

Phone: (925) 283-6000

1202449

Fax: {925} 283-6121

November 11, 2002

Mr. Barney Chan ACHCSA 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94501 Alameda County
NOV 1 4 2002
Environmental Health

Subject:

**Well Installation and Sampling Report** 

796 66<sup>th</sup> Avenue Oakland, CA AEI Project No. 5526

Dear Mr. Chan:

Enclosed is the final report for the Cruise America property.

Also enclosed are the previously mentioned reports. These are the only documents we discovered when we performed our initial Phase I on the property. There are also several maps, not attached to any particular report. Our research did not reveal any information about the current disposition of the diesel contaminated soil, or whether the former gasoline and diesel tanks got regulatory closure.

AEI never issued final reports for the advancement of soil borings SB-1 through SB-11. Copies of the analytical results are included in the tables of the enclosed reports. Copies of the original analytical documents were enclosed with the workplan. Please let me know if you require additional copies.

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

Sincerely,

Nathan Garfield Staff Geologist

# MONITORING WELL INSTALLATION REPORT

796 66th Avenue Oakland, California 94621

Project No. 5526

Prepared For

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

Prepared By

### TABLE OF CONTENTS

1.0 INTROI	DUCTION	1
2.0 SITE DE	ESCRIPTION AND BACKGROUND	1
3.0 GEOLO	GY AND HYDROGEOLOGY	2
4.0 PERMIT	`S	3
5.0 SOIL BO	ORING AND WELL INSTALLATION	3
6.0 WELL D	DEVELOPMENT AND SAMPLING	4
7.0 SAMPLI	E ANALYTICAL RESULTS	5
7.1 Soil	er	5
	TOR SURVEY	
9.0 SUMMA	RY AND RECOMMENDATIONS	7
10.0 REFER	ENCES	9
11.0 REPOR	RT LIMITATIONS AND SIGNATURES	9
FIGURE 1	SITE LOCATION MAP	
FIGURE 2	SITE PLAN	
FIGURE 3	WATER TABLE ELEVATION	
Figure 4	DISSOLVED HYDROCARBON CONCENTRATIONS	
FIGURE 5	SOIL ANALYTICAL RESULTS	
FIGURE 6 FIGURE 7	DISSOLVED MTBE CONCENTRATIONS TANK REMOVAL ANALYTICAL RESULTS	
Table 1	GROUNDWATER ELEVATION DATA	
TABLE 2	SOIL SAMPLE ANALYTICAL RESULTS	
Table 3	GROUNDWATER SAMPLE ANALYTICAL RESULTS	
Table 4	GROUNDWATER SAMPLE VOLATILE ORGANIC COMPOUND RESULTS	
APPENDIX A	PERMIT DOCUMENTATION	
APPENDIX B	BORING LOGS	
APPENDIX C	WELL FIELD SAMPLING FORMS  LADORATION AND ANALYMOUS WITH CHARLES CHORDS DOGUNG THE ATION	
APPENDIX D	LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION	



#### 1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Cruise America Inc. and documents the groundwater investigation performed at the property located at 796 66th Avenue in Oakland, California (Figure 1: Site Location Map). The investigation was conducted to further characterize the extent and the magnitude of the dissolved hydrocarbon plume in the groundwater beneath the site. A total of six temporary soil borings and five monitoring wells were installed.

#### 2.0 SITE DESCRIPTION AND BACKGROUND

The site is currently occupied by Cruise America, an RV rental and repair facility. Currently, two buildings exist on the site, surrounded by paved vehicle storage areas. Cruise America acquired the property from McGuire Huster in August 1988.

In February 1987, three underground storage tanks (USTs) were removed from the property by Applied GeoSystems. The tanks consisted of one (1) 1,000 gallon gasoline UST, one (1) 5,000 gallon gasoline UST, and one (1) 8,000 gallon diesel UST. The former locations of the tanks are shown on Figure 2. Soil sample analyses following removal of the tanks indicated that a release of both gasoline and diesel had occurred at the site.

Records were reviewed at the Oakland Fire Services Agency, Office of Emergency Services, for information regarding the investigation and/or cleanup of the release. No records were available at the Alameda County Health Care Services Agency (ACHCSA) although they had a file number for the USTs, nor were any records available at the Regional Water Quality Control Board (RWQCB).

A total of six groundwater monitoring wells and approximately 14 temporary soil borings had been installed at the site between 1987 and 1988 to investigate impacted groundwater associated with both the diesel and gasoline releases. Groundwater samples reportedly contained concentrations of  $60,000 \,\mu\text{g/l}$  of total hydrocarbons, and fuel product sheen was observed.

A geotechnical investigation was performed on the property in July 1988 by Kaldveer Associates. According to field observations, significant hydrocarbon odor was detected in seven of the borings advanced; however, chemical analyses were not performed.

In August 1988, Purcell, Rhodes, & Associates excavated soil from the area of the former diesel UST and dispensing system. Excavation sidewall and bottom soil samples and soil samples from the stockpiled soil reportedly contained concentrations of total petroleum hydrocarbons (TPH) ranging from non-detect to 3,400 mg/kg. The soil was reportedly aerated on the western portion of the property; however, final sampling or the disposition of the soil is not known. In addition, groundwater with free phase fuel present was reportedly removed from the excavation (assumed to be the diesel UST excavation); however, no details were available on the liquid removal.



The monitoring wells mentioned above could not be located in July 2001, and are assumed to have been decommissioned and/or buried under asphalt surfacing. Laboratory reports were incomplete or not included, and site plans were not to scale or incomplete in the reports reviewed by AEI.

In July 2001, AEI performed a Phase II investigation on the site that included advancing six (6) soil borings (labeled SB-1 through SB-6). Although low concentrations of TPH as gasoline (TPH-g) and TPH as diesel (TPH-d) were reported in the groundwater beneath the site, high levels of methyl tertiary butyl ether (MTBE) were detected in boring SB-1.

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

AEI removed the 10,000-gallon gasoline UST in November of 2001. Concentrations of TPH-g in four of the five soil samples ranged from 4.1 mg/kg to 280 mg/kg. Concentrations of MTBE and benzene, toluene, ethylbenzene, and xylenes (BTEX) were also detected in the five soil samples. Elevated concentrations of TPH as gasoline and MTBE were present in the groundwater sample at 44,000  $\mu$ g/L and 42,000  $\mu$ g/L, respectively. Elevated concentrations of BTEX were also present in the groundwater sample.

Based on these elevated concentrations of hydrocarbon contamination, the site was referred to the Alameda County Environmental Health, Local Oversight Program (LOP) for oversight. Mr. Barney Chan of the LOP requested a workplan to further define the extent of the hydrocarbon plume. AEI submitted the workplan on July 11, 2002 and received approval on July 17, 2002.

The site currently has a single waste oil UST. The collection of soil and/or groundwater samples near this tank was not within the scope of this investigation.

#### 3.0 GEOLOGY AND HYDROGEOLOGY

The site is located 80 feet north of Damon Slough, at an elevation of approximately 10 feet above mean sea level (amsl). The site is level, and the local topography slopes very gently to the south.

The near surface sediments encountered during well installation activities consisted of sandy and gravely clays to approximately 7 to 10 feet below ground surface (bgs), underlain by a black, silty clay with less gravel. The water table was encountered in the temporary borings between approximately 5 and 13 feet bgs.



Soil boring SB-17 was advanced to a depth of 50 feet bgs, and revealed an apparent aquitard, consisting of a stiff sandy clay from 29 to 45 feet bgs. Below the aquitard was a three foot layer of sandy clay underlain by well-graded gravely sands to the end of the borehole. The second water bearing zone was encountered at 45.5 feet bgs.

Well locations were surveyed relative to each other and the elevations of the tops of the well casings were surveyed with respect to mean sea level by Morrow Surveying (California Professional Land Surveyor No.5161) on October 10, 2002.

Water level measurements were made during the first groundwater monitoring and sampling episode conducted on September 30, 2002. Water table elevations ranged between 2.77 and 5.57 feet amsl. The hydraulic gradient was calculated at 0.005 ft/ft with a flow direction toward the south south east. Groundwater elevation data from MW-2 were not used for this calculation due to the low water level measured, and the slow recharge rate during purging and sampling of the well.

#### 4.0 PERMITS

Prior to the start of drilling activities, well construction permits were submitted and approved on September 10, 2002 by Mr. James Yoo of the Alameda County Public Works Agency (ACPWA). Copies of the permit documentation are included in Appendix A.

#### 5.0 SOIL BORING AND WELL INSTALLATION

On September 6, 2002 a total of six (6) borings (labeled SB-12 through SB-17) were advanced using a GeoProbe® direct push-drilling rig. Five (5) of the borings were advanced to a depth of 10 feet bgs. Boring SB-17 was advanced to 50 feet bgs using a dual casing to prevent downward migration of contaminants.

On August 2, 2002, a total of five (5) soil borings were advanced and converted to groundwater monitoring wells (MW-1 through MW-5). Please refer to Figure 2 for locations of the newly constructed wells. These borings were advanced with a hydraulic rotary drill rig running hollow-stem augers. Either 8.5" or 10.5" augers were used depending upon well casing diameter.

Soil samples were collected at appropriate intervals in each boring. Soil samples obtained during drilling activities were screened in the field via sensory perceptions and a portable organic vapor meter. The borings were logged using the unified soil classification system (USCS). Please refer to Appendix B for detailed logs of the borings, including depth of samples collected. Soil samples were either cut from the direct push liners or sealed within brass liners using Teflon® tape and plastic caps, and stored over ice during transportation to the laboratory. Cuttings generated during the drilling and well installation activities were stored on-site in sealed, labeled 55-gallon drums.



