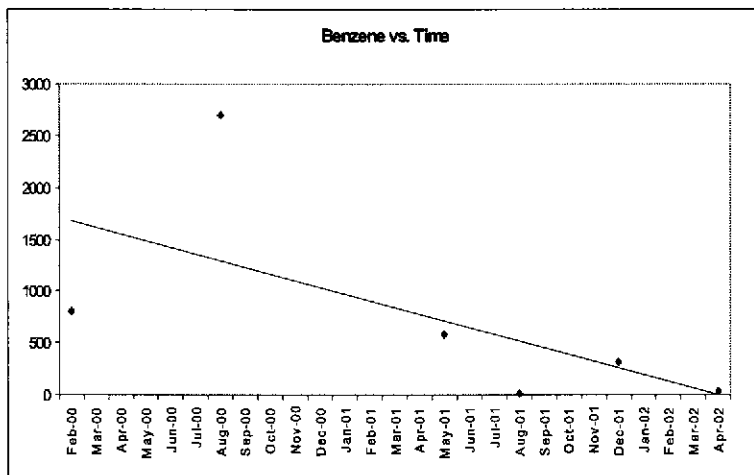
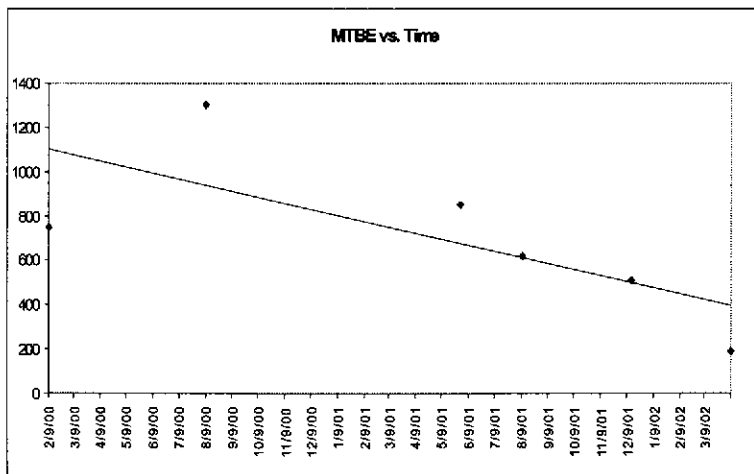
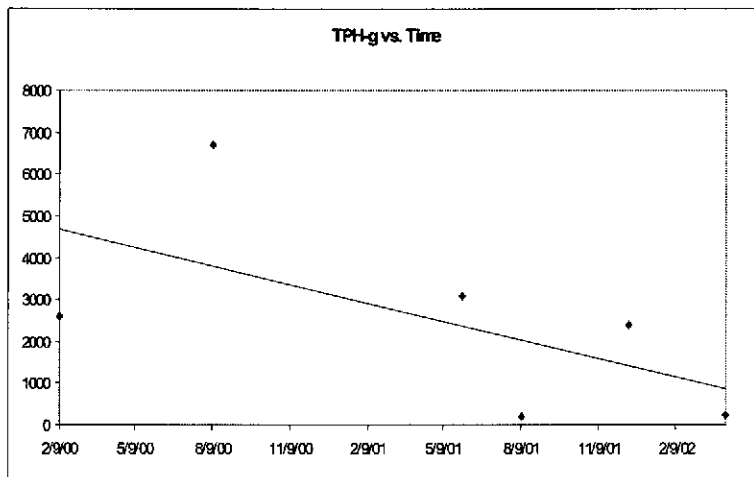
ALL CONCENTRATIONS (Y-AXES) EXPRESSED IN µg/l. REFER TO TABLE 3 FOR SOURCE DATA PLOTS AND LINEAR TRENDLINES PRODUCED WITH MICROSOFT EXCEL 2000

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3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
MW-8: Concentrations vs. Time	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 10 PROJECT NO 4342



ALL CONCENTRATIONS (Y-AXES) EXPRESSED IN µg/l. REFER TO TABLE 3 FOR SOURCE DATA PLOTS AND LINEAR TRENDLINES PRODUCED WITH MICROSOFT EXCEL 2000

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3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
MW-11: Concentrations vs. Time	
625 HEGENBERGER ROAD OAKLAND, CALIFORNIA	FIGURE 11 PROJECT NO 4342



ALL CONCENTRATIONS (Y-AXES) EXPRESSED IN µg/l. REFER TO TABLE 3 FOR SOURCE DATA PLOTS AND LINEAR TRENDLINES PRODUCED WITH MICROSOFT EXCEL 2000

AEI CONSULTANTS
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

EW-01: Concentrations vs. Time

625 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

FIGURE 12
PROJECT NO 4342



1. Treatment area looking northwest

2. Growth tank and equipment shed, looking west. Air and water discharge lines for IW-01 to IW-04 in the foreground.



3. Growth tank, with water discharge manifold in the foreground.

AEI CONSULTANTS 3210 Old Tunnel Rd. Ste B, Lafayette, CA	
PHOTOGRAPHS	
625 HEGENGERGER OAKLAND, CA	Project No: 4342

Table 1
Water Table Elevations
625 Hegenberger Road, Oakland, California

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-8	12/22/1993	4.88	6.72	-1.84
MW-10	12/22/1993	4.21	6.00	-1.79
MW-11	12/22/1993	5.04	6.84	-1.80
MW-12	12/22/1993	4.58	6.07	-1.49
MW-16	12/22/1993	5.53	7.48	-1.95
MW-8	6/30/1994	4.88	6.55	-1.67
MW-10	6/30/1994	4.21	5.79	-1.58
MW-11	6/30/1994	5.04	6.73	-1.69
MW-12	6/30/1994	4.58	6.06	-1.48
MW-16	6/30/1994	5.53	7.28	-1.75
MW-8	9/27/1994	4.88	7.20	-2.32
MW-10	9/27/1994	4.21	6.39	-2.18
MW-11	9/27/1994	5.04	7.41	-2.37
MW-12	9/27/1994	4.58	6.57	-1.99
MW-16	9/27/1994	5.53	7.93	-2.40
MW-8	1/4/1995	4.88	6.21	-1.67
MW-10	1/4/1995	4.21	5.42	-1.58
MW-11	1/4/1995	5.04	6.45	-1.69
MW-12	1/4/1995	4.58	5.50	-1.48
MW-16	1/4/1995	5.53	7.03	-1.50
MW-8	1/10/1995	4.88	5.09	-2.32
MW-10	1/10/1995	4.21	4.67	-2.18
MW-11	1/10/1995	5.04	5.72	-2.37
MW-12	1/10/1995	4.58	4.46	-1.99
MW-16	1/10/1995	5.53	6.21	-2.40
MW-24	1/10/1995	5.49	5.97	-0.48
MW-8	10/2/1995	4.88	7.66	-2.78
MW-10	10/2/1995	4.21	6.87	-2.66
MW-11	10/2/1995	5.04	7.85	-2.81
MW-12	10/2/1995	4.58	6.99	-2.41
MW-16	10/2/1995	5.53	8.40	-2.87
MW-24	10/2/1995	5.49	8.31	-2.82
MW-8	1/8/1996	4.88	7.45	-2.57
MW-10	1/8/1996	4.21	6.82	-2.61
MW-11	1/8/1996	5.04	7.91	-2.87
MW-12	1/8/1996	4.58	6.65	-2.07
MW-16	1/8/1996	5.53	8.23	-2.70
MW-24	1/8/1996	5.49	8.08	-2.59
MW-8	4/25/1996	4.88	7.32	-2.44
MW-10	4/25/1996	4.21	7.48	-3.27
MW-11	4/25/1996	5.04	7.51	-2.47
MW-12	4/25/1996	4.58	6.56	-1.98
MW-16	4/25/1996	5.53	8.06	-2.53
MW-8	3/25/1997	4.88	6.75	-1.87
MW-10	3/25/1997	4.21	5.83	-1.62
MW-11	3/25/1997	5.04	6.83	-1.79
MW-12	3/25/1997	4.58	6.03	-1.45
MW-16	3/25/1997	5.53	7.35	-1.82
MW-8	7/3/1997	4.88	8.70	-3.82
MW-10	7/3/1997	4.21	5.87	-1.66
MW-11	7/3/1997	5.04	6.83	-1.79
MW-12	7/3/1997	4.58	6.03	-1.45
MW-16	7/3/1997	5.53	7.35	-1.82

