

October 14, 2002

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

**Subject: Groundwater Investigation**  
807 75<sup>th</sup> Street  
Oakland, CA 94621  
AEI Project No. 3190

*RO 508*  
*RO 508*  
Alameda County  
OCT 17 2002  
Environmental Health

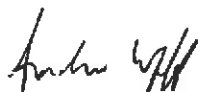
Dear Mr. Chan:

Enclosed is the most recent quarterly monitoring report for the above referenced site.

AEI is currently collaborating with the property owner to develop an appropriate scope of work to better define the plume which helps us create an effective corrective action plan for the hydrocarbon impact.

Please call me at (925) 283-6000 x 117 if you have any questions.

Sincerely,



Andrew Wyckoff  
Project Geologist

October 14, 2002

**GROUNDWATER MONITORING AND SAMPLING  
REPORT**

807 75<sup>TH</sup> Avenue  
Oakland, California

Project No. 3190

Prepared For

Omega Termite Control  
807 75<sup>th</sup> Avenue  
Oakland, CA 95621

Prepared By

**AEI Consultants**  
3210 Old Tunnel Road, Suite B  
Lafayette, CA 94549  
(925) 283-6000

**AEI**



October 14, 2002

Mr. Allan Kanady  
Omega Termite Control  
807 75<sup>th</sup> Avenue  
Oakland, CA 95621

Alameda County  
OCT 17 2002  
Environmental Health

**RE: Quarterly Groundwater Monitoring and Sampling Report**  
Eleventh Sampling Episode-August 2002  
807 75<sup>th</sup> Avenue  
Oakland, California  
Project No. 3190

Dear Mr. Kanady:

AEI Consultants (AEI) has prepared this report to document the results of the tenth episode of groundwater monitoring and sampling at the above referenced site (Figure 1: Site Location Map). This groundwater investigation has been performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The purpose of this activity is to monitor groundwater quality in the vicinity of the previous locations of the underground storage tanks at the site. This report presents the findings of the eleventh sampling episode of groundwater monitoring and sampling conducted on August 20, 2002.

### Site Description and Background

The property is located on the northern corner of Snell Street and 75<sup>th</sup> Avenue in the City of Oakland. The site currently supports the operation of Omega Termite Control (Figure 1: Site Location Map).

On September 15, 1996, three gasoline underground storage tanks (USTs) were removed from the property by AEI. The tanks consisted of one 500-gallon, one 1,000-gallon and one 8,000-gallon tank. The former locations of the USTs are shown in Figure 2.

Soil samples were collected from beneath the 500-gallon and 1,000-gallon gasoline tanks and from the three sidewalls of the 8,000-gallon tank excavation. Concentrations of total petroleum hydrocarbons as gasoline (TPH-g) were present in the soil beneath the 500-gallon UST at concentrations of 4,300 milligrams per kilogram (mg/kg). Minor concentrations (41 mg/kg) of TPH-g were present beneath the 1,000-gallon tank. The three sidewall samples collected from the 8,000-gallon tank excavation indicated concentrations of TPH-g above 100 mg/kg were present in the western and northwestern samples.

Corporate Headquarters

Los Angeles  
(310) 798-4255

Phoenix  
(602) 240-5990

San Francisco  
(800) 801-3224

Seattle  
(425) 401-8500

New York  
(212) 279-7770

Groundwater was encountered during the excavation of the 8,000-gallon tank. A groundwater grab sample collected from the excavation indicated significant concentrations of petroleum hydrocarbon contaminants.

AEI issued a workplan, dated January 10, 1997, to the Alameda County Health Care Services Agency (ACHCSA). The workplan defined the extent and magnitude of petroleum hydrocarbon contamination in the vicinity of the former tanks. Six soil borings were advanced on January 31, 1997. This investigation indicated that groundwater was impacted with up to 27,000 micrograms per liter ( $\mu\text{g/L}$ ) of TPH-g and 5,000  $\mu\text{g/L}$  of benzene. Significant concentrations of TPH-g were also detected in the soil up to ten feet bgs from the excavation.