In order to collect a groundwater sample from the temporary borings (SB-12 through SB-17), a <sup>3</sup>/<sub>4</sub>" diameter slotted PVC casing was inserted into each boring upon reaching the target depth. Groundwater samples were collected in a stainless steel bailer, and poured into 40-mL VOA vials. The groundwater samples were capped so that there was no head space or visible air bubbles within the vials, then placed in a cooler with wet ice to await transportation to the laboratory. Following sample collection, the temporary PVC casing was removed and each boring was backfilled with neat cement grout.

Well MW-1 was constructed of 4" diameter casing. The remaining four wells were constructed of 2" diameter casing. All five wells were advanced to a total depth of 14 feet. The wells were constructed with 10 feet of 0.020" factory-slotted well screen and 4 feet of flush threaded blank Schedule 40 PVC casing that was installed through the hollow augers. The well screen in each well was fitted with a flush-threaded bottom cap. No. 2/16 Monterey sand was poured through the auger to form a sand pack from the bottom of the well to one foot above the slotted well screen. Approximately 1 foot of bentonite pellets were placed above the sand and hydrated with tap water. The remainder of the boring was filled to 0.5 feet below grade with neat cement grout. A flush mounted traffic rated well box was installed over the casing, and an expanding, locking inner cap was placed on the casing top. Refer to the boring logs (Appendix B) for an illustration of well construction details.

#### 6.0 WELL DEVELOPMENT AND SAMPLING

The five newly installed wells were developed on September 24, 2002. The wells were developed by first using a surge block to clear the sand pack and screen of any fines, and then a minimum of 10 well volumes of water were pumped from each well.

Groundwater samples were collected from the wells on September 30, 2002. No hydrocarbon odor or product sheen were observed during the sampling of the wells. Depth to groundwater was measured prior to sampling activities. Prior to the collection of water samples, at least three well volumes of water were purged from each well. Please refer to Appendix C for Groundwater Well Sampling Field Forms, which include details on the sampling of each well.

The groundwater samples were collected from each well using clean disposable plastic bailers. Water was poured from the bailers into 40 ml VOA vials and capped so that neither headspace nor air bubbles were visible within the sample containers. The samples were labeled and placed on ice and transported under chain of custody protocol for analysis to McCampell Analytical Inc. (DOHS Certification Number 1644) of Pacheco, California.



#### 7.0 SAMPLE ANALYTICAL RESULTS

#### **7.1 Soil**

From each boring, a soil sample collected between 4 and 5 feet bgs was analyzed for TPH-g (EPA Method 5030/8015), BTEX and MTBE by EPA Method 5030/8020, and total lead (TTLC extraction [EPA 6010]). An additional soil sample from SB-17, collected 39 feet bgs, was analyzed for the same parameters. Samples SB-12 5', SB-13 4', SB-14 4', MW-4 4', and MW-5 5' were reanalyzed for soluble lead (STLC extraction) due to their high total lead concentrations.

Hydrocarbon impacted soil was limited in extent. TPH-g was detected in four of the samples analyzed. The only significant concentration of TPH-g occurred in sample SB-13 4' (15,000 mg/kg). The three other samples containing detectable levels of TPH-g (SB-16 4', SB-17 4', and MW-4 4') ranged from 73 to 1.2 mg/kg. The samples containing detectable levels of TPH-g also contained MTBE, ranging from 1.5 to 2.0 mg/kg.

Sample SB-13 4' also contained significant concentrations of BTEX compounds. Minor concentrations of BTEX compounds were identified in SB-16 4', SB-17 4', MW-4 4', and MW-5 4'.

Elevated concentrations of lead were detected in soil samples collected on the north side of the former excavation (SB-12 through SB-14, MW-4 and MW-5). Please refer to Table 3 for details of the soil sample analytical results.

#### 7.2 Groundwater

Groundwater samples collected from the temporary borings and during the first sampling episode were analyzed for TPH-g (EPA Method 5030/8015), BTEX and MTBE (EPA Method 5030/8015), and Oxygenated Volatile Organics and Lead Scavengers (EPA 8260). Groundwater samples collected from the temporary soil borings were also analyzed for dissolved lead (EPA 6010).

Concentrations of TPH-g were detected as high as  $13,000 \mu g/L$  in SB-13, but were below laboratory detection limits in MW-2 and MW-3. Significant levels of MTBE (12 to 51,000  $\mu g/L$ ) were found in all water samples except those collected from MW-2 and MW-3. BTEX compounds were detected in SB-12, SB-13, SB-15, SB 16, SB-17, and MW-1. The highest concentrations of BTEX were in SB-13.

Sample SB-17-W 47' contained 150 of MTBE, 90  $\mu$ g/L of TPH-g, and elevated concentrations of BTEX compounds.

The groundwater sample analytical data are summarized in Tables 3 and 4. Laboratory results and chain of custody documentation are included in Appendix C.



#### 8.0 RECEPTOR SURVEY

The Department of Water Resources (DWR) performed a well survey of all production wells within 2,000 feet of the site. This survey located 12 well drillers' reports. From these reports, eight wells were located. The remaining three reports are from unknown locations including nine test holes at the Continental Can Company, an analysis of incrustating solids, and a 1,025 foot deep well for the Santa Cruz Fruit Packing Company. In addition to the information from the DWR survey, the Alameda County Health Care Services Agency provided on the Damon and Fitchburg well groups, which were historically used as a municipal water supply. Their exact locations are unknown. Figure 1 shows the locations of all wells identified in relation to the study site. The well data collected are summarized in the table below.

Exhibit 1: Nearby Wells

Location	Site Distance ID# (feet)		Direction	Depth (feet)	Screen Interval	Use	
Fitchburg well group (20 wells?)	1	~ 950	Southeast	NA	NA	Municipal	
Damon well group	2	~ 2,470	Northeast	NA	NA	Municipal	
American Brass & Iron Foundry	3	3,325	Southeast	495	450-495	Industrial	
EBMUD	4	3,040	Northwest	30	5-30	Test Well	
PG&E	5	3,325	North	120	NA	NA	
PG&E	6	2,280	North	120	NA	NA	
Coliseum OW-2	7	2280	Southeast	82.5	62-82	Observatio n	
Coliseum OW-03A	8	1,710	Southeast	82.5	62-82	Observatio n	
Coliseum OW-5B	9	1,140	Southeast	102	92-102	Observatio n	
Coliseum OW-06A	10	1,330	South	98	77.5-97.5	Observatio n	
Coliseum OW-7	11	1,140	South	72.4	52-72	Observatio n	

Site # were assigned arbitrarily.

NA - Information not available

The two municipal well groups are the Damon group and the Fitchburg group. The exact locations and screen intervals of both well groups remain unknown. Without this information it cannot be determined whether the MTBE detected in the deeper aquifer in SB-17 represents a threat to these wells as a result of vertical migration.

The test well at the East Bay Municipal Utility District (EBMUD) yard is located more than 3,000 feet from the site and is well outside the area impacted by this release.

Although the use of the two Pacific Gas and Electric (PG&E) wells is unknown, they are located more than 2,000 feet upgradient of the site, and should not be impacted by this release.



Small concentrations of MTBE may be detected in the five observation wells located around the Oakland Coliseum. Since these wells are not production wells, small concentrations of MTBE in them should not pose a risk to human health.

#### 9.0 SUMMARY AND RECOMMENDATIONS

This investigation was designed to further assess the extent and stability of the dissolved phase hydrocarbon plume identified during the removal of a 10,000-gallon gasoline UST from the property in November of 2001.

AEI advanced a total of six (6) temporary soil borings and installed five (5) permanent groundwater monitoring wells. Temporary borings SB-12 through SB-16 were advanced to a total depth of 10 feet bgs. SB-17 was advanced to 50 feet bgs, and AEI identified a second aquifer located 45.5 feet bgs. The monitoring wells were all constructed to a total depth of 14 feet bgs.

Based on soil sample analytical data, it is apparent that significant hydrocarbon impact soil remains in the vicinity of the former 10,000-gallon gasoline UST. The major concentrations of hydrocarbons remaining in the soil occur in the vicinity of SB-13, however high concentrations of TPH-g were reported in the three sidewall samples and in Disp-East 3' collected during the tank removal activities. Although high levels of lead exist in the soil (SB-12 4', SB-13 4', SB-14 4', MW-4 4', MW-5 5', and South 6 ½'), water sample data collected from the temporary borings indicate this lead has not significantly impacted the groundwater. Interim corrective action may be prudent to prevent further groundwater impact.

Considerable hydrocarbon concentrations are present in groundwater beneath the site. The most significant contaminant is MTBE. Despite the anomalous water level measurement from MW-2, it is apparent that groundwater flows southeast toward Damon Slough with a gradient of 0.005 ft/ft. The highest levels of contamination were found in the area of the former gasoline UST, but were also elevated in the upgradient direction (MW-4, MW-5, SB-9 and SB-1). MW-2 and MW-3 were the farthest downgradient, and were non-detect for all hydrocarbon compounds with the exception of a minor amount of MTBE (0.84  $\mu$ g/L) in the water sample from MW-2. This indicates that the contaminant plume is has not impacted the waters of Damon Slough. Dissolved MTBE concentrations are plotted on Figure 7.

Cursory investigation of underground utilities at the site revealed storm drains and sewer lines on the site that may lead from the vicinity of MW-4 north toward 66<sup>th</sup> Avenue. If such a preferential pathway exists it may explain the upgradient migration of MTBE observed in SB-1 and SB-9.