Table 1: Continued

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-8	10/2/1997	4.88	6.70	-1.82
MW-10	10/2/1997	4.21	5.90	-1.69
MW-11	10/2/1997	5.04	6.85	-1.81
MW-12	10/2/1997	4.58	6.08	-1.50
MW-16	10/2/1997	5.53	7.36	-1.83
MW-8	1/28/1998	4.88	5.20	-0.32
MW-10	1/28/1998	4.21	4.40	-0.19
MW-11	1/28/1998	5.04	5.33	-0.29
MW-12	1/28/1998	4.58	4.54	-0.04
MW-16	1/28/1998	5.53	5.90	-0.37
MW-8	2/9/2000	4.88	5.12	-0.24
MW-10	2/9/2000	4.21	5.25	-1.04
MW-11	2/9/2000	5.04	6.25	-1.21
MW-12	2/9/2000	4.58	5.33	-0.75
MW-16	2/9/2000	5.53	6.81	-1.28
MW-8	8/9/2000*	3.96	5.15	-1.19
MW-10	8/9/2000	4.20	5.33	-1.13
MW-11	8/9/2000	5.01	6.20	-1.19
MW-12	8/9/2000	4.58	5.14	-0.56
MW-16	8/9/2000	5.51	6.74	-1.23
MW-26	8/9/2000	5.12	5.81	-0.69
MW-27	8/9/2000	4.06	5.12	-1.06
EW-01	8/9/2000	5.19	6.38	-1.19
MW-8	5/31/2001	3.96	5.54	-1.58
MW-10	5/31/2001	4.20	5.81	-1.61
MW-11	5/31/2001	5.01	6.65	-1.64
MW-12	5/31/2001	4.58	6.28	-1.70
MW-16	5/31/2001	5.51	7.14	-1.63
MW-26	5/31/2001	5.12	6.25	-1.13
MW-27	5/31/2001	4.06	5.84	-1.78
EW-01	5/31/2001	5.19	6.84	-1.65
MW-8	4/8/2002	3.96	4.85	-0.89
MW-10	4/8/2002	4.20	4.93	-0.73
MW-11	4/8/2002	5.01	5.94	-0.93
MW-12	4/8/2002	4.58	5.08	-0.50
MW-16	4/8/2002	5.51	6.45	-0.94
MW-26	4/8/2002	5.12	5.88	-0.76
MW-27	4/8/2002	4.06	5.32	-1.26
EW-01	4/8/2002	5.19	6.11	-0.92

Notes:

All elevations are measured from the top of casing.

ft msl = feet above mean sea level

NA = Not Available

*All well elevations were re-surveyed 9/5/00 by Logan Survey (lic. # 5003)

Table 2
Water Quality Parameters

Well ID	Date	Volume Withdrawn (gallons)	Stabilized Temperature (deg. C)	Qualitative Turbidity	Stabilized pH	Stabilized Dissolved Oxygen (mg/L)	N (mg/L)	P (mg/L)	K (mg/L)
MW-8	12/22/1993	4.50	19.4	turbid*	-	-	-	-	-
MW-10	12/22/1993	7.00	20.8	moderately turbid	-	-	-	-	-
MW-11	12/22/1993	4.50	20.2	turbid	-	-	-	-	-
MW-12	12/22/1993	5.30	20.3	moderately turbid	-	-	-	-	-
MW-16	12/22/1993	4.50	20.5	turbid	-	-	-	-	-
MW-8	6/30/1994	8.00	21.0	turbid*	-	-	-	-	-
MW-10	6/30/1994	6.00	21.0	turbid	-	-	-	-	-
MW-11	6/30/1994	6.00	20.2	turbid	-	-	-	-	-
MW-12	6/30/1994	6.00	20.6	moderately turbid	-	-	-	-	-
MW-16	6/30/1994	4.50	21.8	turbid	-	-	-	-	-
MW-8	9/27/1994	4.50	21.6	turbid*	-	-	-	-	-
MW-10	9/27/1994	6.00	22.6	turbid	-	-	-	-	-
MW-11	9/27/1994	3.00	21.0	turbid	-	-	-	-	-
MW-12	9/27/1994	6.00	22.5	turbid	-	-	-	-	-
MW-16	9/27/1994	3.00	22.6	turbid	-	-	-	-	-
MW-8	1/10/1995	5.30	17.2	turbid*	-	-	-	-	-
MW-10	1/10/1995	6.00	19.5	turbid	-	-	-	-	-
MW-11	1/10/1995	5.30	18.6	turbid	-	-	-	-	-
MW-12	1/10/1995	6.00	19.3	turbid	-	-	-	-	-
MW-16	1/10/1995	6.00	19.3	turbid	-	-	-	-	-
MW-24	1/10/1995	41.00	18.9	turbid	-	-	-	-	-
MW-8	10/2/1995	11.00	22.8	moderately turbid	6.49	-	-	-	-
MW-10	10/2/1995	11.00	22.6	turbid	7.20	-	-	-	-
MW-11	10/2/1995	12.00	22.0	moderately turbid	6.85	-	-	-	-
MW-12	10/2/1995	11.00	22.9	turbid	7.20	-	-	-	-
MW-16	10/2/1995	11.00	22.6	turbid	7.20	-	-	-	-
MW-24	10/2/1995	20.00	22.8	turbid	7.10	-	-	-	-
MW-8	1/8/1996	12.00	17.30**	slightly turbid	6.74**	-	-	-	-
MW-10	1/8/1996	10.00	17.90**	slightly turbid	6.62**	-	-	-	-
MW-11	1/8/1996	5.50	17.60**	slightly turbid	6.65**	-	-	-	-
MW-12	1/8/1996	10.00	18.00**	slightly turbid	6.49**	-	-	-	-
MW-16	1/8/1996	5.00	19.00**	slightly turbid	7.50**	-	-	-	-
MW-24	1/8/1996	35.00	17.60**	slightly turbid	6.67**	-	-	-	-
MW-8	4/25/1996	5.00	21.1	clear	6.53	-	-	-	-
MW-10	4/25/1996	5.00	22.8	slightly turbid	6.70	-	-	-	-
MW-11	4/25/1996	5.50	21.4	clear	6.58	-	-	-	-
MW-12	4/25/1996	5.00	22.4	clear	6.50	-	-	-	-
MW-16	4/25/1996	5.00	25.3	slightly turbid	7.12	-	-	-	-
MW-8	3/25/1997	10.00	18.2	clear	6.67	0.23	-	-	-
MW-10	3/25/1997	12.00	19.7	slightly turbid	6.79	0.35	-	-	-
MW-11	3/25/1997	10.00	18.6	clear	6.64	0.19	-	-	-
MW-12	3/25/1997	10.00	18.4	clear	6.67	0.19	-	-	-
MW-16	3/25/1997	10.00	17.9	slightly turbid	7.02	0.10	-	-	-
MW-8	7/3/1997	12.00	19.6	clear	6.43	0.04	<0.5	1.8	-
MW-10	7/3/1997	12.00	21.5	slightly turbid	6.67	0.17	-	-	-
MW-11	7/3/1997	12.00	19.4	clear	6.36	0.05	<0.5	1.8	-
MW-12	7/3/1997	12.00	20.6	clear	6.50	0.10	-	-	-
MW-16	7/3/1997	12.00	19.7	clear	6.76	0.06	-	-	-
MW-8	10/2/1997	4.50	21.2	clear	6.93	-	-	-	-
MW-10	10/2/1997	5.00	23.0	slightly turbid	7.26	-	-	-	-
MW-11	10/2/1997	7.00	22.9	clear	6.73	-	-	-	-
MW-12	10/2/1997	4.50	20.9	clear	7.15	-	-	-	-
MW-16	10/2/1997	7.00	19.1	slightly turbid	7.22	-	-	-	-
MW-8	1/28/1998	15.00	18.5	slightly greenish	6.86	0.10	-	-	-
MW-10	1/28/1998	15.00	20.9	moderately turbid	7.05	0.09	-	-	-
MW-11	1/28/1998	15.00	20.1	slightly greenish	6.74	0.11	-	-	-
MW-12	1/28/1998	14.00	19.8	moderately turbid	6.90	0.11	-	-	-
MW-16	1/28/1998	16.00	19.1	slightly turbid	7.20	0.18	-	-	-