In response to a request by the ACHCSA for further investigation at the site, AEI submitted a workplan to the ACHCSA on May 21, 1999 for the installation and subsequent sampling of four groundwater monitoring wells at the site (Ref. # 3). This workplan was approved by Barney Chan of the ACHCSA and the four wells were installed in June, 1999 (Ref. # 4).

On March 16, 2000, the former UST excavation was expanded to remove soil contaminated with gasoline. Prior to removal of the soil, the water that was in the excavation was pumped into a Baker tank and stored on-site. The excavation was expanded in all directions. The contaminated soil was stockpiled on the north portion of the property and covered with Visqueen®. During the over-excavation activities, a 500-gallon UST was discovered on the east corner of the excavation. The tank was removed, and additional contaminated soil was removed from the area of the former tank.

As requested by the ACHCSA, AEI installed a 10-foot length of 4-inch ID PVC pipe in the area of the former UST to act as a temporary extraction well (TW-5).

### Summary of Activities

AEI conducted a quarterly groundwater monitoring investigation on three monitoring wells (MW-1, MW-3 and MW-4) and the one temporary extraction well (TW-5) on August 20, 2002. Monitoring well MW-2 had been graded over with approximately eight inches of hardpack dirt and gravel and was not locatable for this investigation. Well locations are shown in Figure 2. First, the depths to groundwater (from the top of the well casings) for each well were measured with an electric water level indicator. The wells were then purged using a battery powered submersible pump. Approximately three well volumes were removed from each well. Temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured during the purging of the wells.

Once the groundwater parameters stabilized, and following recovery of water levels, water samples were collected from each well. Sample water was poured from polyethylene bailers into 40-milliliter (ml) VOA vials and 1-liter amber bottles, which were subsequently capped so that neither head space or air bubbles were visible within the vials. Samples were shipped on ice

under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644).

Groundwater samples from the five wells were analyzed for TPH-g (EPA Method 5030/8015), TPH-d (EPA method 3550/8015), benzene, toluene, ethyl benzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE) (EPA Method 8020/602), and for total petroleum as oil and grease (EPA method 5520).

### Field Results

Both hydrocarbon odor and sheen were observed in well MW-1. Hydrocarbon odor was also detected in MW-3 and TW-5. Groundwater levels for this sampling episode ranged from -0.31 to -0.43 feet above mean sea level (amsl). These elevations are an average of 0.13 feet lower than the previous episode. Groundwater flow direction was estimated to be to the south with a hydraulic gradient of 0.002 ft/ft. These measurements differed slightly from the previous episode (southwest flow direction with a hydraulic gradient of 0.003 ft/ft.).

Groundwater elevation data are summarized in Table 1. The groundwater elevation contours and the groundwater flow direction are shown in Figure 2. Refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms.

### Groundwater Quality

Concentrations of TPH-g and BTEX decreased significantly in MW-1, MW-3, MW-4 and TW-5 compared to the previous analytical results. Heavier range hydrocarbons (TPH-d) were significantly higher in well TW-5 (21,000 µg/l) than the other three wells (ranging from 120 µg/L to 720 µg/L). MTBE was not detected above laboratory reporting limits in any of the wells sampled during this investigation. Oil and grease were not detected in any of the wells sampled during this investigation.

A summary of groundwater analytical data is presented in Table 2. Laboratory results and chain of custody documents are included in Appendix B.

### Conclusions

TPH-g concentrations in wells MW-1, MW-2, MW-3, MW-4 and TW-5 have fluctuated mildly since monitoring was initiated in 1999. BTEX concentrations have shown a decreasing trend in all monitoring wells, with the exception of MW-4 where BTEX concentrations have shown a general increase since monitoring was initiated..

As in the last monitoring episode, concentrations of TPH-d in wells MW-1, MW-3 and MW-4 were significantly lower than the concentrations of TPH-d present over the last two years in TW-5. This data once again indicates that the release from the former waste-oil tank, located nearby TW-5, may be confined to a small area.

In a letter dated June 28, 2002, the ACHCSA requested additional information in order to progress toward case closure. AEI is currently developing a site investigation plan which addresses the agency's technical comments and works toward an effective remedial action plan for the subject property.