The groundwater sample collected from SB-17-W 47' indicates that this release has migrated vertically; however, these concentrations are significantly lower than those in the shallower water table.



The plume boundaries have been defined to the south by the non-detect results in MW-2 and MW-3, and to the north by results from SB-2, SB-3 and SB-7. The plume is loosely defined to the west since the September 2001 soil borings in the region of the former diesel UST on the western portion of the property (SB-4 through SB-6) did not identify any MTBE. The extent of contamination has not been defined to the east.

None of the wells identified by the DWR well survey are believed to be significantly impacted or to present a risk to human health.

Continued groundwater monitoring and sample collection are recommended to assess the mobility of the contaminants. The next episode of sampling is scheduled for December 2002.

ΔEI

#### 10.0 REFERENCES

- 1. Underground Storage Tank Removal Draft Report March 4, 2002 issued by AEI Consultants.
- 2. Site Investigation Workplan July 11, 2002 issued by AEI Consultants.
- 3. Workplan Site Investigation: Addendum August 6, 2002 issued by AEI Consultants.

#### 11.0 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 construction field that existed at the time and location of the work.

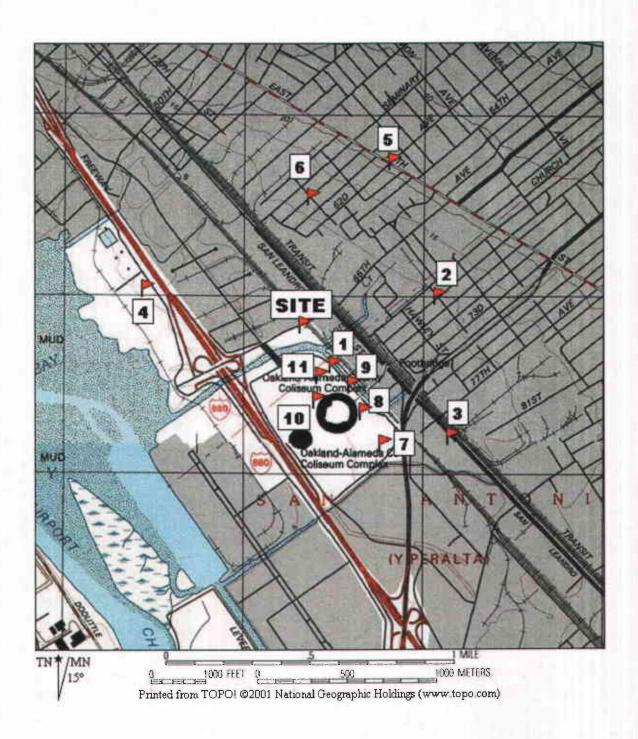
Sincerely,

Nathan Garfield Staff Geologist

Joseph P. Derhake

Senior Project Engineer, Principal

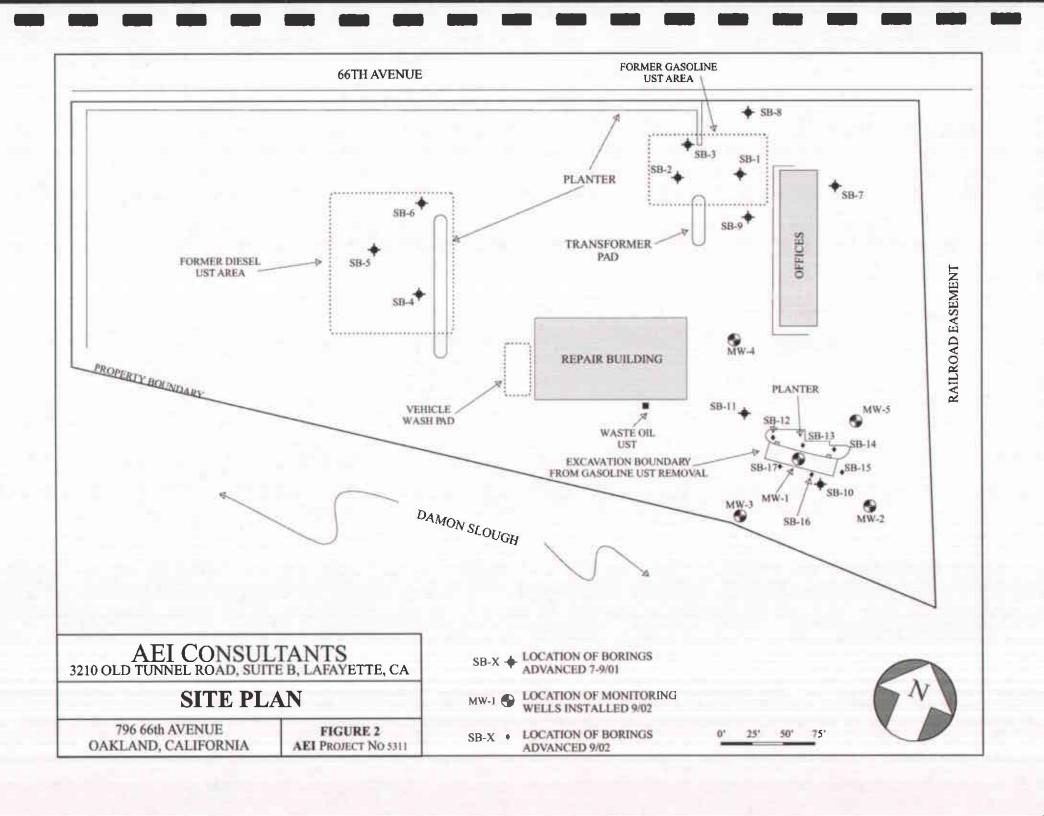
COSSATE IN ESTATE OF CALIFORNIA

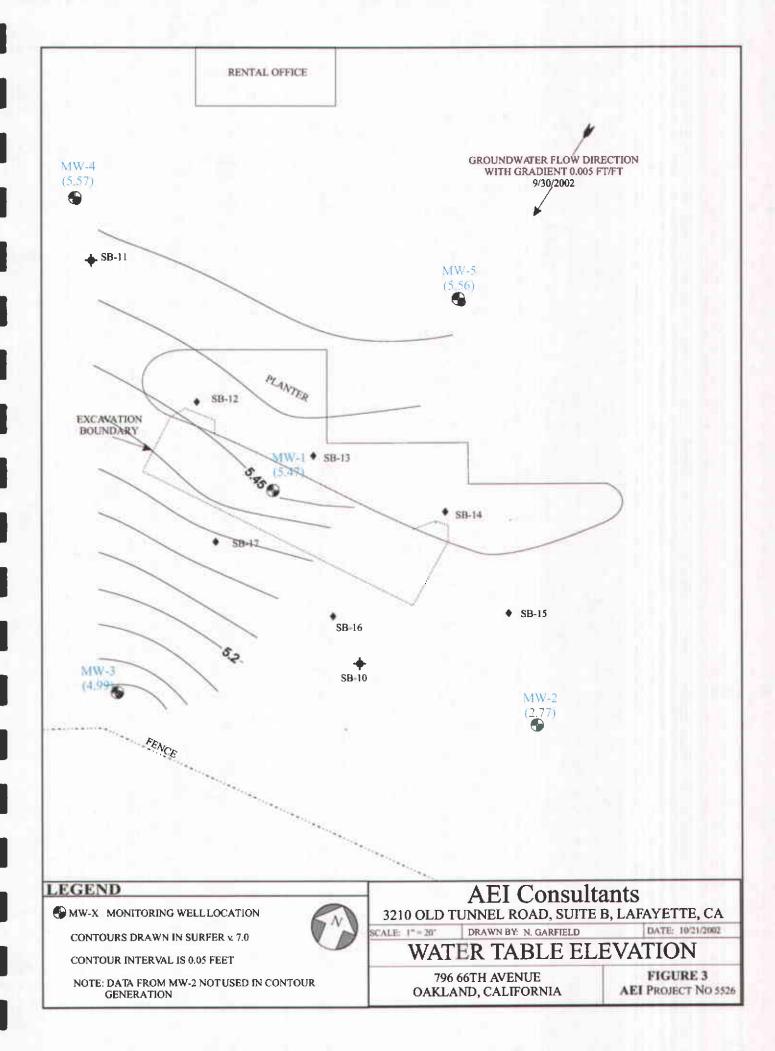


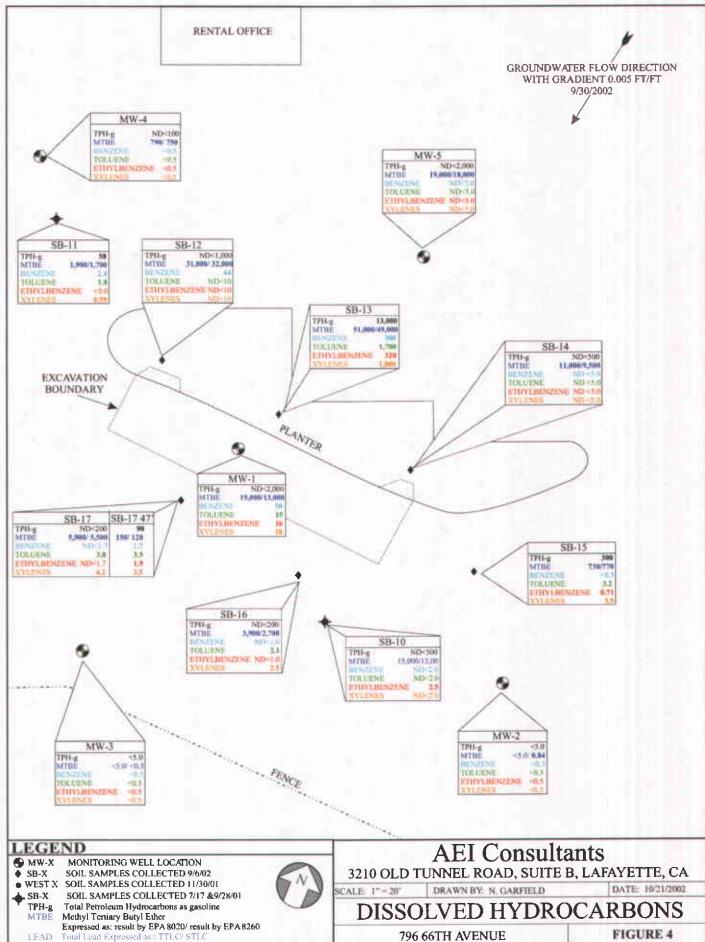
## **AEI CONSULTANTS**

### SITE LOCATION MAP SHOWING NEARBY WELL LOCATIONS

796 66<sup>TH</sup> AVENUE OAKLAND, CALIFORNIA FIGURE 1 PROJECT No. 5526

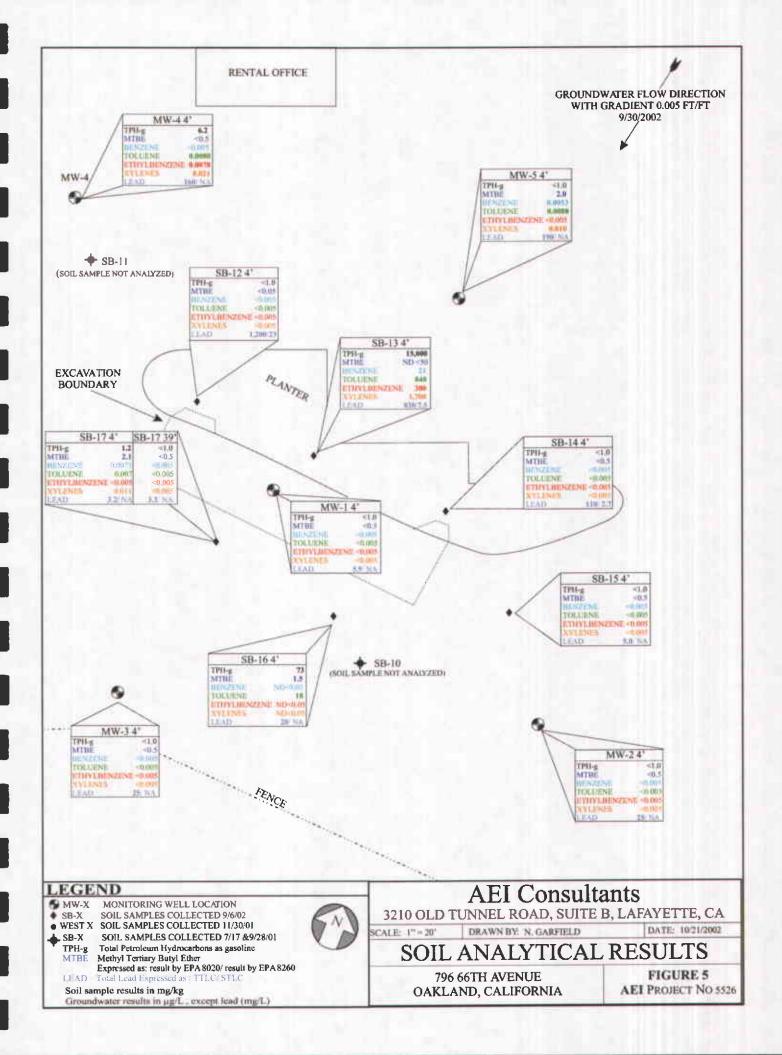


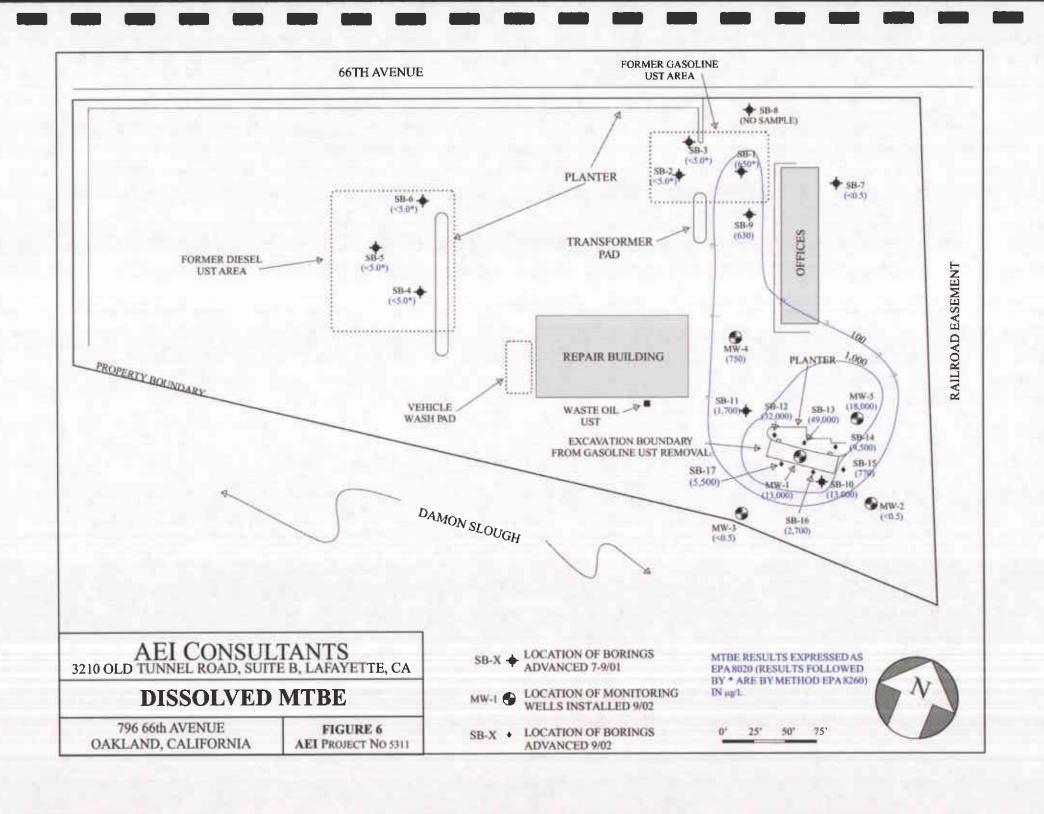




Soil sample results in mg/kg Groundwater results in µg/L . except lead (mg/L) AEI PROJECT NO 5526

OAKLAND, CALIFORNIA





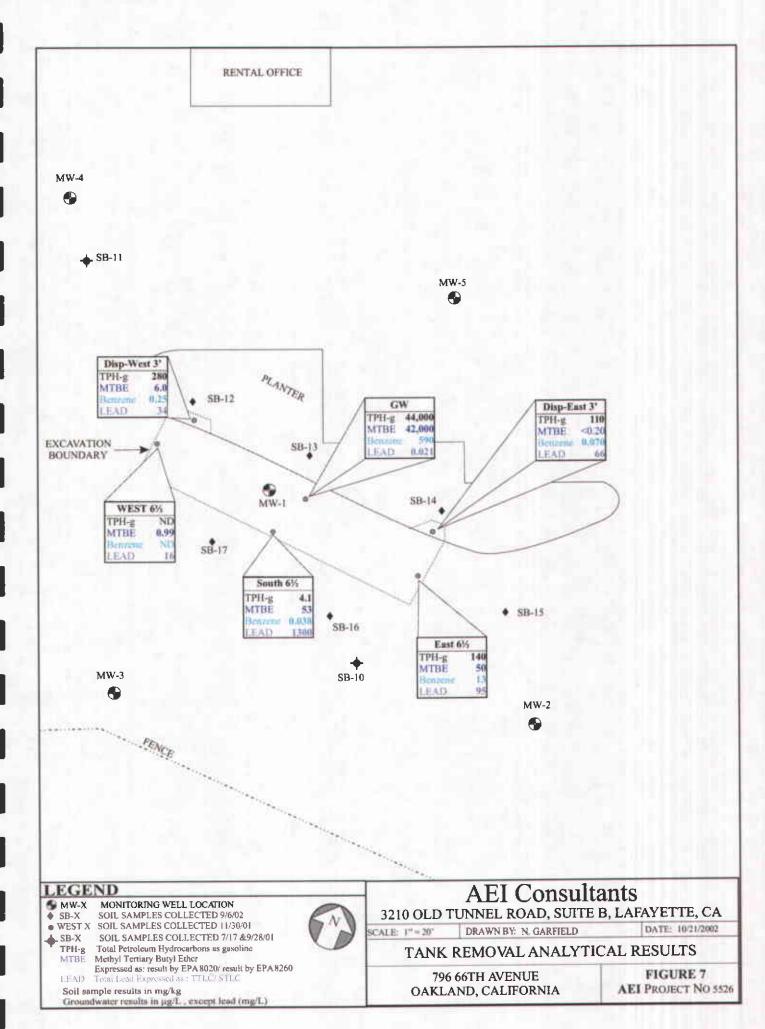


Table 1 Groundwater Elevation Data

Well ID	Date Collected	Well Elevation ft (amsl)	Depth to Water ft (TOC)	Water Table Elevation ft (amsl)	
MW-1	9/30/02	10.88	5.41	5.47	
MW-2	9/30/02	10.77	8.00	2.77	
MW-3	9/30/02	10.20	5.21	4.99	
MW-4	9/30/02	11.07	5.50	5.57	
MW-5	9/30/02	11.18	5.62	5.56	