TABLE 2: Continued

Well ID	Date	Volume Withdrawn (gallons)	Stabilized Temperature (deg. C)	Qualitative Turbidity	Stabilized pH	Stabilized Dissolved Oxygen (mg/L)	N (mg/L)	P (mg/L)	K (mg/L)
MW-8	2/9/2000	5.00	63.00***	slightly greenish	8.35	1.24	19	3.4	35
MW-10	2/9/2000	5.00	67.7	slightly turbid	8.56	0.70	15	6.4	66
MW-11	2/9/2000	5.00	63.5	slightly turbid	8.35	0.62	<0.2	2.1	49
MW-12	2/9/2000	5.00	62.8	clear	8.41	1.28	10	3.1	33
MW-16	2/9/2000	5.00	63.2	slightly turbid	8.63	3.13	<0.2	1.8	12
EW-01	2/9/2000	32.00	60.0	slightly turbid	8.48	0.51	21	1.7	51
MW-8	8/9/2000	5.00	18.9	Slightly turbid	6.68	1.55	-	-	-
MW-10	8/9/2000	5.00	21.9	Turbid - clears	6.68	1.63	-	-	-
MW-11	8/9/2000	5.50	19.7	Slightly turbid	6.48	1.48	-	-	-
MW-12	8/9/2000	5.00	21.3	clear	6.72	1.69	-	-	-
MW-16	8/9/2000	4.00	20.5	Turbid - clears	6.61	1.33	-	-	-
MW-26	8/9/2000	5.00	21.3	Turbid - clears	6.99	2.78	-	-	-
MW-27	8/9/2000	5.00	24.4	clear	6.93	2.21	-	-	-
EW-01	8/9/2000	31.00	18.4	Turbid - clears	6.69	1.32	-	-	-
MW-8	5/31/2001	4.25	18.8	clears	7.09	0.93	-	-	-
MW-10	5/31/2001	4.75	20.6	clears quickly	6.98	0.86	-	-	-
MW-11	5/31/2001	5.00	18.8	clears quickly	7.09	1.28	-	-	-
MW-12	5/31/2001	5.00	19.8	clears quickly	7.07	1.47	-	-	-
MW-16	5/31/2001	3.00	20.3	Slightly turbid	7.03	1.44	-	-	-
MW-26	5/31/2001	5.00	19.6	clears quickly	7.01	1.20	-	-	-
MW-27	5/31/2001	5.00	22.1	clears quickly	7.06	1.74	-	-	-
EW-01	5/31/2001	30.00	17.8	clears quickly	7.09	1.50	-	-	-
MW-8	4/8/2002	5.00	17.3	Clears	7.30	1.02	-	-	-
MW-10	4/8/2002	5.50	19.2	Clears	7.31	1.15	-	-	-
MW-11	4/8/2002	5.00	18.0	Clears quickly	7.28	0.96	-	-	-
MW-12	4/8/2002	5.00	17.9	Clears quickly	7.29	2.86	-	-	-
MW-16	4/8/2002	3.00	18.0	Clear	7.29	0.81	-	-	-
MW-26	4/8/2002	5.00	17.5	Greyish, clear by 2 g	7.31	0.88	-	-	-
MW-27	4/8/2002	6.00	15.9	Black, clear by 3 g	7.32	1.13	-	-	-
EW-01	4/8/2002	32.00	17.6	Clears quickly	7.32	1.30	-	-	-

Notes:

* A slight hydrocarbon sheen was reported.

- - Data not obtained or available

** Only one measurement collected.

*** Temperature expressed in degrees Fahrenheit

N = Nitrogen (total)

P = Phosphorous (total)

K = Potassium

Table 3
Groundwater Sample Analytical Data

	Date	TPH as gasoline µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Xylenes µg/L	TPH-d µg/L	TPH-o µg/L
MW-8	5/28/1993	19000	-	6400	28	160	36	1000	-
	12/22/1993	56000	-	16000	5999.3	650	2700	300	<200
	6/30/1994	41000	-	11000	4800	2200	8200	<500	500
	9/27/1994	28000	-	8500	260	1600	5300	620	<200
	1/10/1995	58000	-	10000	11000	2400	12000	70	<200
	10/2/1995	28000	-	51	16	54	80	<50	<500
	1/8/1996	72000	-	8600	13000	2200	12000	3700	<250
	1/8/1996	62000	-	7200	9500	1600	8000	-	-
	4/25/1996	33000	-	7600	2300	1500	4800	3100	-
	3/25/1997	23000	1500	8300	80	350	380	1900	-
	7/3/1997	14000	1300	6600	32	190	100	1400	-
	7/3/1997	15000	1700	7300	34	160	110	1400	-
	10/2/1997	7600	890	3500	14	37	21	810	-
	1/28/1998	21000	900	5500	270	730	780	2700	-
	9/9/1999	2500	380	790	2.8	4.7	8	-	-
	2/9/2000	39000	460	6400	4300	950	390	-	-
	8/9/2000	5500	540	1700	15	130	370	-	-
	5/31/2001	14,000	370	2,800	63	610	540	-	-
	8/10/2001	4,400	380	1,200	41	160	170	-	-
	9/25/2001	2,100	210	470	7.2	6.5	7.1	-	-
12/14/2001	1800	26	230	34	67	150	-	-	
	32000	62	10000	870	1100	3900	-	-	
MW-10	5/28/1993	<50	-	<0.3	<0.3	<0.3	<0.9	54	-
	12/22/1993	<50	-	<0.5	<0.7	<0.5	<0.2	580	<200
	6/30/1994	<50	-	<0.5	<0.5	<0.5	<0.2	<50	600
	9/27/1994	<50	-	<0.5	<0.5	<0.5	<0.2	610	<200
	1/10/1995	<50	-	<0.5	<0.5	<0.5	<0.2	600	<200
	10/2/1995	350	-	4.4	2.6	2.3	6.4	<50	<500
	1/8/1996	50	-	5.8	7.1	1.2	6.4	<50	<250
	4/25/1996	<50	-	<0.5	<0.5	<0.5	<0.5	<50	-
	3/25/1997	<50	<5.0	<0.5	<0.5	<0.5	<0.5	<50	-
	7/3/1997	<50	<5.0	<0.5	<0.5	<0.5	<0.5	<50	-
	10/2/1997	<50	<5.0	<0.5	<0.5	<0.5	<0.5	110	-
	1/28/1998	<50	<5.0	5.7	<0.5	<0.5	<0.5	<50	-
	8/19/1999	<50	<5.0	5.7	<0.5	<0.5	<0.5	-	-
	2/9/2000	<50	<5.0	5.7	<0.5	<0.5	<0.5	-	-
	8/9/2000	<50	<5.0	5.7	<0.5	<0.5	<0.5	-	-
	5/31/2001	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-
	8/10/2001	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-
9/25/2001	-	-	-	-	-	-	-	-	
12/14/2001	-	-	-	-	-	-	-	-	
4/8/2002	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-	
MW-11	5/28/1993	1200	-	450	17	1.5	2.1	<50	-
	12/22/1993	9200	-	4500	38.3	12	43	530	<200
	6/30/1994	8800	-	1500	13	690	1200	<50	1100
	6/30/1994	9700	-	1700	14	730	1300	-	-
	9/27/1994	15000	-	6500	26	870	590	910	<200
	1/10/1995	14000	-	890	220	840	2400	1100	<200
	10/2/1995	7100	-	47	5.7	11	36	<50	<500
	1/8/1996	12000	-	1200	99	790	1400	2000	<250
	4/25/1996	5800	-	230	59	200	770	1400	-
	3/25/1997	760	130	130	49	2.9	1	490	-
	7/3/1997	290	380	<0.5	<0.5	600	<0.5	<50	-
	10/2/1997	220	720	8.8	0.73	<0.5	0.67	220	-
	1/28/1998	540	360	140	0.81	<0.5	<0.5	160	-
	8/19/1999	590	720	180	3.2	<0.5	<0.5	-	-
	2/9/2000	680	280	100	3.1	<0.5	2.9	-	-
	8/9/2000	350	410	1.7	2.6	<0.5	0.84	-	-
	5/31/2001	280	430	1.1	1.6	0.25	0.25	-	-
	8/10/2001	300	340	0.95	1.6	0.25	0.66	-	-
	9/25/2001	-	-	-	-	-	-	-	-
12/14/2001	250	300	2.8	1.7	0.25	0.9	-	-	
4/8/2002	86	300	0.7	0.77	<0.5	<0.5	-	-	