Groundwater monitoring and sampling of the five wells will continue, with the next episode scheduled for November 2002. Analyses for TPH-d will continue during the next monitoring and sampling episode. ~~Due to the non-detect results of total oil and grease in all wells sampled during this investigation, this chemical parameter will not be analyzed during the next episode.~~

### References

1. Underground Storage Tank Removal Final Report, prepared by AEI – October 10, 1996
2. Phase II Soil and Groundwater Investigation Report, prepared by AEI – March 17, 1997
3. Workplan, prepared by AEI – May 21, 1999
4. Soil Boring and Groundwater Monitoring Well Installation Report, prepared by AEI-September 16, 1999
5. Quarterly Groundwater Monitoring and Sampling Report, prepared by AEI-July 28, 2000.
6. Quarterly Groundwater Monitoring and Sampling Report, prepared by AEI-November 3, 2000.
7. Quarterly Groundwater Monitoring and Sampling Report, prepared by AEI-February 7, 2001.
8. Quarterly Groundwater Monitoring and Sampling Report, prepared by AEI-July 2, 2001.
9. Quarterly Groundwater Monitoring and Sampling Report, prepared by AEI-February 20, 2002.
10. Quarterly Groundwater Monitoring and Sampling Report, prepared by AEI-June 21, 2002.

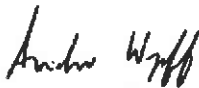
### Report Limitations and Signatures

This report presents a summary of work completed by AEI Consultants, 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.

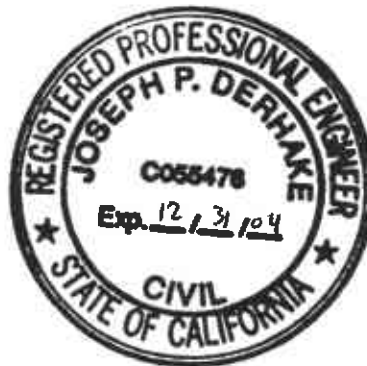
These services were performed in accordance with generally accepted practices in the environmental engineering and construction field which existed at the time and location of the work.

Please contact Peter McIntyre or either of the undersigned with any questions regarding the findings outlined in this report.

