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January 31, 2006

**GROUNDWATER MONITORING REPORT
1st Quarter, 2006**

796 66th Avenue
Oakland, California 94621

AEI Project No. 8262
ACHCSA Case No. RO0002449

Prepared For

Cruise America, Inc.
11 West Hampton Avenue
Mesa, AZ 85210

Prepared By

AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597
(925) 283-6000

AEI



January 31, 2006

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

**Subject: Quarterly Groundwater Monitoring Report
1st Quarter, 2006**
796 66th Avenue
Oakland, California
AEI Project No. 8262
ACHCSA Case No. RO0002449

Dear Mr. Kauffman:

AEI Consultants (AEI) has prepared this report on behalf of Cruise America, Inc. to document groundwater monitoring activities performed at the above referenced site (Figure 1: Site Location Map). The mitigation and monitoring has been required by the Alameda County Health Care Services Agency (ACHCSA) to document groundwater quality associated with the release of gasoline fuel from the former underground storage tank (UST) located on the property. This report documents the monitoring and sampling event conducted during the 1st Quarter 2006 on January 9, 2006.

I Background

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

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

In September of 2001, AEI advanced five (5) additional soil borings (SB-7 through SB-11) in order to determine the source of the high levels of MTBE found in SB-1. Samples collected from SB-7 and SB-8 did not contain MTBE above laboratory reporting limits. MTBE



concentrations ranged from 630 micrograms per liter ($\mu\text{g/L}$) in SB-9 to 13,000 $\mu\text{g/L}$ in SB-10. These data indicated a leak in the remaining 10,000-gallon gasoline UST on the southern portion of the property as the most likely source of the MTBE.

AEI removed the 10,000-gallon gasoline UST in November of 2001. Concentrations of TPH-g in four of the five soil samples ranged from 4.1 milligrams per kilogram (mg/kg) to 280 mg/kg . Concentrations of MTBE and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) were also detected in the five soil samples. The highest concentrations of MTBE and Benzene detected in the soil during the tank removal were 53 mg/kg and 13 mg/kg , respectively, detected along the southern and eastern sidewalls of the excavation at approximately 6.5 feet below ground surface (bgs). Elevated concentrations of TPH-g and MTBE were present in the groundwater sample at concentrations of 44,000 $\mu\text{g/L}$ and 42,000 $\mu\text{g/L}$, respectively.

Following removal of the tank, the ACHCSA requested further investigation of the release from the 10,000 gallon UST. On September 6, 2002, six (6) soil borings (SB-12 through SB-17) were advanced. The data from these soil borings was used to determine the placement of five (5) groundwater monitoring wells, which were installed on September 19, 2002. These five wells have been monitored on a quarterly basis since installation. The locations of these borings and wells are shown on Figures 2 and 3.

Based on the findings of the investigation and monitoring activities, the ACHCSA required that corrective action be undertaken. AEI prepared and submitted an *Interim Corrective Action Plan*, dated April 5, 2004, outlining an evaluation and scope of work to implement a treatment program for the release. A sparging system was installed around the release area in July 2004, major features of which are shown on Figure 4. Implementation of the plan was documented in the *Interim Corrective Action Progress Report*, February 11, 2005, to which the reader is referred for details.

II Summary of Activities

AEI measured depth to groundwater in five (5) wells (MW-1 to MW-5) on January 9, 2006. Wells were first opened and water levels allowed to equilibrate with atmospheric pressure. The depth to water from the top of the well casings was measured prior to sampling with an electric water level indicator. The wells were then purged of at least three well volumes using a battery powered submersible pump.

Temperature, pH, specific conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) were measured and the turbidity was visually noted during the purging of the wells. Once the wells were allowed to recharge to a minimum of 90% of their original water volume, a water sample was collected. Groundwater samples were collected from each well using clean, disposable bailers.

Groundwater samples were collected from each well into three 40-milliliter (ml) volatile organic analysis (VOA) vials. The VOAs were capped so that neither head space nor air bubbles were

visible within the sample containers. Samples were labeled with unique identifiers including time and date sampled, stored in a cooler over water ice, and placed under chain of custody. The samples were transported under chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

The five (5) groundwater samples were analyzed for TPH-g by EPA Method 8015Cm, BTEX and MTBE by EPA Method 8021B, and MTBE and tertiary-Butyl Alcohol (TBA) by EPA Method 8260B.

III Field Results

No sheen or free product was encountered during monitoring activities. Groundwater levels for the current monitoring episode ranged from 4.59 to 6.98 feet above mean sea level (amsl). These groundwater elevations were an average of 0.69 feet higher than the previous episode. The direction of the groundwater flow at the time of measurement was towards the east-southeast with a hydraulic gradient of approximately 0.04 ft/ft. This flow direction and gradient observed during this episode is generally consistent with previous monitoring events.

Groundwater elevation data is summarized in Tables 1 and 2. The groundwater elevation contours and the groundwater flow direction are shown in Figure 5. Refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms.

IV Groundwater Quality

TPH-g, benzene, ethylbenzene, and xylenes were not detected in any of the wells above laboratory detection limits. Toluene was detected in one sample, MW-1, at 1.8 µg/L. Using EPA Method 8260, MTBE was detected in four samples (except MW-3) at concentrations ranging from 7.6 µg/L (MW-2) to 280 µg/L (MW-1). TBA was detected in three samples, MW-1 at 560 µg/L, MW-4 at 200 µg/L, and MW-5 at 2,000 µg/L.

A summary of groundwater sample analytical data is presented in Table 1 and on Figure 6. Laboratory analytical and chain of custody documentation are included in Appendix B.

V Sparging Operations

Due to re-occurring and inexplicable power outages, the sparging control system is periodically reset and the ozone generator and sparging unit have operated at approximately 20% of the system's programmed up-time, which is set at 80% of each day. Since early January 2006, the sparging system is being inspected weekly to ensure proper operation. System components and safety features are operational and sparge pressures are normal. Programming is likely to be adjusted to focus on residual hotspot areas as treatment progresses.