Table 3: Continued

	Date	TPH as gasoline µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Xylenes µg/L	TPH-d µg/L	TPH-o µg/L
MW-12	5/28/1993	<50	-	<0.3	<0.3	<0.3	<0.9	<50	-
	12/22/1993	50	-	<0.5	<0.7	<0.5	<0.2	300	<200
	6/30/1994	<50	-	<0.5	<0.5	<0.5	<0.2	<50	400
	9/27/1994	<50	-	<0.5	<0.5	<0.5	<0.2	400	<200
	9/27/1994	<50	-	<0.5	<0.5	<0.5	<0.2	-	-
	1/10/1995	<50	-	<0.5	<0.5	<0.5	<0.2	300	<200
	10/2/1995	<50	-	<0.5	<0.5	<0.5	<0.5	<50	<500
	1/8/1996	<50	-	2.4	2.7	0.54	2.8	<50	<250
	4/25/1996	<50	-	<0.5	<0.5	<0.5	<0.5	<50	-
	3/25/1997	<50	16	<0.5	<0.5	<0.5	<0.5	<50	-
	7/3/1997	<50	16	<0.5	<0.5	<0.5	<0.5	<50	-
	10/2/1997	<50	17	<0.5	<0.5	<0.5	<0.5	120	-
	1/28/1998	<50	13	1.3	<0.5	<0.5	<0.5	<50	-
	8/19/1999	<50	9.1	<0.5	<0.5	<0.5	<0.5	-	-
	2/9/2000	<50	6.2	<0.5	<0.5	<0.5	<0.5	-	-
	8/9/2000	<50	6.4	<0.5	<0.5	<0.5	<0.5	-	-
	5/31/2001	<50	6.5	<0.5	<0.5	<0.5	<0.5	-	-
	8/10/2001	<50	5.3	<0.5	<0.5	<0.5	<0.5	-	-
9/25/2001	-	-	-	-	-	-	-	-	
12/14/2001	-	-	-	-	-	-	-	-	
4/8/2002	51	<5.0	3.1	0.98	1.2	2	-	-	
MW-16	5/28/1993	<50	-	2.8	0.3	<0.7	<0.9	<50	-
	12/22/1993	2200	-	<0.5	<0.7	<0.5	<0.2	520	<200
	6/30/1994	<50	-	8	<0.5	<0.5	<0.2	<50	900
	9/27/1994	70	-	17	<0.5	<0.5	<0.2	590	<200
	1/10/1995	300	-	190	<0.5	<0.5	<0.2	700	<200
	10/2/1995	550	-	7.7	0.7	3.5	13	<50	<500
	1/8/1996	360	-	<0.5	<0.5	4	9.7	140	<250
	4/25/1996	1100	-	390	3.7	3.2	14	330	-
	3/25/1997	310	2100	<0.5	<0.5	<0.5	1.4	120	-
	7/3/1997	250	1900	<0.5	<0.5	<0.5	<0.5	130	-
	10/2/1997	290	2000	<0.5	<0.5	<0.5	<0.5	180	-
	1/28/1998	150	1900	<0.5	<0.5	<0.5	<0.5	130	-
	9/9/1999	<50	880	<0.5	<0.5	<0.5	<0.5	-	-
	2/9/2000	<50	88	<0.5	0.6	<0.5	8.7	-	-
	8/9/2000	<50	800	<0.5	<0.5	<0.5	<0.5	-	-
	5/31/2001	<50	69	<0.5	<0.5	<0.5	<0.5	-	-
	8/10/2001	<50	300	<0.5	<0.5	<0.5	<0.5	-	-
	9/25/2001	-	-	-	-	-	-	-	-
12/14/2001	-	-	-	-	-	-	-	-	
4/8/2002	<50	45	1.7	0.61	0.78	1.4	-	-	
EW-01	2/9/2000	2600	750	800	48	21	91	-	-
	8/9/2000	6700	1300	2700	19	120	31	-	-
	5/31/2001	3,100	850	580	24	36	32	-	-
	8/10/2001	210	620	14	2.2	1.0	1.1	-	-
	9/25/2001	-	-	-	-	-	-	-	-
	12/14/2001	2,400	510	320	57	23	70	-	-
	4/8/2002	230	190	37	3.1	1.5	1	-	-
MW-26	8/9/2000	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-
	5/31/2001	<50	8.3	<0.5	<0.5	<0.5	<0.5	-	-
	8/10/2001	-	-	-	-	-	-	-	-
	9/25/2001	-	-	-	-	-	-	-	-
	12/14/2001	-	-	-	-	-	-	-	-
	4/8/2002	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-
MW-27	8/9/2000	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-
	5/31/2001	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-
	8/10/2001	-	-	-	-	-	-	-	-
	9/25/2001	-	-	-	-	-	-	-	-
	12/14/2001	-	-	-	-	-	-	-	-
	4/8/2002	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	-

TPH-g = TPH as gasoline

TPH-d = TPH as diesel

TPH-o = TPH as motor oil

All analytical data presented in micrograms per liter (µg/l)

Table 4
Sample Analytical Results: AEI B-28
June 8, 2000

Sample ID	TPH as gasoline $\mu\text{g/L}$	MTBE $\mu\text{g/L}$	Benzene $\mu\text{g/L}$	Toluene $\mu\text{g/L}$	Ethylbenzene $\mu\text{g/L}$	Xylenes $\mu\text{g/L}$
DB-6'	150,000	<3,300	13,000	15,000	3,400	23,000
DB-20'	80,000	<600	3,500	8,900	1,800	13,000
DB-27'	1,700	<5	29	82	28	220
MDL	50	5	0.5	0.5	0.5	0.5

MDL = Method Detection Limit

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

mg/L = micrograms per liter (ppb)

Laboratory report presented in Sept. 10, 2000 report

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-8

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	
Well Cap & Lock -- OK/Replace	
Elevation of Top of Casing	3.96
Depth of Well	14.40
Depth to Water	5.54
Water Elevation	-1.58
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.25
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	

GROUNDWATER SAMPLES

Number of Samples/Container Size 2 40 ml VOAs

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	20.7	7.09	1352	1.34	
	3	19.0	7.09	1322	0.82	
	5	18.8	7.09	1339	0.93	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong hydrocarbon odor.