Sincerely,  
AEI Consultants

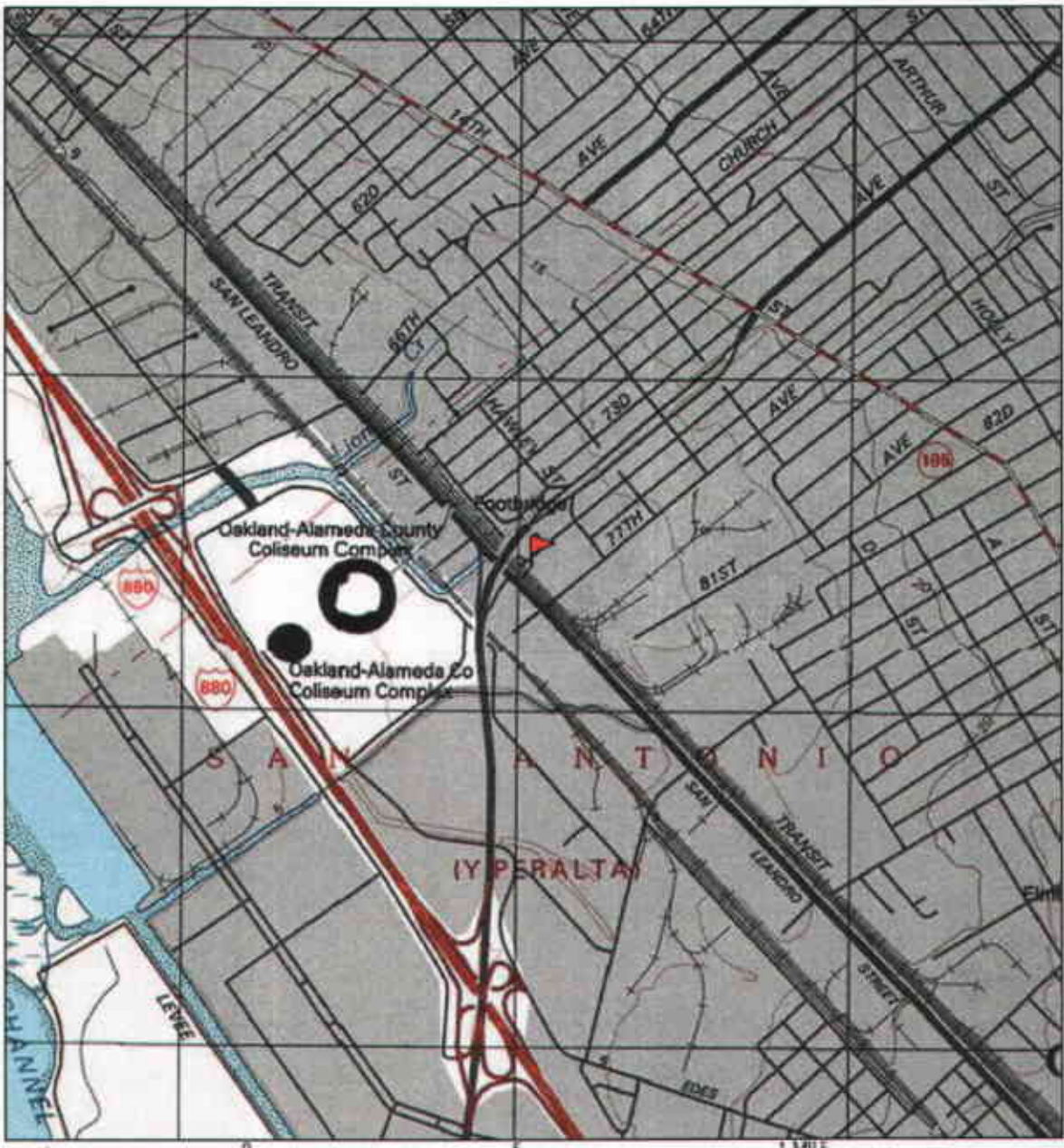
  
Andrew Wyckoff, M.A.  
Project Geologist

  
J. P. Derhake, PE  
Principal



- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Water Table Contour Map
  
- Table 1 Groundwater Elevations
- Table 2 Groundwater Sample Analytical Results
  
- Appendix A Groundwater Monitoring Well Field Sampling Forms
- Appendix B Laboratory Reports With Chain of Custody Documentation

cc: Mr. Barney Chan  
ACHCSA  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