All well elevations and depths to water are measured from the top of the casing (TOC)

ft (amsl) = feet above mean sea level

Table 2: Soil Sample Analytical Data

Sample	Date	TPH-g	TPH-d	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes		mg/kg)
1D		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	TTLC	STLC
SB-1 7'	7/17/2001	<1.0	-	< 0.05	<0.005	<0.005	< 0.005	<0.005	-	
SB-2 6'	7/17/2001	<1.0	26	<0.05	<0.005	< 0.005	< 0.005	< 0.005		
SB-2 10'	7/17/2001	<1.0		< 0.05	<0.005	< 0.005	< 0.005	<0,005		
SB-3 4'	7/17/2001	<1.0	-	< 0.05	< 0.005	< 0.005	< 0.005	< 0.005	-	
SB-4 6'	7/17/200t	<1.0	2.8	< 0.05	< 0.005	< 0.005	< 0.005	<0.005	-	
SB-5 4'	7/17/2001	5.0	13	<0.05	0,1600	0.058	0.11	0.21	-	
SB-5 7'	7/17/2001	9.7	37	< 0.05	0.059	0.012	0.007	0.056	-	_
SB-6 7'	7/17/2001	1.5	11	< 0.05	0.008	0.018	< 0.005	<0.005	-	-
SB-6 15'	7/17/2001	<1.0	<1,0	< 0.05	< 0.005	< 0.005	< 0.005	<0,005	-	-
SB-8 4'	9/28/2001	16	-	<0.05	0.053	0.11	0.031	0.14	_	_
SB-8 11'	9/28/2001	<1.0	-	< 0.05	< 0.005	<0.005	<0.005	<0,005	-	-
Disp-East 3'	11/30/2001	110	_	<0.20	0.07	1.2	0.16	5.2	_	
Disp-West 3'	11/30/2001	280	-	6	0.25	7.5	4.1	26	_	-
South 6 1/2	11/30/2001	4.1	-	53	0.038	0.16	0.034	0.19	-	-
West 6 1/2	11/30/2001	<50	_	0.99	< 0.005	0.014	0.011	0.046	_	_
East 6 1/2	11/30/2001	140	-	50	13	3.9	7.9	18	-	•
SB-12 5'	9/6/2002	<50		<0.05	<0.005	<0.005	<0.005	< 0.005	1200	23
SB-13 4'	9/6/2002	15,000	-	ND<50	21	840	300	1700	830	7.5
SB-14 4'	9/6/2002	<50	-	< 0.05	< 0.005	<0.005	< 0.005	< 0.005	110	2.7
SB-15 4'	9/6/2002	<50	-	< 0.05	< 0.005	<0.005	< 0.005	< 0.005	5	-
SB-16 4'	9/6/2002	73	-	1,5	ND<0.05	0.18	ND<0.05	ND<0.05	20	_
SB-17 4'	9/6/2002	1.2	-	2.1	0.0073	0.007	< 0.005	0.011	3.2	_
SB-17 39'	9/6/2002	<50	-	< 0.05	<0.005	<0.005	< 0.005	<0.005	3.3	-
MW-1 4'	9/19/2002	<1.0	_	< 0.05	<0.005	<0.005	<0.005	<0.005	5.9	-
MW-2 4"	9/19/2002	<1.0		<0.05	<0.005	< 0.005	< 0.005	<0.005	25	-
MW-3 4'	9/19/2002	<1.0		<0.05	<0.005	< 0.005	<0.005	< 0.005	25	-
MW-4 4'	9/19/2002	6,2	-	< 0.05	< 0.005	0.0080	0.0078	0.021	160	-
MW-5 4'	9/19/2002	<1.0	•	2.0	0.0053	9,0088	<0.005	0,010	190	-
MDL		1.0	1.0	0.05	0.005	0.005	0.005	0.005	3	0,200

MDL = Method Detection Limit

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

ug/kg = micrograms per kilogram (ppb)

mg/kg = milligrams per kilogram (ppm)

- = Sample not analyzed by this method

Table 3: Groundwater Sample Analytical Data

Sample		TPH-g	TPH-d	MTBE	(μg/L)	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
ID	Date	μg/L	μg/l.	(EPA 8020)	(EPA 8260)	μg/L	μg/L	μg/L	μg/L	mg/L
SB-1 W	7/17/2001	<50	-	650	-	0.63	< 0.5	<0.5	<0.5	-
SB-2 W	7/17/2001	<50	-	<5.0	•	<0.5	<0.5	<0.5	<0.5	-
SB-3 W	7/17/2001	120	-	<5.0	-	< 0.5	4.6	<0.5	<0.5	-
SB-4 W	7/17/2001	<50	990	<5.0	-	<0.5	< 0.5	<0.5	<0.5	-
SB-5 W	7/17/2001	68	410	<5.0	-	<0.5	0.66	< 0.5	<0.5	-
SB-6 W	7/17/2001	240	590	<5.0	-	<0.5	2.9	<0.5	<0.5	-
SB-7 W	9/28/2001	<50	-	<5.0	<0.5	<0.5	0.74	<0.5	<0.5	-
SB-9 W	9/28/2001	<50	-	670	630	<0.5	1.0	<0.5	< 0.5	-
SB-10 W	9/28/2001	<500	-	15,000	13,000	<2.0	<2.0	2.5	<2.0	-
SB-11 W	9/28/2001	58		1,900	1,700	2.4	1.8	<0.5	0.79	-
GW*	11/30/2001	44,000	-	42,000	-	590	5100	640	3500	-
SB-12	9/6/2002	ND<1000	-	31,000	32,000	44	ND<10	ND<10	ND<10	< 0.005
SB-13	9/6/2002	13,000	-	51,000	49,000	300	1700	320	1,800	< 0.005
SB-14	9/6/2002	ND<500	-	11,000	9,500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	< 0.005
SB-15	9/6/2002	300	-	730	770	<0.5	3.2	0.71	3.5	0.039
SB-16	9/6/2002	ND<200	_	3,900	2,700	ND<1	2.1	ND<1	2.5	<0.005
SB-17	9/6/2002	ND<200	-	5,900	5,500	ND<1.7	3.8	ND<1.7	4.2	<0.005
SB-17-W 47'	9/6/2002	90	-	150	120	1.7	3.5	1.9	3.5	-
MW-1	9/30/2002	1,800	_	19,000	13,000	50	15	16	18	_
MW-2	9/30/2002	<50	-	<5.0	0.84	< 0.5	< 0.5	< 0.5	< 0.5	-
MW-3	9/30/2002	<50	-	<5.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-
MW-4	9/30/2002	ND<100	-	790	ND<10	<0.5	< 0.5	< 0.5	< 0.5	-
MW-5	9/30/2002	ND<2,000	-	19,000	ND<250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	-
MDL		50	50	5.0		0.5	0.5	0.5	0.5	0.005

MDL = Method Detection Limit

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

μg/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

<sup>- =</sup> Sample not analyzed by this method

<sup>\*</sup> Sample GW was collected from standing water within the tank excavation

Table 4:
Groundwater Sample Fuel Oxygenate and Lead Scavenger Analytical Data

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

MDL = Method Detection Limit

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

µg/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

- = Sample not analyzed by this method

# APPENDIX A PERMIT DOCUMENTATION

68/19/2002 16:27 שנארא האדו וואססט העבורון ווי וויון אינו האחר טייסתוו באה מוציאים

9252835121

אנצואסוטנס וחו אאן

וט יג



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURET ST. RAYWARD CA. 94544-1398
PRON'S (\$10) 670-1475 PARLON MAGAIRANEST SALVIN CODE (\$10) 470-1470
FAX (\$10)782-1918 - 510-670-6633 James 100

DRILLING PERMI	T APPLICATION
for applicant to complete location of project 796 66 th Avenue Canada , 24 74621	PERMIT HUMBER 402-0857 WELL HUMBER APN
	PERMIT CONDITIONS Circled Permit Requirements Apply
CLIENT Nome Cruise America Con Kentiman Nome Cruise America Con Kentiman Nome Cruise Ment Nompon And Thone (4720) with 1500 City Ment Ment Mathem Granfield C(2) Nome AFI Congilhans / Northern Granfield C(2) Fox (425) 283-445  Address 2010 old Time! PL 5:445  City Latage they Gid Time! The Trive Phone (765) 243-4600  City Latage they Gid Time The Time The Thome (765) 243-4600	A. General opplication should be submitted so as to arrive as the ACPWA oblice five days prior to proposed starting date.  3. Submit to ACPWA within 60 days efter completion of permitted original Department of Water Residence—Well Completion Report.  3. Permit is valid if project not begun within 90 days of approval day.  1. Permit is valid if project not begun within 90 days of approval day.  1. WATER SUPPLY WELLS  1. Minimum surface seal thickness is two inches of
TYPE OF PROJECT  Well Conservation  Codicide Protognics  U Omeral Official  When Supply O Contamination  Monitoring O Well Described  PROPOSED WATER SUPPLY WELL USE  New Described D Replacement Comments  Musicipal D Insignion O	content grout placed by hamie,  2. Minimum seal depth is 50 foot for municipal and industrial wells or 20 feet for domestic and irrigation walls unless a lesser depth is specially approved.  C. GROUNDWATER MONITORING WELLS  1. Minimum surface seal thickness is two inches of coment group placed by tremis.  2. Minimum soil death for repositating wells is the
Industrial ii Other 5  DRILLING METROD! Mud Rojary II Alt Rojary II Auger ii Cable II Other XI Direct Push  DRILLER'S NAME Vironex  DRILLER'S LICENSE NO. 705 977	maximum depth precticable or 20 feet.  D. GEOTECHNICAL  Backfill bore hole by tronic with coment grout or coment grout/sand mixture. Upper two-three fact replaced in kind of with compacted country.  E. CATHODIC  Bill hale anode aone with concrete pieced by transc.  F. WELL DESTRUCTION  Send a map of work site. A separate parmit is required
WELL PROJECTS  DIM Male Diameter in. Maximum  Casing Diameter in. Dupth  Surface Surf Dupth R. Owner's Well Number	for wells despot than 45 met.  G. SPECIAL CONDITIONS  NOTE: One application must be submitted for each will or well described. Multiple basings an ana application are exceptable for scottechnical and contemination investigations.
UEOTECHNICAL PROJECTS  Number of Bornes 6 Maximuly  Holo Diameter 2 in Depth 75 in  ESTIMATED STARTING DATE 6 September 2002  ESTIMATED COMPLETION DATE 7 September 2002	APPROVED WATE 828-02
I hereby agree to comply with all requirements of this permit and Alameda Cousty	Ordinance No. 79-58,
OF CHICAGO A STATE OF THE STATE	<u>3/19/200</u> 2 Rev:3-13-00
	$\mathcal{L}_{\mathcal{L}}}}}}}}}}$