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM						
Monitoring Well Number: MW-10						
Project Name: Hegenberger			Date of Sampling: 5/31/01			
Job Number: 4342			Name of Sampler: PJM / OA			
Project Address: 625 Hegenberger Road			Oakland, CA			
MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")			2"			
Seal at Grade -- Type and Condition						
Well Cap & Lock – OK/Replace						
Elevation of Top of Casing			4.20			
Depth of Well			15.7			
Depth to Water			5.81			
Water Elevation			-1.61			
Three Well Volumes (gallons)*						
2" casing: (TD – DTW)(0.16)(3)			4.75			
4" casing: (TD – DTW)(0.65)(3)						
6" casing: (TD – DTW)(1.44)(3)						
Actual Volume Purged (gallons)			5			
Appearance of Purge Water			Clears quickly			
GROUNDWATER SAMPLES						
Number of Samples/Container Size			2 X 40 ml VOAs			
Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	23.0	7.06	>2000	1.81	
	3	21.0	7.00	>2000	1.70	
	5	20.6	6.98	>2000	0.86	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)						

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-11

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	5.01
Depth of Well	15
Depth to Water	6.65
Water Elevation	-1.64

Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.01
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Clears quickly

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	20.7	7.08	1357	1.67	
	3	19.2	7.09	1296	1.47	
	5	18.8	7.09	1331	1.28	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Mild HC odor

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-12

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade - Type and Condition	
Well Cap & Lock - OK/Replace	
Elevation of Top of Casing	4.58
Depth of Well	15.5
Depth to Water	6.28
Water Elevation	-1.70
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.43
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Clears quickly

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	22.5	7.09	1457	2.01	
	3	20.6	7.09	974	1.40	
	5	19.8	7.07	962	1.47	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No HC odor

TD - Total Depth of Well

DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-16

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	
Well Cap & Lock - OK/Replace	
Elevation of Top of Casing	5.51
Depth of Well	12.5
Depth to Water	7.14
Water Elevation	-1.63
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	2.57
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	3
Appearance of Purge Water	Slightly turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
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Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	23.3	6.98	1324	1.64	
	2	20.3	7.00	1290	1.15	
	3	20.3	7.03	1307	1.44	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well

DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: EW-01

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"
Seal at Grade – Type and Condition	
Well Cap & Lock – OK/Replace	
Elevation of Top of Casing	5.19
Depth of Well	22.5
Depth to Water	6.84
Water Elevation	-1.65
Three Well Volumes (gallons)*	
2" casing: (TD – DTW)(0.16)(3)	
4" casing: (TD – DTW)(0.65)(3)	30.4
6" casing: (TD – DTW)(1.44)(3)	
Actual Volume Purged (gallons)	30
Appearance of Purge Water	Clears by 5 gallons

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	20.4	7.07	>2000	1.06	
	5	18.6	7.10	>2000	1.34	
	10	18.2	7.09	>2000	1.57	
	15	18.0	7.08	>2000	1.07	
	20	18.1	7.09	>2000	1.30	
	25	17.9	7.09	>2000	1.32	
	30	17.8	7.09	>2000	1.50	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong hydrocarbon odor

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-26

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	5.12
Depth of Well	15.0
Depth to Water	6.25
Water Elevation	-1.13
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.2
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Clears at 1.5 gallon

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)
	1	22.7	7.01	606	1.70
	3	20.6	7.08	642	1.52
	5	19.6	7.01	615	1.20

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No HC odor

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-27

Project Name: Hegenberger	Date of Sampling: 5/31/01
Job Number: 4342	Name of Sampler: PJM / OA
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock – OK/Replace	OK
Elevation of Top of Casing	4.06
Depth of Well	15.0
Depth to Water	5.84
Water Elevation	-1.78
Three Well Volumes (gallons)*	
2" casing: (TD – DTW)(0.16)(3)	4.4
4" casing: (TD – DTW)(0.65)(3)	
6" casing: (TD – DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Clears quickly

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	
	1	23.7	7.05	683	1.51	
	3	22.2	7.02	770	1.28	
	5	22.1	7.06	790	1.74	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No HC odor

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-8

Project Name: Hegenberger	Date of Sampling: 4/8/02
Job Number: 4342	Name of Sampler: PJM & DP
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Box replaced 6/01
Well Cap & Lock - OK/Replace	OK
Elevation of Top of Casing	3.96
Depth of Well	14.40
Depth to Water	4.85
Water Elevation	-0.89
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.58
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 40 ml VOAs
----------------------------------	--------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	17.7	7.32	3847	1.28	
	3	17.3	7.31	3919	0.81	
	5	17.3	7.30	>4000	1.02	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong hydrocarbon odor.

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM						
Monitoring Well Number: MW-10						
Project Name: Hegenberger			Date of Sampling: 4/8/02			
Job Number: 4342			Name of Sampler: PJM & DP			
Project Address: 625 Hegenberger Road			Oakland, CA			
MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")			2"			
Seal at Grade – Type and Condition						
Well Cap & Lock – OK/Replace						
Elevation of Top of Casing			4.20			
Depth of Well			15.7			
Depth to Water			4.93			
Water Elevation			-0.73			
Three Well Volumes (gallons)*						
2" casing: (TD – DTW)(0.16)(3)			5.17			
4" casing: (TD – DTW)(0.65)(3)						
6" casing: (TD – DTW)(1.44)(3)						
Actual Volume Purged (gallons)			5.5			
Appearance of Purge Water			Clear			
GROUNDWATER SAMPLES						
Number of Samples/Container Size			2 X 40 ml VOAs			
Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	18.8	7.31	>4000	1.35	
	3	19.1	7.30	>4000	0.88	
	5	19.2	7.31	>4000	1.15	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)						

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM						
Monitoring Well Number: MW-11						
Project Name: Hegenberger			Date of Sampling: 4/8/02			
Job Number: 4342			Name of Sampler: PJM & DP			
Project Address: 625 Hegenberger Road			Oakland, CA			
MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")			2"			
Seal at Grade -- Type and Condition						
Well Cap & Lock – OK/Replace			OK			
Elevation of Top of Casing			5.01			
Depth of Well			15			
Depth to Water			5.94			
Water Elevation			-0.93			
Three Well Volumes (gallons)*						
2" casing: (TD – DTW)(0.16)(3)			4.35			
4" casing: (TD – DTW)(0.65)(3)						
6" casing: (TD – DTW)(1.44)(3)						
Actual Volume Purged (gallons)			5			
Appearance of Purge Water			Clears quickly			
GROUNDWATER SAMPLES						
Number of Samples/Container Size			2 X 40 ml VOAs			
Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	18.0	7.31	2171	0.97	
	3	17.9	7.31	232	0.91	
	5	18.0	7.28	2645	0.96	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)						
Mild HC odor						

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-12

Project Name: Hegenberger	Date of Sampling: 4/8/02
Job Number: 4342	Name of Sampler: PJM & DP
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade - Type and Condition	
Well Cap & Lock - OK/Replace	
Elevation of Top of Casing	4.58
Depth of Well	15.5
Depth to Water	5.08
Water Elevation	-0.50
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	5.0
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Clears quickly

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
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Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	17.7	7.31	2985	1.71	
	3	17.8	7.30	2221	0.89	
	5	17.9	7.29	2604	2.68	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No HC odor

TD - Total Depth of Well

DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-16

Project Name: Hegenberger	Date of Sampling: 4/8/02
Job Number: 4342	Name of Sampler: PJM & DP
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade – Type and Condition	
Well Cap & Lock – OK/Replace	
Elevation of Top of Casing	5.51
Depth of Well	12.5
Depth to Water	6.45
Water Elevation	-0.94
Three Well Volumes (gallons)*	
2" casing: (TD – DTW)(0.16)(3)	2.9
4" casing: (TD – DTW)(0.65)(3)	
6" casing: (TD – DTW)(1.44)(3)	
Actual Volume Purged (gallons)	3
Appearance of Purge Water	Clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	18.0	7.25	3291	0.90	
	2	17.9	7.28	3290	0.82	
	3	18.0	7.29	3293	0.81	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: EW-01