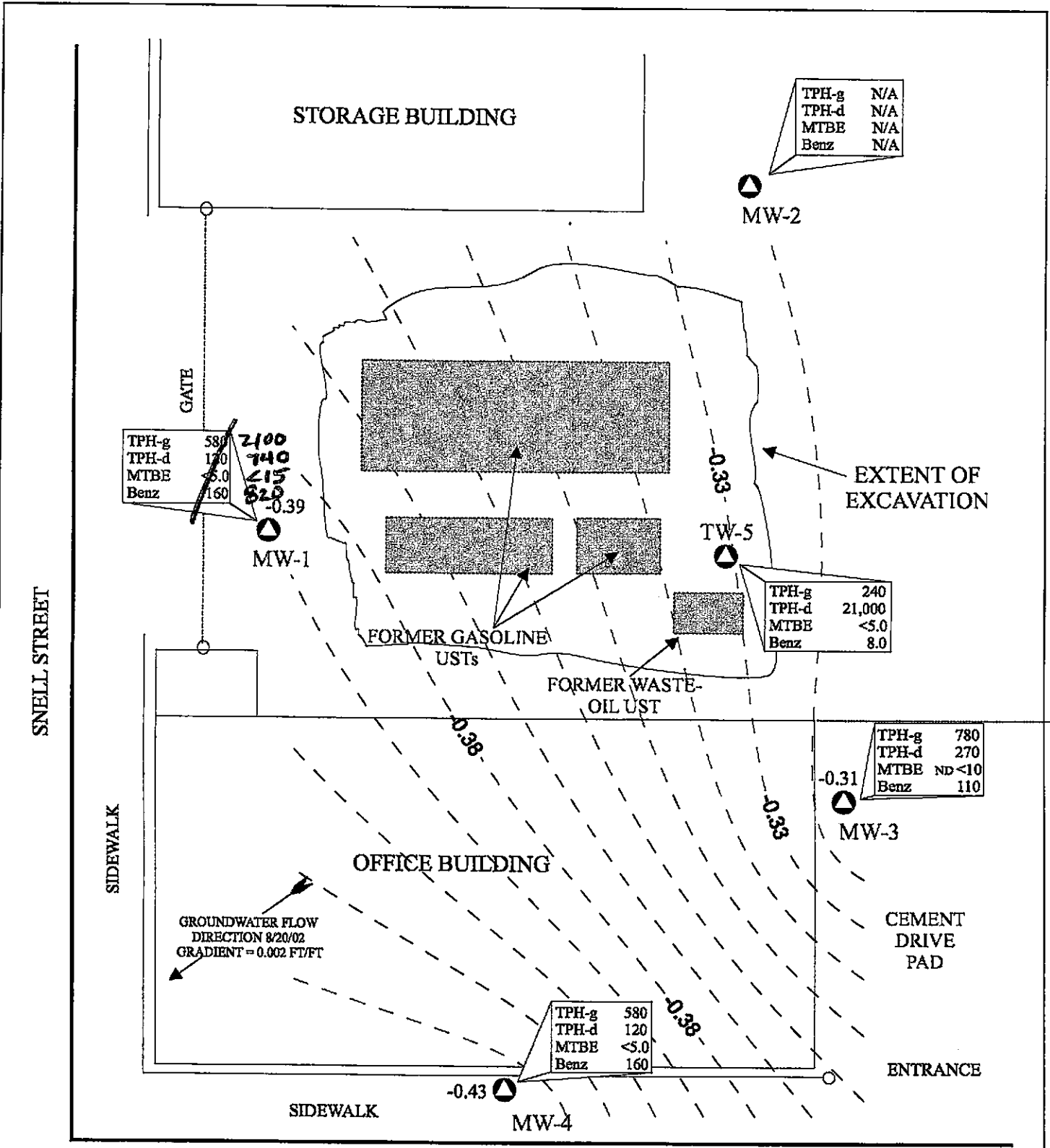


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<b>AEI CONSULTANTS</b>	
<b>SITE LOCATION MAP</b>	
807 75 <sup>th</sup> STREET OAKLAND, CALIFORNIA	<b>FIGURE 1</b> PROJECT No. 3190





**LEGEND**

**MONITORING WELL LOCATIONS & LABELS**

**WATER TABLE CONTOUR LINES (contour interval = 0.01 feet)**

TPH-g = Total petroleum hydrocarbons as gasoline  
 TPH-d = Total petroleum hydrocarbons as diesel  
 MTBE = Methyl tert-butyl ether  
 Benz = Benzene  
 Results expressed in µg/L  
 N/A = Not available

SCALE: 1" = 10'