VI Summary

MTBE concentrations increased somewhat since the previous sampling event in wells MW-1, MW-2, and MW-5, although concentrations are well below pre-sparging levels. MTBE decreased significantly in MW-4, as did TBA, since the last monitoring event. TPH-g and BTEX are essentially non detect in all wells. TBA concentrations decreased in MW-1 and MW-4 and are essentially the same in MW-5 since the previous event. The next quarterly monitoring episode is tentatively scheduled to occur in April 2006. Operation of the sparging system will continue to reduce TBA concentrations and ensure adequate treatment of the source area.

Following one additional quarter of sparging, if concentrations of MTBE and TBA decrease, a period of system down-time may be recommended to evaluate possible rebound after which closure may be considered.

VII Report Limitation

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. 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 the required information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

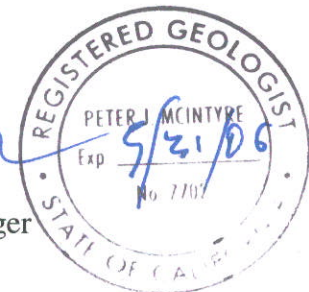
These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact Mr. McIntyre at (925) 283-6000, extension 104.

Sincerely,
AEI Consultants


Adrian Michael Angel
Staff Geologist


Peter McIntyre, P.G.
Senior Project Manager



Figures

Figure 1: Site Location Map

Figure 2: Property Map

Figure 3: Site Plan

Figure 4: Sparge Well Locations

Figure 5: Water Table Contours (1/9/06)

Figure 6: Groundwater Sample Analytical Data (1/9/06)

Tables

Table 1: Groundwater Sample Analytical Data

Table 2: Water Table Data Summary

Attachments

Appendix A: Monitoring Well Field Sampling Forms

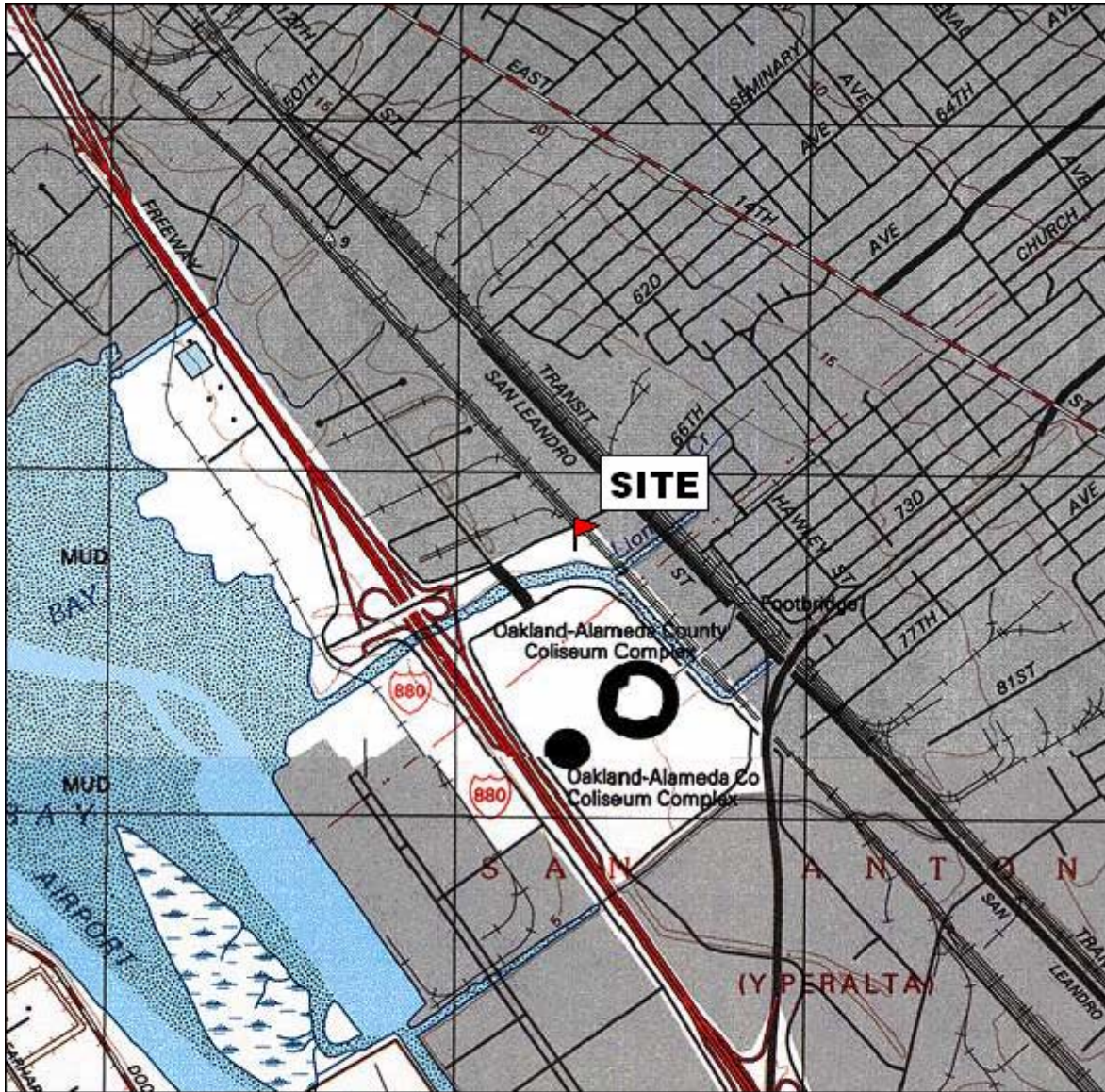
Appendix B: Laboratory Analytical and Chain of Custody Documentation