Project Name: Hegenberger	Date of Sampling: 4/8/02
Job Number: 4342	Name of Sampler: PJM & DP
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"
Seal at Grade - Type and Condition	
Well Cap & Lock - OK/Replace	
Elevation of Top of Casing	5.19
Depth of Well	22.5
Depth to Water	6.11
Water Elevation	-0.92
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	
4" casing: (TD - DTW)(0.65)(3)	31.96
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	32
Appearance of Purge Water	Clears by 5 gallons

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 X 40 ml VOAs
----------------------------------	----------------

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	Redox Potential (mV)
	1	19.1	7.32	>4000	1.08	
	5	18.0	7.31	>4000	1.33	
	9	18.2	7.32	>4000	1.18	
	15	17.8	7.32	3964	1.26	
	20	17.7	7.32	3952	1.30	
	25	17.7	7.32	>4000	1.30	
	30	17.6	7.32	>4000	1.30	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Moderate HC odor

TD - Total Depth of Well

DTW - Depth To Water

**AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD
SAMPLING FORM**

Monitoring Well Number: MW-26

Project Name: Hegenberger	Date of Sampling: 4/8/02
Job Number: 4342	Name of Sampler: PJM & DP
Project Address: 625 Hegenberger Road	Oakland, CA

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade – Type and Condition	Cement / Good
Well Cap & Lock – OK/Replace	OK
Elevation of Top of Casing	5.12
Depth of Well	15.0
Depth to Water	5.88
Water Elevation	-0.76
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.38
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Greyish, clears by 2 gallons

GROUNDWATER SAMPLES

Number of Samples/Container Size 2 X 40 ml VOAs

Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)
	1	17.1	7.10	1425	1.01
	3	17.3	7.15	1430	0.85
	5	17.5	7.31	1428	0.88

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No HC odor

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM						
Monitoring Well Number: MW-27						
Project Name: Hegenberger			Date of Sampling: 4/8/02			
Job Number: 4342			Name of Sampler: PJM & DP			
Project Address: 625 Hegenberger Road			Oakland, CA			
MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")			2"			
Seal at Grade -- Type and Condition			Cement / Good			
Well Cap & Lock – OK/Replace			OK			
Elevation of Top of Casing			4.06			
Depth of Well			15.0			
Depth to Water			5.32			
Water Elevation			-1.26			
Three Well Volumes (gallons)*						
2" casing: (TD – DTW)(0.16)(3)			4.65			
4" casing: (TD – DTW)(0.65)(3)						
6" casing: (TD – DTW)(1.44)(3)						
Actual Volume Purged (gallons)			6			
Appearance of Purge Water			Initially very black, clears by 2.5 gallons			
GROUNDWATER SAMPLES						
Number of Samples/Container Size			2 X 40 ml VOAs			
Time	Vol Remvd (gal)	Temp C	pH	Cond (µS)	Dissolved Oxygen (mg/L)	
	1	16.2	7.32	1300	1.23	
	3	16.0	7.30	1299	1.17	
	5	15.9	7.32	129	1.13	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)						
No HC odor						

TD - Total Depth of Well
DTW - Depth To Water



McCAMPBELL ANALYTICAL INC.

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<http://www.mccampbell.com> E-mail: main@mccampbell.com

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #434	Date Sampled: 05/31/01
		Date Received: 05/31/01
	Client Contact: Peter McIntyre	Date Extracted: 05/31/01
	Client P.O:	Date Analyzed: 05/31/01

06/07/2001

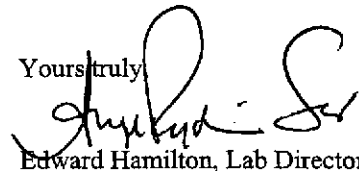
Dear Peter:

Enclosed are:

- 1). the results of 8 samples from your #434 project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly



Edward Hamilton, Lab Director



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All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #434	Date Sampled: 05/31/01
		Date Received: 05/31/01
	Client Contact: Peter McIntyre	Date Extracted: 06/01-06/04/01
	Client P.O:	Date Analyzed: 06/01-06/04/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes	% Recovery Surrogate
68728	MW-08	W	14,000,a	370	2800	63	610	540	103
68729	MW-10	W	ND	ND	ND	ND	ND	ND	102
68730	MW-11	W	280,a	430	1.1	1.6	ND	ND	107
68731	MW-12	W	ND	6.5	ND	ND	ND	ND	102
68732	MW-16	W	ND	69	ND	ND	ND	ND	102
68733	MW-26	W	ND	8.3	ND	ND	ND	ND	104
68734	MW-27	W	ND	ND	ND	ND	ND	ND	102
68735	EW-01	W	3100,a	850	580	24	36	32	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

* cluttered chromatogram; sample peak coelutes with surrogate peak

†The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



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QC REPORT

Date: 06/01/0106/02/01 Matrix: Water

Extraction: TTLC

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	

SampleID: 60201

Instrument: GC-7

Surrogate1	0.000	101.0	101.0	100.00	101	101	0.0
Xylenes	0.000	32.0	31.8	30.00	107	106	0.6
Ethyl Benzene	0.000	9.8	9.8	10.00	98	98	0.0
Toluene	0.000	10.2	10.1	10.00	102	101	1.0
Benzene	0.000	9.5	9.5	10.00	95	95	0.0
MTBE	0.000	10.5	10.4	10.00	105	104	1.0
GAS	0.000	105.9	106.3	100.00	106	106	0.3

SampleID: 53001

Instrument: GC-11 B

Surrogate1	0.000	100.0	108.0	100.00	100	108	7.7
TPH (diesel)	0.000	7250.0	7250.0	7500.00	97	97	0.0

SampleID: 52501

Instrument: IR-1

Surrogate1	0.000	95.7	94.4	100.00	96	94	1.4
TRPH	0.000	25.0	25.0	23.70	105	105	0.0

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

26073 ZAL 370

McCAMPBELL ANALYTICAL INC.

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PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HOUR 48 HOUR 5 DAY

Report To: *Pete Meyers* Bill To:
Company: All Environmental
3210 Old Tunnel Road, Suite B
Lafayette, CA 94549-4157
Tele: (925) 283-6000 Fax: (925) 283-6121
Project #: *4342* Project Name: *Diversified*
Project Location:
Sampler Signature: *[Signature]*

Analysis Request Other Comments

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED									
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other						
MW-08		5/31		2		X						X	X	X						
MW-10				2		X						X	X	X						
MW-11				2		X						X	X	X						
MW-12				2		X						X	X	X						
MW-16				2		X						X	X	X						
MW-26				2		X						X	X	X						
MW-27				2		X						X	X	X						
FW-01				2		X						X	X	X						

Analysis Request	Other	Comments
BTEX & TPH as Gas (602/8020 + 8015) MTBE		
TPH as Diesel (8015)		
Total Petroleum Oil & Grease (5520 E&F/B&F)		
Total Petroleum Hydrocarbons (418.1)		
EPA 601 / 8010		
BTEX ONLY (EPA 602 / 8020)		
EPA 608 / 8080		
EPA 608 / 8080 PCB's ONLY		
EPA 624 / 8240 / 8260		
EPA 625 / 8270		
PAH's / PNA's by EPA 625 / 8270 / 8310		
CAM-17 Metals		
LUFT 5 Metals		
Lead (7240/7421/239.2/6010)		
RCI		
		68728 *
		68729 *
		68730 *
		68731 *
		68732 *
		68733 *
		68734 *
		68735 *