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

**SITE PLAN**  
 08/20/02

807 75th AVENUE  
 OAKLAND, CALIFORNIA

**FIGURE 2**  
 AEI Project # 3190

**Table 1  
Groundwater Elevations**

Well ID	Date	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MW-1	07/30/99	5.00	5.82	-0.82
	11/09/99	5.00	5.70	-0.70
	02/23/00	5.00	2.84	2.16
	05/26/00	5.00	5.50	-0.50
	10/10/00	5.00	5.70	-0.70
	02/07/01	5.00	5.25	-0.25
	05/25/01	5.00	5.25	-0.25
	09/19/01	5.00	5.51	-0.51
	02/06/02	NS	NS	NS
	05/17/02	5.00	5.30	-0.30
	<b>08/20/02</b>	<b>5.00</b>	<b>5.39</b>	<b>-0.39</b>
MW-2	07/30/99	5.95	6.64	-0.69
	11/09/99	5.95	6.42	-0.47
	02/23/00	5.95	3.31	2.64
	05/26/00	5.95	6.34	-0.39
	10/10/00	5.95	6.52	-0.57
	02/07/01	5.95	5.90	0.05
	05/25/01	5.95	6.08	-0.13
	09/19/01	5.95	6.53	-0.38
	02/06/02	5.95	5.72	0.23
	05/17/02	5.95	6.17	-0.22
	<b>08/20/02</b>	<b>5.95</b>	<b>NS</b>	<b>NS</b>
MW-3	07/30/99	4.66	5.35	-0.69
	11/09/99	4.66	5.11	-0.45
	02/23/00	4.66	2.37	2.29
	05/26/00	4.66	4.98	-0.32
	10/10/00	4.66	5.24	-0.58
	02/07/01	4.66	4.73	-0.07
	05/25/01	4.66	4.73	-0.07
	09/19/01	4.66	5.07	-0.41
	02/06/02	4.66	4.69	-0.03
	05/17/02	4.66	4.80	-0.14
	<b>08/20/02</b>	<b>4.66</b>	<b>4.97</b>	<b>-0.31</b>
MW-4	07/30/99	4.59	5.45	-0.86
	11/09/99	4.59	5.31	-0.72
	02/23/00	4.59	2.72	1.87
	05/26/00	4.59	5.07	-0.48
	10/10/00	4.59	5.32	-0.73
	02/07/01	4.59	4.73	-0.14
	05/25/01	4.59	4.90	-0.31
	09/19/01	4.59	5.16	-0.57
	02/06/02	4.59	4.65	-0.06
	05/17/02	4.59	4.90	-0.31
	<b>08/20/02</b>	<b>4.59</b>	<b>5.02</b>	<b>-0.43</b>

Notes:

Depth to water measured from top of casings

ft amsl = feet above mean sea level

NS = not sampled

**APPENDIX A**

**WELL FIELD SAMPLING FORMS**

AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM							
<b>Monitoring Well Number: MW-1</b>							
Project Name: Omega				Date of Sampling: 8/20/02			
Job Number: 3190				Name of Sampler: Andrew Wyckoff			
Project Address: 807 75 <sup>th</sup> Ave, Oakland							
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 (feet amsl)				5.00			
Depth of Well (feet bgs)				20.00			
Depth to Water (feet toc)				5.39			
Water Elevation (feet amsl)				-39			
Three Well Volumes (gallons)*							
2" casing: (TD - DTW)(0.16)(3)				7.01			
4" casing: (TD - DTW)(0.65)(3)							
6" casing: (TD - DTW)(1.44)(3)							
Actual Volume Purged (gallons)				7.5			
Appearance of Purge Water				Sheen visible, slightly turbid			
GROUNDWATER SAMPLES							
Number of Samples/Container Size				two 40mL VOAs & one 1-liter amber bottle			
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (µS)	Dissolved Oxygen (DO) mg/L	Redox (mV)	Comments
1:14	1.5	18.64	6.41	1283	1.41	6.3	
1:16	3.5	19.16	6.29	1266	0.66	11.1	
1:17	5	18.68	6.20	1259	0.39	18.6	
1:19	6.5	18.40	6.11	1256	0.28	12.5	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)							
Slight hydrocarbon odor							

TD – total depth of well  
 DTW – depth to water  
 amsl – above mean sea level  
 bgs – below ground surface  
 toc – top of casing

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

**Monitoring Well Number: MW-2**

Project Name: Omega	Date of Sampling: 8/20/02
Job Number: 3190	Name of Sampler: Andrew Wyckoff
Project Address: 807 75 <sup>th</sup> Ave, Oakland	

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Could not find; Graded over by property owner
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing (feet amsl)	5.95
Depth of Well (feet bgs)	20.00
Depth to Water (feet toc)	
Water Elevation (feet amsl)	
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	
Appearance of Purge Water	

**GROUNDWATER SAMPLES**

Number of Samples/Container Size							
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (μS)	Dissolved Oxygen (DO) mg/L	Redox (mV)	Comments

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

Well not sampled because it was graded over with dirt and gravel and not locatable