Distribution: Cruise America, Inc.
11 West Hampton Avenue
Mesa, AZ 85210

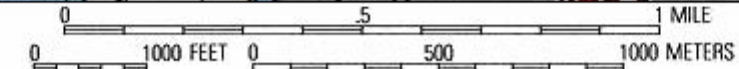
Mr. Amir Gholami
ACHCSA
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501

FIGURES



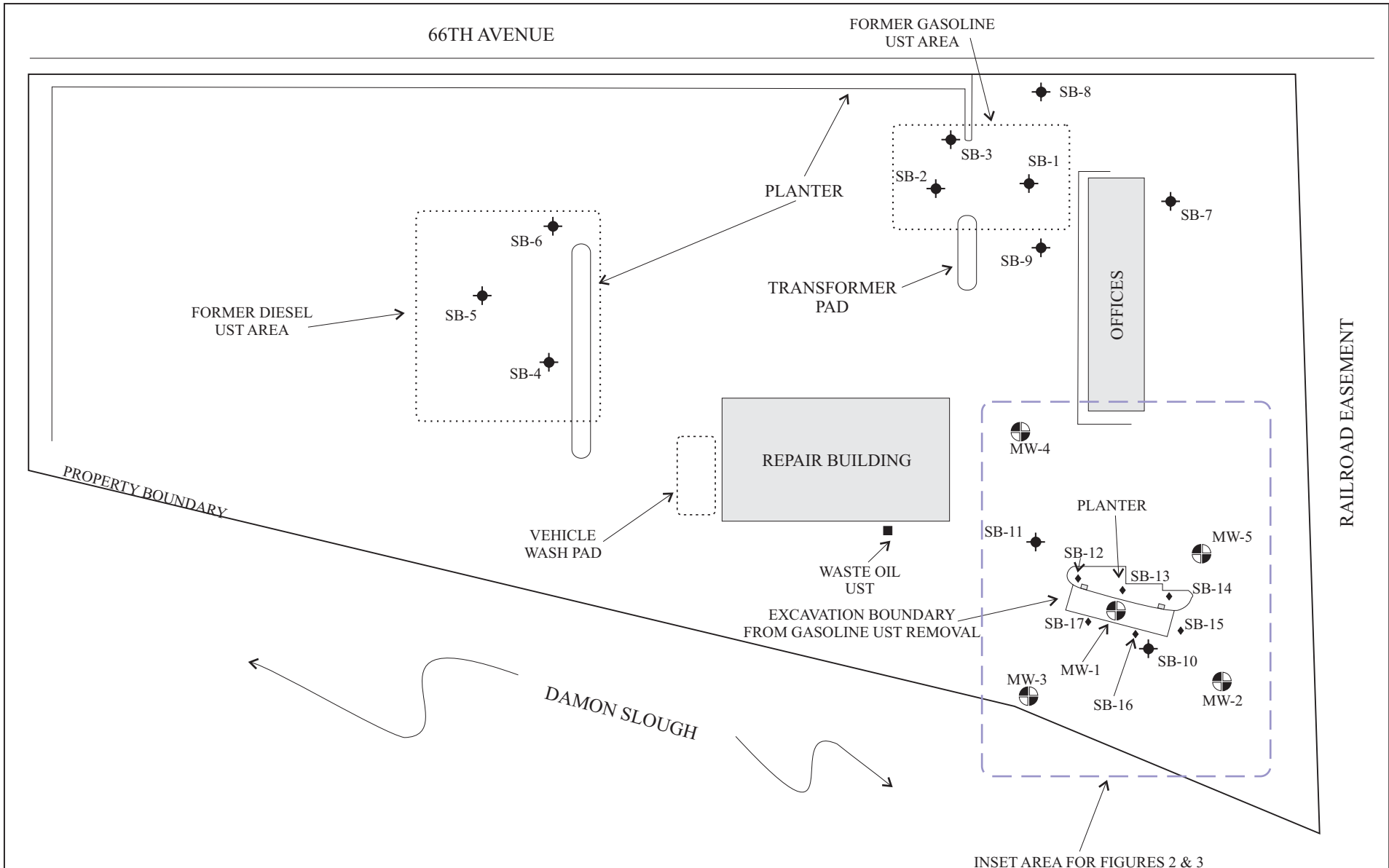


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AEI CONSULTANTS	
SITE LOCATION MAP	
796 66 th AVENUE OAKLAND, CALIFORNIA	FIGURE 1 PROJECT No. 8262



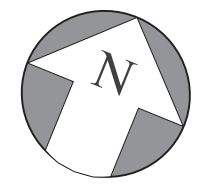
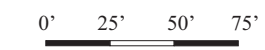
AEI Consultants
 2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK, CA