89/09/2002 09:53 9252836121
JUN-UG-UU NUM UI:11 YN ALAMEUR UUUNIY YWH KNASA AEI CONSULTANTS (SE)

PAGE 01



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOurces Section 395 Elmhurst 6t. Hayward Ca. 94544-1556 Phone (510) 670-4554 Marlon Magaillanes/Frank Codd (610) 670-4783 Pax (510)785-1935

#### DRILLING PERMIT APPLICATION FOR APPLICANT TO COMPLETE FOR OFFICE USE LOCATION OF PROJECT\_ Permit number MELL NUMBER PERMIT CONDITIONS CLIENT Circled Permit Requirements Apply Homo Cruise Address H Dest Hamps A. GENERAL Phone (490) 464. 7900 L. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed standing date. APPLICANT Cubrols to ACFWA within 60 days after completion of Name\_AEX Fu(925) 285-460 Phono(725) 285-600 permitted original Department of Water Resources-Well Completion Report. Address Selo Old Tarrel RA Colfe City Larry E HE 3. Permit is void if project not began within 90 days of 24 215 74549 מוצח לפעים לפער B. WATER SUPPLY WELLS TYPE OF PROJECY 1. Minimum surface seal thickness is two inches of Well Construction dement grows placed by tremis. Geojechnical Investigation Cathodia Protection 2. Minimum seal depth is 50 feet for municipal and ù Questal. Water Supply industrial walls or 20 feet for domestic and infigurion Contamination ij wells unless a leaser depth is specially approved. Monttering. Well Destruction Δ C. CROUNDWATER MONITORING WELLS . PROPOSED WATER SUPPLY WELL USE . INCLUDING REZOMETERS New Domestic (1) i. Minimum surface seal thickness is two laches of Replacement Domestic a Municipal ecitions group placed by bemin. ťΣ irriyation Industria) 2.Mininom zesi depth Ibr monitoring wells is the Ü Other Man : 40 K maximum depth proclemble or 10 feet. DRILLING METHOD: D. GEOTRCHNICAL Mad Raisey Backfill bare hale by tromic with samual grout or coment Air Romry Auger groupsand mixture. Upper two-lives for replaced in kind Other or with companied outlines. DRILLER'S NAME E. CATHODIC Fill hale anode zone with controls placed by tremic. DRILLER'S LICENSE NO. 604 F. WELL DESTRUCTION Send a map of work site. A separate permit, is required for wells desper than 45 feet. Well projects C. SPECIAL CONDITIONS Drill Hole Diameter 10. 5 Masmum Casing Diameter, NOTE: One application must be submissed for each wall or well ליים ולוסניים Suches Seal Deput destruction. Multiple borings on one application are seceptable Owner's Well Number MW - / for geolechnical and nonunination lovestigations. Geotechnical Projects \_ נבחות ל לי ושלוונים M≃xiqtun Halo Diameter Depth estimated starting date estimated completion date 102 ĵ-10·02 approved Usvorana I hereby agree to comply with all requirements of this permit and Adamada County Ordinance No. 73-66 APPLICANT'S SIGNATURE PLEASE PRINT NAME ₽¢V-5-13-Q₫

· 09/09/2002 09:53

9252036121

AEI CONSULTANTS (SF) ACHARAGO TOTA ATTIT LIS WITHLIGHER COMMIT-LAW MINOS LHY WOT DIRECTORS

PAGE 02 r. ul



# ALAMEDA COUNTY PUBLIC WORKS AGENCY

Water resources section
399 Elmhurst St. Hayward Ca. 94544-1996
Phone (510) 670-5554 Marlon Magallanes/Frank codd (510) 670-5783
Fax (510)562-1939

DEBUING FER	MIT APPLICATION
TOTAL BOT LOCALING MARIE AND	
for applicant to complete	FOR OFFICE USE
LOCATION OF PROJECT 796 66 TH Avenue	LUN'S ADCACC
CRULAND CA 9460	PERMIT NUMBER////// _ ( ) X X
	WELL NUMBER
Richard Control of Burning Contr	APM
CLIENT	PERMIT CONDITIONS Circles Permit Requirement Apply
Name Gruise America / Cong Kathan	The state of the s
Address II Lieut Management	A. GENERAL
Chy Mesa 47 Zip 25216	l. A permit application should be submitted so of to
APPLICANT	**************************************
Name AEE Constant 1 dt 1. 1 1 10	
Charlield 6/2/	2. Submit to ACPWA within 60 days efter completion of
Address Scio old Townel FR Soite & Phone 725) 283- Coo	Well Completion Report.
City Letagette, 214 Ste Phone 765) 283-6000	3. Farmit is void if project not begun within 90 days of
y	
Type of Project	D. WATER SUPPLY WELLS
N/A =	I. Minimum surface seal chickness is two inches of
Caffiedic Fromction in Clares in 1931 Investigation	ACCUSED STOLL AND WEST CO.
Water Supply Conformation	2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for documents and irrigation
Monitoring Well Destruction	<b> </b>
	1 ALANARIAM STUR MEDITALISMO BUSH
PAGPOSED WATER SUPPLY WELL USE	
Replacement Domestic 19	i Militrium surface seel this bears to be a transfer of
wanichai ii liigathau	구부미(4대 HTGHT 전 MCCC NV HTGHT)
Industrial a Other monitoring	2. Minimum and death for more lock a real of a real
DRILLING METROD:	(7)\$\$\[\frac{1}{2}\]\
Mud Rotary 11	p. GEOTECHNICAL
Makin ( an Indiana ) Auger &	Backfill bars hale by bemie with coment grout or coment
- Older 11	groupsand mixtura. Upper two-three feet replaced in kind or with composed audings.
DRILLER'S NAME HEW DAILING	E. CATRODIC
	955 hale a
PRILLER'S LICENSE NO. 604 987	
	Sond a man of work she A company was to be a
VELL PROJECTS & 7C	
	C. ASSCIAL CONDITIONS
Casing Diameter 7 in Maximum Lt fu	NOTE: One anothering was be set to be
Surface Sout Depth La II. Depth / If for Owner's Well Number MW - 2	NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for ecutebrical and acceptable.
CATAGORIAN AND AND AND AND AND AND AND AND AND A	for geomethnical and contamination investigation are accompable
EGTECHNICAL PROJECTS	· · · · · · · · · · · · · · · · · · ·
Number of Bermus Maximum Italo Denneter in Death	
STIMATED STARTING DATE 9/18/02	1 105
STIMATED COMPLETION DATE 9/16/0 C	11.400/
	APPROVED 11 TO TO
heroby agree to comply with all requirements of this parmit and Alimeda County O	refinance No. 73. cm
PPLICANT'S SIGNATURE	10 10 13404,
DATE "	17/02 / V
LEASE PRINT NAME Vathon Ga Field	( )
76	v.3-13-00
	<b>N</b> 1. 1.

89/89/2002 89:53 9252836121 AEI CONSULTANTS (SF)