TD – total depth of well  
 DTW – depth to water  
 amsl – above mean sea level  
 bgs – below ground surface  
 toc – top of casing

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM							
Monitoring Well Number: MW-3							
Project Name: Omega				Date of Sampling: 8/20/02			
Job Number: 3190				Name of Sampler: Andrew Wyckoff			
Project Address: 807 75 <sup>th</sup> Ave., Oakland							
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 (feet amsl)				4.66			
Depth of Well (feet bgs)				20.00			
Depth to Water (feet toc)				4.97			
Water Elevation (feet amsl)				-0.31			
Three Well Volumes (gallons)*							
2" casing: (TD - DTW)(0.16)(3)				7.36			
4" casing: (TD - DTW)(0.65)(3)							
6" casing: (TD - DTW)(1.44)(3)							
Actual Volume Purged (gallons)				7.5			
Appearance of Purge Water				Clear			
GROUNDWATER SAMPLES							
Number of Samples/Container Size				two 40 mL VOAs & one 1-liter amber bottle			
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (µS)	Dissolved Oxygen (DO) mg/L	Redox (mV)	Comments
1:47	1.5	19.36	6.41	1559	4.80	18.4	
1:49	3.5	20.03	6.34	1566	4.66	27.9	
1:51	5.5	19.17	6.33	1569	4.65	23.2	
1:53	7	18.74	6.31	1560	4.53	3.7	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)							
Hydrocarbon odor							

TD – total depth of well  
 DTW – depth to water  
 amsl – above mean sea level  
 bgs – below ground surface  
 toc – top of casing

AEI CONSULTANTS – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM							
<b>Monitoring Well Number: MW-4</b>							
Project Name: Omega				Date of Sampling: 8/20/02			
Job Number: 3190				Name of Sampler: Andrew Wyckoff			
Project Address: 807 75 <sup>th</sup> Ave., Oakland							
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 (feet amsl)				4.59			
Depth of Well (feet bgs)				20.00			
Depth to Water (feet toc)				5.02			
Water Elevation (feet amsl)				-0.43			
Three Well Volumes (gallons)*							
2" casing: (TD - DTW)(0.16)(3)				7.19			
4" casing: (TD - DTW)(0.65)(3)							
6" casing: (TD - DTW)(1.44)(3)							
Actual Volume Purged (gallons)				7.5			
Appearance of Purge Water				Clear			
GROUNDWATER SAMPLES							
Number of Samples/Container Size				two 40 mL VOAs & one 1-liter amber bottle			
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (µS)	Dissolved Oxygen (DO) mg/L	Redox (mV)	Comments
1:28	1.5	19.02	6.35	1552	0.89	241.2	
1:30	3.5	20.02	6.33	1507	1.75	222.5	
1:32	5.5	19.27	6.30	1550	0.39	192.6	
1:34	7	18.87	6.29	1591	0.16	91.3	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)							
No hydrocarbon odor							

TD – total depth of well  
 DTW – depth to water  
 amsl – above mean sea level  
 bgs – below ground surface  
 toc – top of casing

AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM							
<b>Monitoring Well Number: TW-5</b>							
Project Name: Omega				Date of Sampling: 8/20/02			
Job Number: 3190				Name of Sampler: Andrew Wyckoff			
Project Address: 807 75 <sup>th</sup> Ave., Oakland							
MONITORING WELL DATA							
Well Casing Diameter (2"/4"/6")				4"			
Seal at Grade -- Type and Condition				Plastic tubing bent (apparently run over by vehicle)			
Well Cap & Lock -- OK/Replace							
Elevation of Top of Casing (feet amsl)				NA			
Depth of Well (feet bgs)				~10			
Depth to Water (feet toc)				6.62			
Water Elevation (feet amsl)							
Three Well Volumes (gallons)*							
2" casing: (TD - DTW)(0.16)(3)							
4" casing: (TD - DTW)(0.65)(3)				6.59			
6" casing: (TD - DTW)(1.44)(3)							
Actual Volume Purged (gallons)				7			
Appearance of Purge Water				Clear			
GROUNDWATER SAMPLES							
Number of Samples/Container Size				two 40 mL VOAs & one 1-liter amber bottle			
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (µS)	Dissolved Oxygen (DO) mg/L	Redox (mV)	Comments
2:18	1.5	23.06	6.51	1197	0.59	-14.2	
2:20	3.5	23.05	6.41	1197	0.27	-7.0	
2:22	5	23.10	6.39	1197	0.21	-3.5	
2:24	6.5	23.12	6.39	1197	0.19	-3.5	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)							
Slight hydrocarbon odor							