PROPERTY MAP

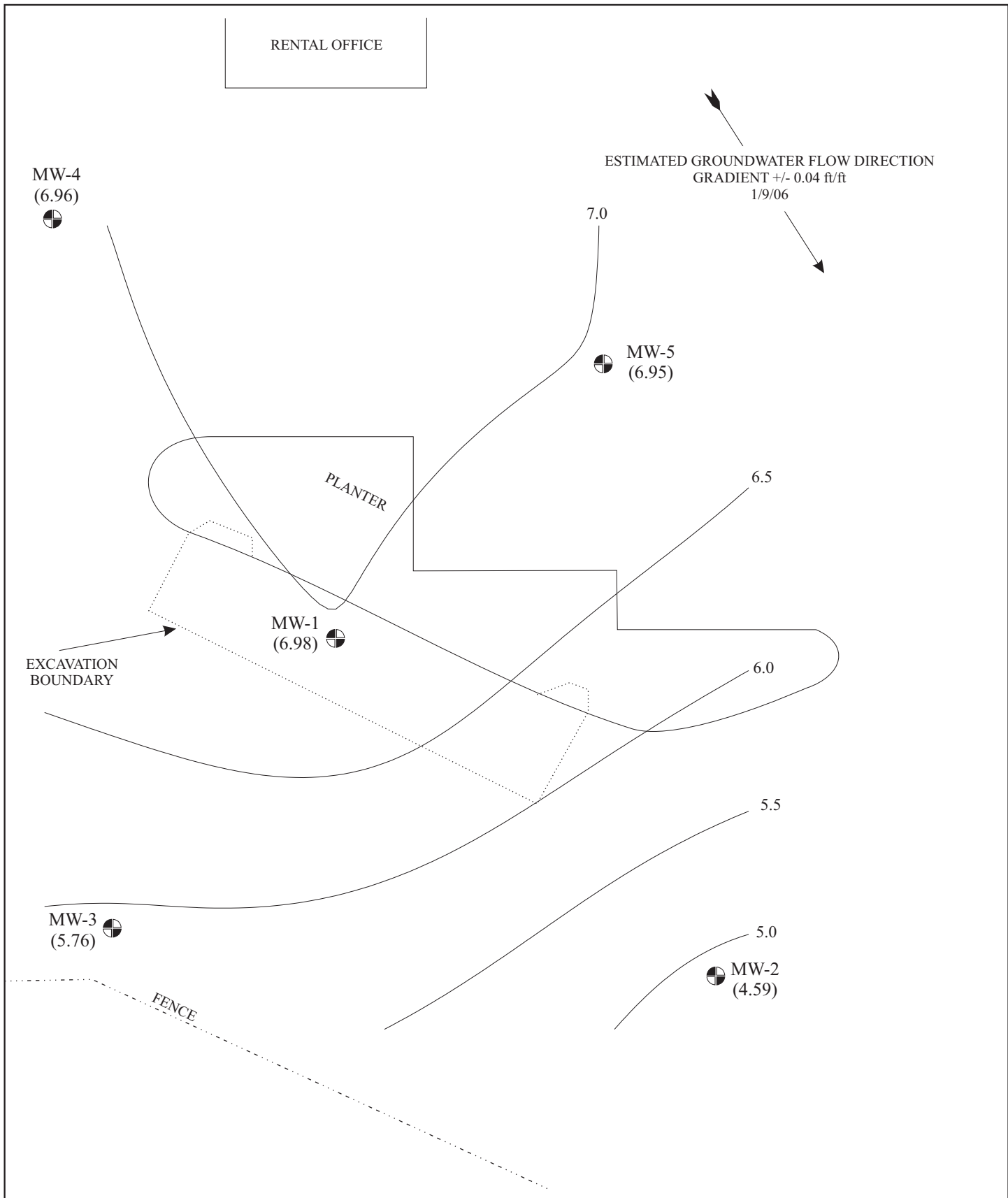
796 66th AVENUE
 OAKLAND, CALIFORNIA

FIGURE 2
 AEI PROJECT NO 8262

- SB-X ◆ LOCATION OF BORINGS ADVANCED 7-9/2001
- MW-1 ⊕ LOCATION OF MONITORING WELLS INSTALLED 9/2002
- SB-X ◆ LOCATION OF BORINGS ADVANCED 9/2002



INSET AREA FOR FIGURES 2 & 3



LEGEND

⊕ MONITORING WELL LOCATION

Groundwater elevation data as of
10/6/05 in feet above mean sea level (amsl).
Contour drawn in Surfer (R) v. 7.0.
Contour Interval = 0.5
See Table 1 for details.



0' 10' 20'
SCALE: 1 in = 20 ft

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2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

Water Table Contours (1/9/06)

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
AEI PROJECT NO 8262

RENTAL OFFICE

MW-4	
TPH-g	<50
MTBE	150
Benzene	<0.5

ESTIMATED GROUNDWATER FLOW DIRECTION
GRADIENT +/- 0.04 ft/ft
1/9/06

MW-5	
TPH-g	<50
MTBE	<84
Benzene	<0.5

EXCAVATION
BOUNDARY

PLANTER

MW-1	
TPH-g	<50
MTBE	280
Benzene	<0.5

MW-3	
TPH-g	<50
MTBE	<0.5
Benzene	<0.5

MW-2	
TPH-g	<50
MTBE	7.6
Benzene	<0.5

FENCE

LEGEND

 MONITORING WELL LOCATION

TPH-g = Total Petroleum Hydrocarbons as gasoline.
MTBE = Methyl tertiary-Butyl Ether (8260B).
Analytical data from 1/9/06 event with
results in micrograms per liter (g/L).
See Table 1 for details.



0' 10' 20'
SCALE: 1 in = 20 ft

AEI Consultants

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

Groundwater Sample Analytical Data (1/9/06)