Relinquished By: *[Signature]* Date: *5/31* Time: *4:30* Received By: *Maria Vucorp*
Relinquished By: _____ Date: _____ Time: _____ Received By: _____
Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Remarks: ICE/✓ GOOD CONDITION ✓ HEAD SPACE ASSENT ✓ PRESERVATION APPROPRIATE ✓ CONTAINERS ✓ VOAS/D&G/METALS/OTHER



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All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4342-E2; Dinesh	Date Sampled: 08/10/01
		Date Received: 08/10/01
	Client Contact: Peter McIntyre	Date Extracted: 08/10/01
	Client P.O:	Date Analyzed: 08/10/01

08/17/01

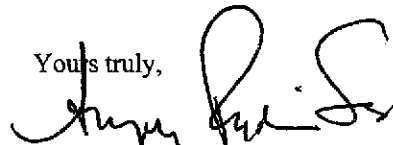
Dear Peter:

Enclosed are:

- 1). the results of 6 samples from your #4342-E2; Dinesh project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton, Lab Director



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All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4342-E2; Dinesh	Date Sampled: 08/10/01
		Date Received: 08/10/01
	Client Contact: Peter McIntyre	Date Extracted: 08/10-08/15/01
	Client P.O:	Date Analyzed: 08/10-08/15/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
74557	MW-08	W	4400,a	380	1200	41	160	170	109
74558	MW-10	W	ND	ND	ND	ND	ND	ND	100
74559	MW-11	W	300,a	340	0.95	1.6	ND	0.66	103
74560	MW-12	W	ND	5.3	ND	ND	ND	ND	96
74561	MW-16	W	ND	300	ND	ND	ND	ND	100
74562	EW-01	W	210,a	620	14	2.2	0.98	1.1	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

* cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



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QC REPORT

EPA 8015m + 8020

Date: 08/10/01-08/12/01

Extraction: TLC

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 81001

Instrument: GC-7

Surrogate1	ND	98.0	92.0	100.00	98	92	6.3
Xylenes	ND	27.6	27.4	30.00	92	91	0.7
Ethylbenzene	ND	8.5	8.5	10.00	85	85	0.0
Toluene	ND	8.9	8.6	10.00	89	86	3.4
Benzene	ND	8.4	8.3	10.00	84	83	1.2
MTBE	ND	9.8	9.0	10.00	98	90	8.5
TPH (gas)	ND	98.3	97.4	100.00	98	97	1.0

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HOUR 48 HOUR 5 DAY

Report To: Peter McIntyre
Company: All Environmental
3210 Old Tunnel Road, Suite B
Lafayette, CA 94549-4157
Tele: (925) 283-6000
Project #: 4342-E2
Project Location: Hegewaldinger
Sampler Signature: [Signature]

Bill To:
Project Name: Dinesh

Analysis Request Other Comments

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments								
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other																									
✓ MW-08		8/14/01		2	✓	X						X																											
✓ MW-10				2		X						X																											74557
✓ MW-11				2		X						X																										74558	
✓ MW-12				2		X						X																										74559	
✓ MW-16				2		X						X																										74560	
✓ EW-01				2	✓	X						X																										74561	
												X																										74562	

Relinquished By: [Signature] Date: 8/14/01 Time: 2:45 Received By: [Signature]
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

Remarks: VOAS/O&G/METALS/OTHER
ICE/° GOOD CONDITION PRESERVATION APPROPRIATE HEAD SPACE ABSENT CONTAINERS



McCAMPBELL ANALYTICAL INC.

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<http://www.mccampbell.com> E-mail: main@mccampbell.com

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4342	Date Sampled: 09/25/01
		Date Received: 09/26/01
	Client Contact: Peter McIntyre	Date Extracted: 09/26/01
	Client P.O:	Date Analyzed: 09/26/01

10/0301

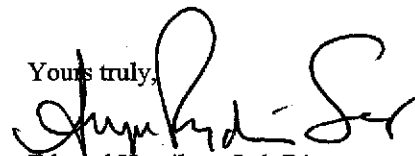
Dear Peter:

Enclosed are:

- 1). the results of 1 samples from your #4342 project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton, Lab Director



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All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4342	Date Sampled: 09/25/01
		Date Received: 09/26/01
	Client Contact: Peter McIntyre	Date Extracted: 10/01/01
	Client P.O:	Date Analyzed: 10/01/01

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
79553	MW-8	W	2100,a	210	470	7.2	6.5	7.1	112
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

* cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



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QC REPORT

EPA 8015m + 8020

Date: 09/30/01-10/01/01

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 92801

Instrument: GC-7

Surrogate1	ND	99.0	100.0	100.00	99	100	1.0
Xylenes	ND	31.5	33.7	30.00	105	112	6.7
Ethylbenzene	ND	10.3	10.4	10.00	103	104	1.0
Toluene	ND	10.3	10.6	10.00	103	106	2.9
Benzene	ND	9.6	9.8	10.00	96	98	2.1
MTBE	ND	8.5	8.8	10.00	85	88	3.5
TPH (gas)	ND	102.3	115.8	100.00	102	116	12.4

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

2790 Zale 442

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HOUR 48 HOUR 5 DAY

Report To: Peter McIntyre Bill To:

Company: All Environmental

3210 Old Tunnel Road, Suite B
Lafayette, CA 94549-4157

Tele: (925) 283-6000

Fax: (925) 283-6121

Project #: 4342

Project Name:

Project Location: Oakland

Sampler Signature:

Analysis Request		Other	Comments
BTEX & TPH in Gas (802/8020 - 8015) MTBE			
TPH as Diesel (801.5)			
Total Petroleum Oil & Grease (5520 E&F/B&F)			
Total Petroleum Hydrocarbons (418.1)			
EPA 601 / 8010			
BTEX ONLY (EPA 602 / 8020)			
EPA 608 / 8080			
EPA 608 / 8080 PCB's ONLY			
EPA 624 / 8240 / 8260			
EPA 625 / 8270			
PAH's / PNA's by EPA 625 / 8270 / 8310			
CAM-17 Metals			
LUFT-5 Metals			
Lead (7240/7421/239.2/6010)			
RCI			

SAMPLB ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED								
		Date	Time			Water	Soil	Air	Sludge	Other	Icc	HCl	HNO ₃	Other					
+ MW-8		9/25		2	2	X													

79553

Relinquished By:	Date:	Time:	Received By:
<i>[Signature]</i>	9/26	507	<i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: VOAS, O&G METALS, OTHER

ICE GOOD CONDITION HEAD SPACE ABSENT

PRESERVATION APPROPRIATE CONTAINERS



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
<http://www.mccampbell.com> E-mail: main@mccampbell.com

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4342; Hegenberger	Date Sampled: 12/14/2001
		Date Received: 12/14/2001
	Client Contact: Peter McIntyre	Date Extracted: 12/14/2001
	Client P.O:	Date Analyzed: 12/14/2001

12/21/01

Dear Peter:

Enclosed are:

- 1). the results of 3 samples from your #4342; Hegenberger project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



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All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #4342; Hegenberger	Date Sampled: 12/14/2001
		Date Received: 12/14/2001
	Client Contact: Peter McIntyre	Date Extracted: 12/14/2001
	Client P.O:	Date Analyzed: 12/18-12/19/2001

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

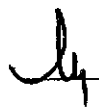
EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	% Recovery Surrogate
86612	MW-8	W	1800,a	26	230	34	67	150	---#
86613	MW-11	W	250,a	300	2.8	1.7	ND	0.85	---#
86614	EW-01	W	2400,a	510	320	57	23	70	111
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

 Edward Hamilton, Lab Director



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QC REPORT

EPA 8015m + 8020

Date: 12/18/01

Extraction: TTLC

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 121701

Instrument: GC-12

Surrogate1	ND	98.0	98.0	100.00	98	98	0.0
Xylenes	ND	32.8	34.3	30.00	109	114	4.5
Ethylbenzene	ND	11.1	11.3	10.00	111	113	1.8
Toluene	ND	10.6	10.9	10.00	106	109	2.8
Benzene	ND	10.4	10.7	10.00	104	107	2.8
MTBE	ND	9.9	10.6	10.00	99	106	6.8
TPH (gas)	ND	98.9	96.1	100.00	99	96	2.8