TD - total depth of well  
 DTW - depth to water  
 amsl - above mean sea level  
 bgs - below ground surface  
 toc - top of casing



**APPENDIX B**

**LABORATORY ANALYTICAL AND  
CHAIN OF CUSTODY DOCUMENTATION**









**QC SUMMARY REPORT FOR SW8021B/8015Cm**

Matrix: W

WorkOrder: 0208342

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 3598			Spiked Sample ID: N/A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	N/A	60	N/A	N/A	N/A	104	103	0.757	80	120
MTBE	N/A	10	N/A	N/A	N/A	84.3	87.2	3.39	80	120
Benzene	N/A	10	N/A	N/A	N/A	105	100	4.68	80	120
Toluene	N/A	10	N/A	N/A	N/A	110	106	3.21	80	120
Ethylbenzene	N/A	10	N/A	N/A	N/A	109	105	3.16	80	120
Xylenes	N/A	30	N/A	N/A	N/A	103	103	0	80	120
%SS:	N/A	100	N/A	N/A	N/A	113	106	6.39	80	120

All target compounds in the Method Blank of this extraction batch were ND less than 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.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% 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 the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.



McC Campbell Analytical Inc.

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

### QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0208342

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 3590		Spiked Sample ID: N/A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	108	111	2.83	70	130
%SS:	N/A	100	N/A	N/A	N/A	101	104	2.53	70	130
All target compounds in the Method Blank of this extraction batch were ND less than 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.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% 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 the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.



**QC SUMMARY REPORT FOR SM5520B/F**

Matrix: W

WorkOrder: 0208342

EPA Method: SM5520B/F		Extraction: PRHEM-SGT_		BatchID: 3554		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
POG	N/A	100	N/A	N/A	N/A	107	102	4.78	70	130
All target compounds in the Method Blank of this extraction batch were ND less than 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.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% 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 the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

**McC Campbell Analytical Inc.**

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

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0208342

Client:

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

TEL: (925) 283-6000  
 FAX: (925) 283-6121  
 ProjectNo: #3190; Omega  
 PO:

20-Aug-02

Sample ID	ClientSampID	Matrix	Collection Date	Bottle	Requested Tests					
					SM5520B/F	SW8015C	8021B/8015			
0208342-001	MW-1	Water	8/20/02		C	B	A			
0208342-002	MW-3	Water	8/20/02		C	B	A			
0208342-003	MW-4	Water	8/20/02		C	B	A			
0208342-004	MW-5	Water	8/20/02		C	B	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 2<sup>nd</sup> 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: Andrew Wyckoff

Bill To:

Company: All Environmental

3210 Old Tunnel Road, Suite B

Lafayette, CA 94549-4157

Tele: (925) 283-6000

Fax: (925) 283-6121

Project #: 3190

Project Name: OMEGA

Project Location: OAKLAND

Sampler Signature: *Andrew Wyckoff*

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX				METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>			
MW-1		8/20		4	Ambx VOR	X					X	X				
MW-3		↓		↓	↓	↓					↓	↓				
MW-4		↓		↓	↓	↓					↓	↓				
MW-5		↓		↓	↓	↓					↓	↓				

Relinquished By: <i>Andrew Wyckoff</i>	Date: <i>8/20</i>	Time: <i>5:25</i>	Received By: <i>Mel Vallis</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks: \_\_\_\_\_

ICEP	PRESERVATION	VORS	O&G	METALS	OTHER
GOOD CONDITION	APPROPRIATE				
HEAD SPACE ABSENT	CONTAINERS				
DECHLORINATED IN LAB	PRESERVED IN LAB				