796 66TH AVENUE
OAKLAND, CALIFORNIA

FIGURE 6
AEI PROJECT NO 8262

TABLES



**Table 1
Groundwater Monitoring Data**

Well ID (screen interval in ft bgs)	Date Sampled	Well Elevation (ft amsl)	Depth to Water (ft from TOC)	Water Table Elevation (ft amsl)	TPH-g (8015Cm) µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE		TBA	
										(8021B) µg/L	(8260B) µg/L	(8260B) µg/L	
MW-1 (4-14)	9/30/2002	10.88	5.41	5.47	1,800	50	15	16	18	19,000	13,000	<5,000	
	1/2/2003	10.88	4.77	6.11	660	24	6.4	<2.5	<2.5	7,800	8,900	-	
	3/31/2003	10.88	4.95	5.93	660	11	6.4	<5.0	<5.0	16,000	20,000	-	
	6/30/2003	10.88	4.54	6.34	830	<5.0	6.8	<5.0	<5.0	16,000	17,000	-	
	10/1/2003	10.88	4.66	6.22	720	<5.0	<5.0	<5.0	<5.0	14,000	13,000	-	
	1/5/2004	10.88	4.07	6.81	<300	7.8	2.9	<3.0	<3.0	-	8,700	-	
	4/5/2004	10.88	4.33	6.55	100	2.8	3.0	<1.0	<1.0	2,300	3,000	<500	
	7/7/2004	10.88	4.97	5.91	190	<1.7	2.0	<1.7	<1.7	4,900	5,500	<1,000	
	7/19/2004	10.88	5.12	5.76	340	<2.5	4.0	<2.5	<2.5	8,000	9,200	<1,700	
	8/6/2004	10.88	5.13	5.75	280	<0.5	5.6	<0.5	<0.5	7,200	5,900	<1,000	
	8/20/2004	10.88	5.31	5.57	<250	<2.5	<2.5	<2.5	<2.5	4,600	-	-	
	9/3/2004	10.88	5.22	5.66	<250	<2.5	<2.5	<2.5	<2.5	5,700	4,700	<1,000	
	10/13/2004	10.88	5.23	5.65	170	<0.5	4.8	<0.5	<0.5	3,700	4,400	-	
	1/11/2005	10.88	4.69	6.19	110	8.8	4.2	<0.5	<0.5	880	990	910	
	4/13/2005	10.88	5.02	5.86	230	<0.5	9.0	<0.5	<0.5	140	100	2,600	
	7/6/2005	10.88	5.06	5.82	200	<0.5	8.3	<0.5	<0.5	<75	50	1,600	
	10/6/2005	10.88	4.92	5.96	110	<0.5	6.8	<0.5	<0.5	<20	8.4	640	
	1/9/2006	10.88	3.90	6.98	<50	<0.5	1.8	<0.5	<0.5	<0.5	260	280	560
	MW-2 (4-14)	9/30/2002	10.77	8.00	2.77	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.84	<5.0
1/2/2003		10.77	5.91	4.86	<50	<0.5	<0.5	<0.5	<0.5	19	20	-	
3/31/2003		10.77	5.15	5.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	3.9	-	
6/30/2003		10.77	5.91	4.86	<50	<0.5	<0.5	<0.5	<0.5	7.0	9.6	-	
10/1/2003		10.77	6.69	4.08	<50	<0.5	<0.5	<0.5	<0.5	7.7	6.7	-	
1/5/2004		10.77	6.18	4.59	71	4.7	13	2.7	12	-	7.8	-	
4/5/2004		10.77	7.22	3.55	210	14	39	6.6	27	16	13	<5.0	
7/7/2004		10.77	6.83	3.94	<50	<0.5	<0.5	<0.5	<0.5	5.7	5.6	<5.0	
10/13/2004		10.77	7.18	3.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0	2.6	-	
1/11/2005		10.77	7.27	3.50	74	2.6	11	2.1	10	<5.0	4.4	<5.0	
4/13/2005		10.77	6.66	4.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	
7/6/2005		10.77	6.83	3.94	<50	<0.5	0.77	<0.5	<0.5	<5.0	2.9	<5.0	
10/6/2005		10.77	7.05	3.72	<50	<0.5	0.81	<0.5	0.54	<5.0	2.1	<5.0	
1/9/2006	10.77	6.18	4.59	<50	<0.5	<0.5	<0.5	<0.5	<0.5	6.1	7.6	<5.0	

**Table 1
Groundwater Monitoring Data**

Well ID (screen interval in ft bgs)	Date Sampled	Well Elevation (ft amsl)	Depth to Water (ft from TOC)	Water Table Elevation (ft amsl)	TPH-g (8015Cm) µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE		TBA (8260B) µg/L
										(8021B) µg/L	(8260B) µg/L	
MW-3 (4-14)	9/30/2002	10.20	5.21	4.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	1/2/2003	10.20	5.31	4.89	<50	0.89	0.50	<0.5	0.72	15	14	-
	3/31/2003	10.20	4.58	5.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	0.62	-
	6/30/2003	10.20	3.83	6.37	<50	<0.5	<0.5	<0.5	<0.5	<5.0	1.6	-
	10/1/2003	10.20	4.02	6.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	-
	1/5/2004	10.20	6.18	4.02	71	4.7	13	2.7	12	-	7.8	-
	4/5/2004	10.20	3.79	6.41	120	8.8	22	3.2	13	<5.0	<0.5	<5.0
	7/7/2004	10.20	3.76	6.44	<50	<0.5	<0.5	<0.5	<0.5	<5.0	4.0	<5.0
	10/13/2004	10.20	4.45	5.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	-
	1/11/2005	10.20	5.21	4.99	68	2.2	9.0	1.7	8.5	<5.0	<0.5	<5.0
	4/13/2005	10.20	4.44	5.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	7/6/2005	10.20	3.91	6.29	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	10/6/2005	10.20	4.16	6.04	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0
	1/9/2006	10.20	4.44	5.76	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5
MW-4 (4-14)	9/30/2002	11.07	5.50	5.57	<100	<0.5	<0.5	<0.5	<0.5	790	750	<100
	1/2/2003	11.07	4.90	6.17	<50	<0.5	<0.5	<0.5	<0.5	420	460	-
	3/31/2003	11.07	4.81	6.26	<50	<0.5	<0.5	<0.5	<0.5	1,500	1,400	-
	6/30/2003	11.07	4.61	6.46	<50	<0.5	<0.5	<0.5	<0.5	1,600	1,200	-
	10/1/2003	11.07	4.76	6.31	<50	<0.5	<0.5	<0.5	<0.5	1,800	1,400	-
	1/5/2004	11.07	4.32	6.75	<50	3.0	6.7	1.4	6.1	-	1,200	-
	4/5/2004	11.07	4.43	6.64	<50	0.79	2.0	<0.5	2.2	800	840	<250
	7/7/2004	11.07	5.08	5.99	<50	<0.5	<0.5	<0.5	<0.5	1,400	2,100	<250
	7/19/2004	11.07	5.19	5.88	<50	<0.5	<0.5	<0.5	<0.5	1,200	1,300	<500
	8/6/2004	11.07	5.20	5.87	<50	0.76	<0.5	<0.5	<0.5	1,300	1,200	<500
	8/20/2004	11.07	5.37	5.70	<50	<0.5	<0.5	<0.5	<0.5	460	-	-
	9/3/2004	11.07	5.35	5.72	<50	<0.5	<0.5	<0.5	<0.5	440	370	<50
	10/13/2004	11.07	5.35	5.72	<50	<0.5	<0.5	<0.5	<0.5	330	360	-
	1/11/2005	11.07	4.99	6.08	<50	1.0	2.1	<0.5	1.8	450	430	<100
	4/13/2005	11.07	5.17	5.90	<50	<0.5	<0.5	<0.5	<0.5	340	200	<50
	7/6/2005	11.07	5.18	5.89	<50	<0.5	<0.5	<0.5	<0.5	300	290	330
10/6/2005	11.07	5.03	6.04	<50	<0.5	<0.5	<0.5	<0.5	380	350	430	
1/9/2006	11.07	4.11	6.96	<50	<0.5	<0.5	<0.5	<0.5	<0.5	140	150	200