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

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PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622


CHAIN OF CUSTODY RECORD
TURN AROUND TIME
RUSH 24 HOUR 48 HOUR 5 DAY

Report To: Peter McIntyre Bill To:
Company: All Environmental
3210 Old Tunnel Road, Suite B
Lafayette, CA 94549-4157
Tele: (925) 283-6000 Fax: (925) 283-6121
Project #: 4342 Project Name: Hegenberger
Project Location: Oatfield
Sampler Signature: *[Signature]*

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request													Other	Comments										
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI										
MW-8		12/14	1000	2	V	X					X	X		X																									+ 86612
MW-11		↓	↓	2	"	X					X	X		X																							+ 86613		
EW-01		↓	↓	2	"	X					X	X		X																						X 86614			

Relinquished By: <i>[Signature]</i>	Date: 2/14	Time: 3:05	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: ICEM ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE CONTAINERS ✓
VOAS ✓
O&G METALS ✓
OTHER





McC Campbell Analytical Inc.

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<http://www.mcccampbell.com> E-mail: main@mcccampbell.com

All Environmental, Inc. 3210 Old Tunnel Rd., Ste. B Lafayette, CA 94549-4157	Client Project ID: #4342; Hegenberger F.	Date Sampled:
		Date Received:
	Client Contact: Peter McIntyre	Date Reported: 04/22/02
	Client P.O.:	Date Completed: 04/23/02

April 23, 2002

Dear Peter:

Enclosed are:

- 1). the results of 8 samples from your #4342; Hegenberger F. project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager



McCampbell Analytical Inc.

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All Environmental, Inc.
3210 Old Tunnel Rd., Ste. B
Lafayette, CA 94549-4157

Client Project ID: #4342; Hegenberger F.

Date Sampled: 04/08/02

Date Received: 04/08/02

Client Contact: Peter McIntyre

Date Extracted: 04/11/02-04/13/02

Client P.O.:

Date Analyzed: 04/11/02-04/13/02

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0204126

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-08	W	32000,a	ND<1000	2000	820	1100	2300	200	105
002A	MW-10	W	ND	ND	ND	ND	ND	ND	1	103
003A	MW-11	W	86,a	300	0.70	0.77	ND	ND	1	116
004A	MW-12	W	51,a	ND	3.1	0.98	1.2	2.0	1	108
005A	MW-16	W	ND	45	1.7	0.61	0.78	1.4	1	105
006A	MW-26	W	ND	ND	ND	ND	ND	ND	1	102
007A	MW-27	W	ND	ND	ND	ND	ND	ND	1	102
008A	EW-01	W	230,a	190	37	3.1	1.5	1.0	1	—#

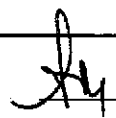
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	ug/L
	S	1	0.05	0.005	0.005	0.005	0.005	mg/Kg

*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, and TCLP extracts in ug/L.

DF = dilution factor.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) no recognizable pattern.

 Edward Hamilton, Lab Direct



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http://www.mcccampbell.com E-mail: main@mcccampbell.com

All Environmental, Inc.
3210 Old Tunnel Rd., Ste. B
Lafayette, CA 94549-4157

Client Project ID: #4342; Hegenberger F.
Client Contact: Peter McIntyre
Client P.O.:

Date Sampled: 04/08/02
Date Received: 04/08/02
Date Extracted: 04/16/02
Date Analyzed: 04/18/02

Methyl tert-Butyl Ether*

Extraction method: SW5030B

Analytical methods: SW8260B

Work Order: 0204126

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
001B	MW-08	W	62	10	98.9

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.5	μg/L
	S	NA	NA

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L
h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



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QC SUMMARY REPORT FOR SW8021B/8015Cm

BatchID: 1150

Matrix: W

WorkOrder: 0204126

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		Ext. Date: 4/08/02		Spiked Sample ID 0204113-003A		
Compound	Sample	Amount Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD
TPH(gas)	ND	60	95.2	101	6.10	102	103	0.715
MTBE	ND	10	108	110	1.20	106	109	3.02
Benzene	ND	10	107	105	1.10	107	108	1.11
Toluene	0.7826	10	102	102	0.530	111	113	2.38
Ethylbenzene	ND	10	109	109	0.0121	109	112	2.36
Xylenes	1.45	30	105	105	0	110	110	0
Surr: % SS	NA	10	103	106	0	106	106	0

All target compounds in the Method Blank of this extraction batch were ND less that the method RL with the following exceptions:
 NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

NA = not enough sample to perform metrix spike, or analyte concentration in sample exceeds spike amount.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / (MS + MSD) * 2$.

MS and / or MSD spike recoveries may not be near 100% or their RPDs near 0% if: a) the sample is inhomogeneous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery. The LCS and LCSD are spikes into a clean, known, similar matrix and they and the surrogate standards reflect the overall validity of their extraction batch. Our control limits are 70-130% recovery and 30% RPD for the LCS-LCSD and for the Surrogate Standards.



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QC REPORT

VOCs (EPA 8240/8260)

Date: 04/18/02

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	MS	MSD		
SampleID: 31802		Instrument		GC-10			
Surrogate	ND	110.0	111.0	100.00	110	111	0.9
Methyl tert-Butyl Ether	ND	9.9	11.0	10.00	99	110	10.5

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

McC Campbell Analytical Inc.

110 Second Avenue South, #D7
 Pacheco, CA 94553-5560
 (925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0204126

Client:

All Environmental, Inc.
 3210 Old Tunnel Rd., Ste. B
 Lafayette, CA 94549-4157

TEL: (925) 283-6000
 FAX: (925) 283-6121
 ProjectNo: #4342; Hegenber
 PO:

16-Apr-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests						
					8021B/8015	SW8260B					
0204126-001	MW-08	Water	4/8/02 2:00:00 PM		A	B					
0204126-002	MW-10	Water	4/8/02		A						
0204126-003	MW-11	Water	4/8/02		A						
0204126-004	MW-12	Water	4/8/02		A						
0204126-005	MW-16	Water	4/8/02		A						
0204126-006	MW-26	Water	4/8/02		A						
0204126-007	MW-27	Water	4/8/02		A						
0204126-008	EW-01	Water	4/8/02 3:00:00 PM		A						

Comments:

	Date/Time		Date/Time
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	
Relinquished by: _____		Received by: _____	

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

MCCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HOUR 48 HOUR 5 DAY

Report To: Peter McIntyre

Bill To:

Company: All Environmental

3210 Old Tunnel Road, Suite B

Lafayette, CA 94549-4157

Tele: (925) 283-6000

Fax: (925) 283-6121

Project #: 4342

Project Name: Hegenberger F.

Project Location: *Orland*

Sampler Signature: *[Signature]*

Analysis Request

Other

Comments

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 660 <i>OMIB</i> Only 4/15	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239-2/6010)	RCI	Other	Comments					
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other																						
+ MW-08		9/9/01	2-3PM	2	✓	X					X	X																								
+ MW-10				2		X					X	X																								
+ MW-11				2		X					X	X																								
+ MW-12				2		X					X	X																								
+ MW-16				2		X					X	X																								
+ MW-26				2		X					X	X																								
+ MW-27				2		X					X	X																								
+ EW-01				2	✓	X					X	X																								

Relinquished By: <i>[Signature]</i>	Date: 9/9/01	Time: 4:00 PM	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

NEED GOOD CONDITION HEAD SPACE ABSENT

PRESERVATION APPROPRIATE CONTAINERS

VOAS | O&G | METALS | OTHER

[Signature]