**Table 1
Groundwater Monitoring Data**

Well ID (screen interval in ft bgs)	Date Sampled	Well Elevation (ft amsl)	Depth to Water (ft from TOC)	Water Table Elevation (ft amsl)	TPH-g (8015Cm) µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE		TBA
										(8021B) µg/L	(8260B) µg/L	(8260B) µg/L
MW-5 (4-14)	9/30/2002	11.18	5.62	5.56	<2,000	<5.0	<5.0	<5.0	<5.0	19,000	18000	<2,500
	1/2/2003	11.18	5.12	6.06	<50	<0.5	<0.5	<0.5	<0.5	7,000	7,000	-
	3/31/2003	11.18	4.93	6.25	<500	<5.0	<5.0	<5.0	<5.0	14,000	12,000	-
	6/30/2003	11.18	4.75	6.43	<500	<5.0	<5.0	<5.0	<5.0	13,000	15,000	-
	10/1/2003	11.18	4.88	6.30	<500	<5.0	<5.0	<5.0	<5.0	12,000	11,000	-
	1/5/2004	11.18	4.19	6.99	<1,000	<10	<10	<10	<10	-	11,000	-
	4/5/2004	11.18	4.57	6.61	<250	<2.5	<2.5	<2.5	<2.5	9,400	13,000	<2,500
	7/7/2004	11.18	5.19	5.99	<500	<5.0	<5.0	<5.0	<5.0	15,000	19,000	<2,000
	7/19/2004	11.18	5.32	5.86	<500	<5.0	<5.0	<5.0	<5.0	16,000	14,000	<2,500
	8/6/2004	11.18	5.33	5.85	110	<0.5	<0.5	<0.5	<0.5	12,000	11,000	<2,500
	8/20/2004	11.18	5.49	5.69	<500	<5.0	<5.0	<5.0	<5.0	7,200	-	-
	9/3/2004	11.18	5.48	5.70	<500	<2.5	<2.5	<2.5	<2.5	8,500	7,200	<1,700
	10/13/2004	11.18	5.49	5.69	<250	<2.5	<2.5	<2.5	<2.5	6,700	7,700	-
	1/11/2005	11.18	5.08	6.10	<100	1.5	3.3	<1.0	2.3	3,000	4,800	1,200
	4/13/2005	11.18	5.24	5.94	<50	<0.5	<0.5	<0.5	<0.5	510	320	2,600
	7/6/2005	11.18	5.27	5.91	<50	<0.5	<0.5	<0.5	<0.5	43	51	4,900
	10/6/2005	11.18	5.14	6.04	<50	<0.5	<0.5	<0.5	<0.5	25	<25	1,900
	1/9/2006	11.18	4.23	6.95	<50	<0.5	<0.5	<0.5	<0.5	70	84	2,000

Notes:

bgs = below ground surface

ft amsl = feet above mean sea level

TOC = Top of Casing; all well elevations and depths to water are measured from TOC

TPH-g = Total Petroleum Hydrocarbons as gasoline

µg/L = micrograms per liter

MTBE = Methyl tertiary-Butyl Ether

TBA = tertiary-Butyl Alcohol

- = Sample not analyzed by this method

Table 2
Water Table Data Summary

Episode	Date Sampled	Average Water Table Elevation*	Change From Previous Episode	Gradient (direction)
1	9/30/2002	4.87	-	0.005 (S)
2	1/2/2003	5.62	0.75	0.022 (SSE)
3	3/31/2003	5.94	0.32	0.006 (SSE)
4	6/30/2003	6.09	0.16	0.020 (SE)
5	10/1/2003	5.82	-0.27	0.029-0.001 (SE)
6	1/5/2004	6.06	0.24	0.03 (SE)
7	4/5/2004	5.95	-0.11	0.02 (E)
8	7/7/2004	5.65	-0.30	0.02 (E)
9	7/19/2004	5.83	0.18	nc
10	8/6/2004	5.82	-0.01	nc
11	8/20/2004	5.65	-0.17	nc
12	9/3/2004	5.69	0.04	nc
13	10/13/2004	5.28	-0.41	0.02 (E)
14	1/11/2005	5.37	0.09	0.02 (E)
15	4/13/2005	5.51	0.14	0.02 (E)
16	7/6/2005	5.57	0.06	0.024 (E)
17	10/6/2005	5.56	-0.01	0.03 (E)
18	1/9/2006	6.25	0.69	0.04 (ESE)

Notes:

*Average Water Table Elevation value calculated in Microsoft Excel

nc = not calculated

APPENDIX A

MONITORING WELL FIELD SAMPLING FORMS



AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Cruise America	Date of Sampling:	1/9/2006
Job Number:	8262	Name of Sampler:	Adrian Nieto
Project Address:	796 - 66th Avenue, Oakland, CA 94621		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	10.88		
Depth of Well	14.00		
Depth to Water (from top of casing)	3.90		
Water Elevation (feet above msl)	6.98		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	19.7		
Actual Volume Purged (gallons)	21.0		
Appearance of Purge Water	Initially light brown, clears quickly		
Free Product Present?	No	Thickness (ft):	n/a

GROUNDWATER SAMPLES

Number of Samples/Container Size				4 40-ml VOA vials			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	20.75	6.93	17706	0.23	-111.5	
	6	20.62	7.00	16702	0.18	-114.9	
	9	20.43	7.04	15621	0.17	-114.4	
	12	20.43	7.03	15628	0.18	-114.2	
	15	20.44	7.01	15721	0.18	-114.2	
	18	20.42	7.01	15603	0.21	-114.5	
	21	20.42	6.99	15591	0.22	-114.8	

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

Clears, no sheen

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Cruise America	Date of Sampling:	1/9/2006
Job Number:	8262	Name of Sampler:	Adrian Nieto
Project Address:	796 - 66th Avenue, Oakland, CA 94621		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	10.77		
Depth of Well	14.00		
Depth to Water (from top of casing)	6.18		
Water Elevation (feet above msl)	4.59		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.8		
Actual Volume Purged (gallons)	4.0		
Appearance of Purge Water	Clears		
Free Product Present?	No	Thickness (ft):	n/a

GROUNDWATER SAMPLES

Number of Samples/Container Size				4 40-ml VOA vials			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	20.37	7.07	47723	0.43	-152.8	
	3	19.80	7.06	41213	0.37	-153.2	
	5	19.99	7.03	47401	0.28	-165.3	

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

Dry at 2 gallons (11:10 AM). Sufficiently recharged by 11:25 AM.
Initially yellowish, clears

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Cruise America	Date of Sampling:	1/9/2006
Job Number:	8262	Name of Sampler:	Adrian Nieto
Project Address:	796 - 66th Avenue, Oakland, CA 94621		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	10.20		
Depth of Well	14.00		
Depth to Water (from top of casing)	4.44		
Water Elevation (feet above msl)	5.76		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.6		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Light yellow, clears		
Free Product Present?	No	Thickness (ft):	n/a

GROUNDWATER SAMPLES

Number of Samples/Container Size				4 40-ml VOA vials			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	19.38	6.89	6103	0.50	-153.7	
	3	19.59	6.86	6098	0.43	-154.6	
	5	20.03	6.85	6251	0.36	-159.3	

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

no sheen or odor

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Cruise America	Date of Sampling:	1/9/2006
Job Number:	8262	Name of Sampler:	Adrian Nieto
Project Address:	796 - 66th Avenue, Oakland, CA 94621		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	11.07		
Depth of Well	14.00		
Depth to Water (from top of casing)	4.11		
Water Elevation (feet above msl)	6.96		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.7		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Clears		
Free Product Present?	No	Thickness (ft):	n/a

GROUNDWATER SAMPLES

Number of Samples/Container Size				4 40-ml VOA vials			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	2	18.73	8.16	8444	0.31	-186.9	
	4	18.64	8.25	8549	0.27	-205.8	
	6	18.59	8.35	8464	0.24	-232.3	

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

Dark initially, clears, odor noted

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Cruise America	Date of Sampling:	1/9/2006
Job Number:	8262	Name of Sampler:	Adrian Nieto
Project Address:	796 - 66th Avenue, Oakland, CA 94621		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	11.18		
Depth of Well	14.00		
Depth to Water (from top of casing)	4.23		
Water Elevation (feet above msl)	6.95		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.7		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	Clear by 3 gallons		
Free Product Present?	No	Thickness (ft):	n/a

GROUNDWATER SAMPLES

Number of Samples/Container Size				4 40-ml VOA vials			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	2	19.08	7.33	19321	0.33	-150	
	4	19.14	7.28	17574	0.26	-138.7	
	6	19.12	7.23	16947	0.24	-131.8	

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

HC odor, no sheen, initially dark - clears

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION



0601118

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
EDF Required? Yes No Email PDF Report: YES

Report To: Adrian Angel Bill To: Same
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com
Tel: (925) 944-2899, extension 132 Fax: (925) 944-2895
Project #: 8262 Project Name: Cruise America
Project Location: Oakland
Sampler Signature: Adrian Nieto

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED					
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other		
+ MW-1		1/9/06	11:05	3	Vials	X					X	X	X	X		X
+ MW-2			11:15			X					X	X	X	X		X
+ MW-3			12:00			X					X	X	X	X		X
+ MW-4			10:50			X					X	X	X	X		X
+ MW-5			11:30			X					X	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)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 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	MTBE + TBA (8260)	

Relinquished By: Adrian Nieto Date: 1/9/06 Time: 4:28pm Received By: M... V...
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

ICE/c° PRESERVATION VOAS O&G METALS OTHER
GOOD CONDITION APPROPRIATE CONTAINERS
HEAD SPACE ABSENT DECHLORINATED IN LAB PRESERVED IN LAB

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0601118

ClientID: AEL

EDF: NO

Report to:

Adrian Angel
 AEI Consultants
 2500 Camino Diablo, Ste. #200
 Walnut Creek, CA 94597

TEL: (925) 283-6000
 FAX: (925) 283-6121
 ProjectNo: #8262; Cruise Amona
 PO:

Bill to:

Joanne Bryant
 AEI Consultants
 2500 Camino Diablo, Ste. #200
 Walnut Creek, CA 94597

Requested TAT:

5 days

Date Received: **01/09/2006**

Date Printed: **01/09/2006**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0601118-001	MW-1	Water	1/9/06 11:05:00 AM	<input type="checkbox"/>	A	B											
0601118-002	MW-2	Water	1/9/06 11:15:00 AM	<input type="checkbox"/>	A	B											
0601118-003	MW-3	Water	1/9/06 12:00:00 PM	<input type="checkbox"/>	A	B											
0601118-004	MW-4	Water	1/9/06 10:50:00 AM	<input type="checkbox"/>	A	B											
0601118-005	MW-5	Water	1/9/06 11:30:00 AM	<input type="checkbox"/>	A	B											

Test Legend:

1	G-MBTX_W	2	MTBE_W	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Maria Venegas

Comments:

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.



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
 Telephone : 925-798-1620 Fax : 925-798-1622
 Website: www.mcccampbell.com E-mail: main@mcccampbell.com

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #8262; Cruise Amona	Date Sampled: 01/09/06
		Date Received: 01/09/06
	Client Contact: Adrian Angel	Date Extracted: 01/12/06-01/13/06
	Client P.O.:	Date Analyzed: 01/12/06-01/13/06

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0601118

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	260	ND	1.8	ND	ND	1	112
002A	MW-2	W	ND	6.1	ND	ND	ND	ND	1	106
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	98
004A	MW-4	W	ND	140	ND	ND	ND	ND	1	103
005A	MW-5	W	ND	70	ND	ND	ND	ND	1	105

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell 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 / mineral spirit?); 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 ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.



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 Telephone : 925-798-1620 Fax : 925-798-1622
 Website: www.mcccampbell.com E-mail: main@mcccampbell.com

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #8262; Cruise Amona	Date Sampled: 01/09/06
		Date Received: 01/09/06
	Client Contact: Adrian Angel	Date Extracted: 01/11/06-01/14/06
	Client P.O.:	Date Analyzed: 01/11/06-01/14/06

t-Butyl alcohol & Methyl tert-butyl ether*

Extraction method: SW5030B

Analytical methods: SW8260B

Work Order: 0601118

Lab ID	Client ID	Matrix	t-Butyl alcohol (TBA)	Methyl-t-butyl ether (MTBE)	DF	% SS
0601118-001B	MW-1	W	560	280	10	100
0601118-002B	MW-2	W	ND	7.6	1	106
0601118-003B	MW-3	W	ND	ND	1	100
0601118-004B	MW-4	W	200	150	5	103
0601118-005B	MW-5	W	2000	84	33	104

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	5.0	0.5	µg/L
	S	NA	NA	mg/Kg

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0601118

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 19760			Spiked Sample ID 0601111-002A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) ^f	ND	60	109	101	7.91	103	100	2.68	70 - 130	70 - 130
MTBE	ND	10	83.5	87.9	5.18	96.1	91.3	5.09	70 - 130	70 - 130
Benzene	ND	10	93.1	87.1	6.61	88.6	86.4	2.47	70 - 130	70 - 130
Toluene	ND	10	92.3	88.1	4.61	90	87.7	2.62	70 - 130	70 - 130
Ethylbenzene	ND	10	95	87.9	7.81	91.2	87.8	3.85	70 - 130	70 - 130
Xylenes	ND	30	95.7	89.7	6.47	94.3	89.7	5.07	70 - 130	70 - 130
%SS:	95	10	102	101	1.29	97	99	2.13	70 - 130	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

BATCH 19760 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601118-001A	1/09/06 11:05 AM	1/12/06	1/12/06 4:56 AM	0601118-002A	1/09/06 11:15 AM	1/13/06	1/13/06 6:28 PM
0601118-003A	1/09/06 12:00 PM	1/13/06	1/13/06 4:18 AM	0601118-004A	1/09/06 10:50 AM	1/13/06	1/13/06 4:48 AM

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

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

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0601118

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 19775			Spiked Sample ID 0601120-004A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) ^f	ND	60	97.9	100	2.24	103	110	6.47	70 - 130	70 - 130
MTBE	ND	10	82.9	88	6.07	84.5	86.4	2.18	70 - 130	70 - 130
Benzene	ND	10	85.2	101	16.6	93.3	93.6	0.366	70 - 130	70 - 130
Toluene	ND	10	85.7	101	16.1	94.1	97	3.04	70 - 130	70 - 130
Ethylbenzene	ND	10	96.9	99	2.13	95	94.9	0.0110	70 - 130	70 - 130
Xylenes	ND	30	95.7	96.3	0.694	95.3	95.7	0.349	70 - 130	70 - 130
%SS:	102	10	102	105	2.75	103	103	0	70 - 130	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

BATCH 19775 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601118-005A	1/09/06 11:30 AM	1/13/06	1/13/06 5:47 AM				

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

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

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

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



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0601118

EPA Method SW8260B	Extraction SW5030B			BatchID: 19771			Spiked Sample ID 0601115-002A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Methyl-t-butyl ether (MTBE)	ND	10	95.8	102	6.29	99.8	97.3	2.53	70 - 130	70 - 130
%SS1:	105	10	100	101	1.66	100	97	2.56	70 - 130	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

BATCH 19771 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601118-001B	1/09/06 11:05 AM	1/11/06	1/11/06 5:48 PM	0601118-002B	1/09/06 11:15 AM	1/13/06	1/13/06 1:16 PM
0601118-003B	1/09/06 12:00 PM	1/12/06	1/12/06 6:24 PM	0601118-004B	1/09/06 10:50 AM	1/13/06	1/13/06 4:06 PM
0601118-005B	1/09/06 11:30 AM	1/14/06	1/14/06 8:23 AM				

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

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

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.