באצ עתי סותומקומפא

PAGE 03



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

Water resources section

JPP Elmhuret St. Mayward Ca. 9454+1195

Prone (516) 670-5654 Marlon Magallanes/Wank Codd (516) 670-5761

DRILLING PERM	IIT APPLICATION
FOR APPLICANT TO COMPLETE  LOCATION OF PROJECT 796 66 TH AVENUE  CAUCHTO CA THE	FOR OFFICE USE  PERMIT NUMBER WO2-0890  WELL NUMBER
CLIENT Name Crise America/ Con Wathan Address II west Hamping And Phone (400) 464- 500 City Mere At 710 \$56.10	PERMIT CONDITIONS  Circled Fermit Requirements Apply  A. GENERAL  L. A permit application about the second
APPLICANT Name AFT Consultant / Northern Granfield 612/ Address The old Tomes RR Sates Phone (12) 293-200 City Latage He CA Zip 14547	neposed surving date.  2. Submit to ACPWA within 60 days after completion of operatived original Department of World Resources.  3. Permit is void if project not begun within 90 days of the Subject of
TYPE OF PROJECT  Well Construction Geotechnical Investigation  Cathodic Prosection O General O  Water Supply O Contamination O  blonduring Well Destruction O  PROPOSED WATER SUPPLY WELL USE	1. Ministum seriach seal thickness is two inches of comment provided by harmis. 2. Ministum seal depth is 50 feet for municipal and industrial wells or 20 feet for dementic and irrigation wells unless a leaser depth is specially approved.  C. GLOUNDWATER MONITORING WELLS  INCLIPATOR PIEZORIETES
Manicipal II Replacement Domestic II Municipal II Irrigadom II Industrial II Other Manicipal II DRILLING METROD: Mud Relary II Air Roury 7 Auger XI Cable II Other II	centant grout placed by bearing.  2. Minimum seal depth for momitoring wells is the maximum depth practicable or 30 fact.  D. GEOTECHNICAL.  Backfill born hole by branic with comest grout or semant grouts and advanced ligant.
DRILLER'S NAME He Drilling  DRILLER'S LICENSUNO. 604787  WELL PROJECTS  Drill Hale Dismeter 8-25 in. Maximum	or will compared outings.  E. CATHODIC  Fill hole empde some with concrete placed by bromic.  F. WELL DESTRUCTION  Send a map of work the A separate pormic is required for well despire than 45 feet.  G. SHECIAL CONDITIONS
Casing Diameter 2 In Out 16 for Owner's Well Number MW-5  GEOTZCHNICAL PROJECTS Number of Econogs Maximum Hole Diameter in Depth 0	NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are receptable for geotechnical and communication investigations.
ESTIMATED STARTING DATE 9/18/07.  ESTIMATED COMPLETION DATE 9/18/07.  I hetaby cyrus to comply with all requirements of this permit and Alameda County Ordinary County Ordinary Standard County Ordinary Ordinary Standard County Ordinary Or	APPROVED
PLEASE PRINT NAME Nathan Gotel	9/02

89/09/2002 09:53 9252836121

JUM-DD-UU MUN UI:11 PM ALAMEDA COUNTY PWA KM238 FAX NO. 510/821838

PAGE 84 P. U1



# ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
39 FLMHURST ST. HAYWARD CA. \$4544-1305
PHONE (510) 579-5554 MARLON MAGALLANES/FRANK CODD (510) E70-5783
FAX (510)781-1939

	UT APPLICATION
for applicant to complete	
FOREMON AND THE PROPERTY OF TH	FOR OFFICE USE
LOCATION OF PROJECT 776 66 TH Avenue	110000
CANLAND GA 9460	PERMIT NUMBER WOLL NUMBER
No. of the last of	APN
The second secon	
CLIENT	PERMIT CONDITIONS
Name Course Among I at Co	Circled Permit Requirements Apply
Address II West W	A. GENERAL
City Make (400) 414- 700	L. A permit application strength and a
APPLICANT	
Name AET Commissions ( A) 1	
Address sele old Tomel Ed. Soite B. Phone (PES) 285-6000 City Laterage Hey Col. 200 2454	2. Submit to ACPWA within 60 days after completion of
Chu La Tannel R.D. Soite B. Phone ( 765) 201- Com	Well Completion Denset Of Water Recourters
270 74549	As Secret is void if received as a sure of the secret
<del></del>	Provided the B. Water Supply Wells
Type of Project	1. Missenson with and a series
Weil Construction Cathodic Protection Cathodic Protection Cathodic Protection	). Minimum surface seal thickness is two inches of several prout placed by barnia.
Webs Electrical General	A MITHING and death is to some
T CARGINITIES M	
A MON DEPARTMENT D	C. CACUNDWATER MONITORING WELLS.
PROPOSED WATER SUPPLY WELL-USE	
Manager Manager Normania (4)	1 MITING Subbana sket skilling and the
irigalian a	
Industrial is Other work for my	2 Millionan seal desith for many trade and the seal of
RILLING METHOD:	maximum depth practicable or 20 feet.  D. GEOTECHNICAL
Mild Relary IJ All Relary h	Backfill hom bet and a
Cable U Other II Auger M	Backfill bare hole by tremis with contain group or coment groupleand mixture. Upper two-three feet replaced in kind
RICLER'S NAME Hew Drilling	
	e: -XIHODIC
RILLER'S LIGENSE NO. 604987	Fill hole anode some with contracts placed by tremit.  F. WELL DESTRUCTION
	Send a map of work sha a manager
ELE PROJECTS	for wells deeper than as feet,
Drill Hele Donnel 5.25	C. SPECIAL CONDITIONS
Gasing Diameter	NOTE: One sentences
Surface Seal Dupth Z h. Owner's Well Number MW ~ 4	NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are accorable for geotechnical and contamination in the second state.
EOTECHNICAL INDUSTRA	for geotechnical and contamination investigation are acceptable
Number of Borness Maximum  Belo Diameter In. Death	
Bold Diameter in Depth It	
TIMATED STARTING DATE 9/18/02 TIMATED COMPLETION DATE 9/18/02	
	APPROVED ACTION
eraby agree to comply with all repairements of this partial and Alamede County Orde	DATE /70
FLICANT'S SIGNATURE	laganes Ma. 72-68. / / W
	9/07
EASE PRINT NAME Matter Growthing 18	
Rev.s.	-13-00

09/09/2002 09:53

09/09/2002 09:53 9252036121 AEI CONSULTANTS (SF)

PAGE 85



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

Water resources section 399 Elmhurst St. Hayward Ca. 54544-1395 Phone (518) 670-5554 Marlon Magallanes/Frank codd (516) 678-5783 Fax (519)782-1939

DRILLING PE	HMIT APPLICATION
FOR APPLICANT TO COMPLETE	FOR OFFICE USE
LOCATION OF PROJECT 796 66 AVERUE  CAULADO, 64 94621	PERMIT NUMBER W102 - 0557
	WELL NUMBER
NATION Craise America Con Water	PERMIT CONDITIONS Gircled Permit Requirements Apply
Address II West Warner	. A. GENERAL
City Phone (190) HELL PLOO APPLICANT	1. A premit application thould be submitted so as to arrive at the ACTWA office five days prior to
Name_AFT Consultance / Male C. 10	
Address 3LIO old Town J PA TOWN TO THE PAGE 283-100	2. Submit to ACFWA within 60 days after completion of fermitted original Department of Water Resources.  Well Completion Report.
City Late ye 1/2, CM 30+48 Phono 725 243-600	3. Parmis is wold if project has begun within so days of
TYPE OF PROJECT	D. WATER SUPPLY WELLS
Well Construction	<ol> <li>Minimum surface seal thickness is two inches of several group placed by permie.</li> </ol>
wall Construction Geolechyles Investigation Cathodis Pratection  Water Committee  General  General	es Millimum and death to the terre to the second
White supply I Contamination	*********************************
Well Destruction	
Proposed water supply well use	C. GROUNDWATER MONITORING WELLS . INCLUDING MEZOMETERS
***** (A DE TO DE LA	1. Minimum surface feel thickness is two inches of
い (Mana Mana Mana Mana Mana Mana Mana Man	coming Right blaced by panie.
Industrial D Other when toning be	2-7/11/17/901 Jest death for more than a contract to the
	1194337711372
DRILLING METRODY Mad Rejary ti Air Party	D. DEGIECHNICAL
Clabia II Cited II Avent M.	Bookful bere hold by tremie with cament grout or communi groutfand mixture. Opner two-three four replaced in kind
DRILLER'S NAME HEW Doilling	E CATKODIC
driller's license no. 604987	Fill hole anode zone with concrete placed by tremic.
Total C hard an area	Send a map of work size A separate parmit is required for wells deeper than 45 feet.
VELL PROJECTS  Drill Nulo Districtor 8 .25 in. Maximum	di Bechal Conditions
Sorbee Sund Dopth 2 11. Owner's Well Number MW-	NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are assertable for geotechnical and contention to a supplication are assertable
Number of Bayings Maximum	for geotechnical and contemination invostigations.
fluis Deputy in. Depth to	· · · · · · · · · · · · · · · · · · ·
STIMATED STARTING DATE 9/8/02 STIMATED COMPLETION DATE 7/13/02	Grown Grown
horoby agree to comply with all requirements of this permit and Alameda County	APPROVED DATE
DATE	9/4/62
EASE PRINT NAME Wathon Gartield	1245-13-00
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

# APPENDIX B SOIL BORING LOGS

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-12

Client

Location:

	USC	s		Sa	mple	Data			
Depth	Symbol	Label	Subsurface Description	Sample Label	Туре	Blow/∏	Recovery	Well Data	Remarks
0-	51.7.21.7		Ground Surface						
2-		GC	Brown gravely sand						
4-									moderate hydrocarbon odor
		sw							PID = 35 ppm
				SB-12 5'	SS		40	1	
6-									saturated
			Black sandy gravel	SB-12 7'	SS		90		PID = 50 ppm
8-	50 SS 60 8-	CL	Black gravely clay						
10-	7620623		End of Borehole						
12-									

Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10 Depth to Water: 6.40 Reviewed by: EW

Logged by: NG

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-13

Client

Location:

	USCS			Sa	mple I	Data			
Depth	Symbol	Label	Subsurface Description	Sample Label	Туре	Blow/ft	Яесолегу	Well Data	Remarks
0-	20001000		Ground Surface						
		SP	Sand						
2-		GP	Gravely sand						
4-									strong hydrocarbon odor
i				SB-13 5'	SS		60		PID = 1500 ppm
6-		CL							
		-	Black gravely clay				l î		saturated
				SB-13 7'	SS				PID = 50 ppm
8-			A						
7002									
10-	J. HUMBEL		End of Borehole		1				
		ι							
12-									
14-			35						

Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10 Depth to Water: 6.15 Reviewed by: EW

Logged by: NG

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-14

Client:

Location:

Symbol	Label	Subsurface Description Ground Surface	Sample	Type	ı≝	ery	)ata	Remarks
		Ground Surface		-	Blow/ft	Recovery	Well Data	Remarks
	GC	Gravely sand						
								strong hydrocarbon odor PID = 1500 ppm
		Black gravely clay	SB-14 5'	SS		70		
								saturated
	CL		SB-14 7'	SS		50		PID = 50 ppm
		End of Borehole						
The state of the s		CL		SB-14 7	CL. Black gravely clay SB-14 7' SS	CL Black gravely clay SB-14 7' SS	CL Black gravely clay SB-14 7' SS 50	CL Black gravely clay SB-14 7' SS 50

Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10 Depth to Water: 5.98 Reviewed by: EW

Logged by: NG

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-15

Client:

Location:

	USCS			Sa	mple	Data		11	
Depth	Symbol	Label	Subsurface Description	Sample	Туре	Blow/ft	Recovery	Well Data	Remarks
0-	9475707953		Ground Surface						
2-	00 00 00	GC	Clayey gravel						
4-		CL	<b>Gravely clay</b> clasts to 6 cm green staining	SB-15 5'	SS		100		PID = 40 ppm
6-									
									saturated
Ī				\$B-15 7'	SS		80	1	PID = 50 ppm
8-		CL	Black gravely silty clay gravels decreasing						
10-									
			End of Borehole						
									,
12-									
14-									
	1								

Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10 Depth to Water: 5.45 Reviewed by: EW

Logged by: NG

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-16

Client: Location:

	USCS			Sa	mple l	Data			
Depth	Symbol	Label	Subsurface Description	Sample	Туре	Blow/ft	Recovery	Well Data	Remarks
0-	MET TO THE SE		Ground Surface						
	06. 2007	GC	Clayey gravel						
2- 4- 6-		CL	<i>Gravely clay</i> green staining	SB-16 5'	SS		90		PID = 80 ppm saturated
8-	346.23	ML	Green and black silt	SB-16 9'	SS		40		PID = <1 ppm
10-			End of Borehole						
12-									
14-									

Drill Date 9/6/02

Drill Method: Direct Push

Total Depth: 10 Depth to Water: 5.35 Reviewed by: EW

Logged by: NG

Sheet: 1 of 2

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-17

Client:

Location:

	ŲSC	s		Sa	mple	Data		9		
Depth	Symbol	Label	Subsurtace Description	Sample Label Type Blow/ft Recovery	Remarks					
0-	BOTO STORY		Ground Surface							
2-	700 700 800	GC	Clayey gravel							
4-			G	SB-17 5'	SS		80		PID = 10 ppm	
6-		CL	Gravely clay green staining						saturated moderate hydrocarbon odor	
- 1				SB-17 9'	SS		70		PID = 50 ppm	
8-		OL	Black sitty clay Organic and anthropogenic debris							
10-				-						
12-		CL	Soft Clay Organic rich						sulfide odor	
14-									Sulfide Odor	
16-		sc	Sandy Clay							
18-										
20-		ОН	Stiff organic clay							
- 1				SB-17 20'	SS		100			
22-										
-		CL								
24-			Brown gravely clay Gravels increase with depth							

Drill Date 9/6/02

Drill Method: Dual Cased Direct Push

Total Depth: 50

Depth to Water: 5.58, 45.5

Reviewed by: EW

Logged by: NG

Sheet: 2 of 2

Project No: 5526

Project Name: Cruise America

Log of Borehole: SB-17

Client

Location:

	USC	s		Sar	nple l	Data			
Depth	Symbol	Label	Subsurface Description	Sample	Type	Blow/ft	Recovery	Well Data	Remarks
27-			Brown gravely clay Gravels increase with depth						
		sw	Well graded sand						
29-			<u></u>						
31-			stiffens-less sand rounded clasts 2-3cm <5%						
33-									
37-		СН	Stiff sandy clay plastic						10
39-				SB-17 39'	ss		100		
41-			softer, more fine sand and silt						
43-									
45- 47-		CL	Sandy clay soft, cohesive						wet
49-	72444	sw	Well-graded gravely sand						

Drill Date 9/6/02

Drill Method: Dual Cased Direct Push

Total Depth: 50

Depth to Water: 5.58, 45.5

Reviewed by: EW

Logged by: NG

Sheet 1 of 1

Project No: 5526

Project Name: Cruise America

Log of Borehole: MW-1

Client:

Location:

	USC	s		Sa	Sample Data					
Depth	Symbol	Label	Subsurface Description	Sample	Туре	Blow/ft	Recovery	Well Data	Remarks	
0-	9000		Ground Surface					3.5		
2-	\$45.500.500.500.500.500.500.500.500.500.5		Saturated	MW-1 4'	ss	11	80		Neat cement grout  Bentonite PID = <1.0 ppm	
8-	260 Sec 260 Se	gw	Sand and baserock backfill		ss	5	25		PID = 3 ppm	
12-	000 000 000								10' 0.020 2"screen from 4' to 14' #2/16 Monterey Sand	
4.4		CL	Dark grey soft silty clay		SS			U	PID = 4 ppm	
14	1000000		End of Borehole					10000	LID = 4 bbut	

Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14 Depth to Water: 5.4 Reviewed by: EW

Logged by: NG

Sheet: 1 of 1

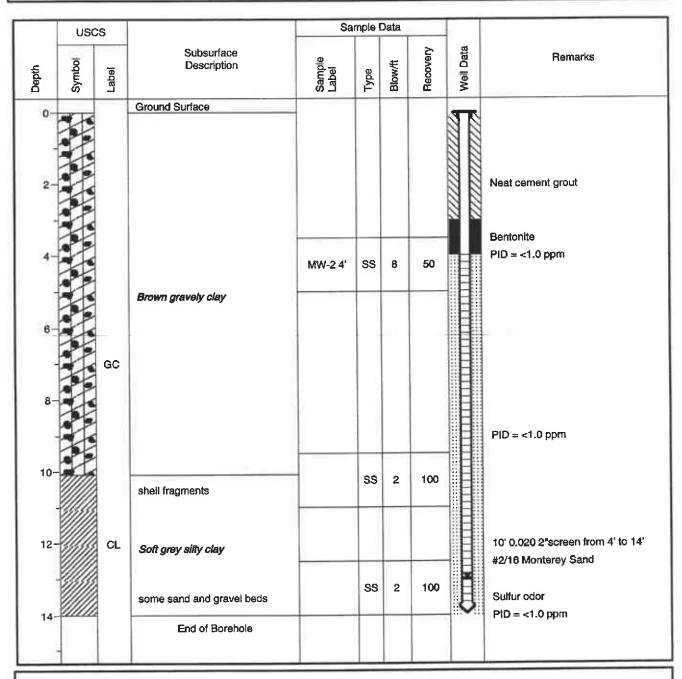
Project No: 5526

Project Name: Cruise America

Log of Borehole: MW-2

Client:

Location:



Drill Date 9/18/02 Drill Method: HSA

Total Depth: 14 Depth to Water: 13.0 Reviewed by: EW

Logged by: NG

Sheet 1 of 1

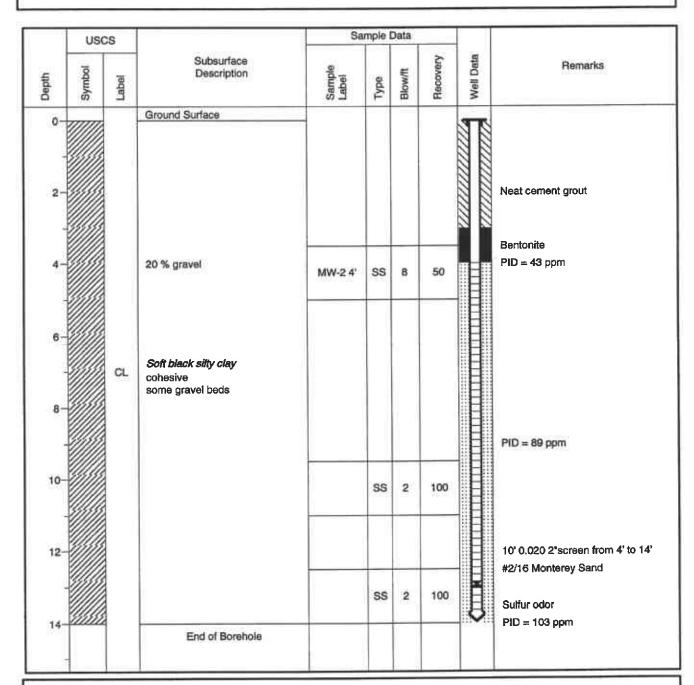
Project No: 5526

Project Name: Cruise America

Log of Borehole: MW-3

Client

Location:



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14 Depth to Water: 13.05 Reviewed by: EW

Logged by: NG

Sheet: 1 of 1

Project No: 5526

Project Name: Cruise America

Log of Borehole: MW-4

Client

Location:

	USC	S		Sa	mple i	Data			
Depth	Symbol	Label	Subsurface Description	Sample Label Type Blow/ft		Recovery	Well Data	Remarks	
0-	NO.		Ground Surface					-	
2- 4- 6-		GW	Brown sandy gravel	MW-4 4*	SS	10	50		Neat cement grout  Bentonite PID = 2 ppm
10-		CL	Dark grey silty clay Rich In organic matter Saturated						10' 0.020 2"screen from 4' to 14'
14-		sc	Clayey sand gravels to 1.5* End of Borehole						#2/16 Monterey Sand Sulfur odor PID = <1 ppm

Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14 Depth to Water: 5.7 Reviewed by: EW

Logged by: NG

Sheet: 1 of 1

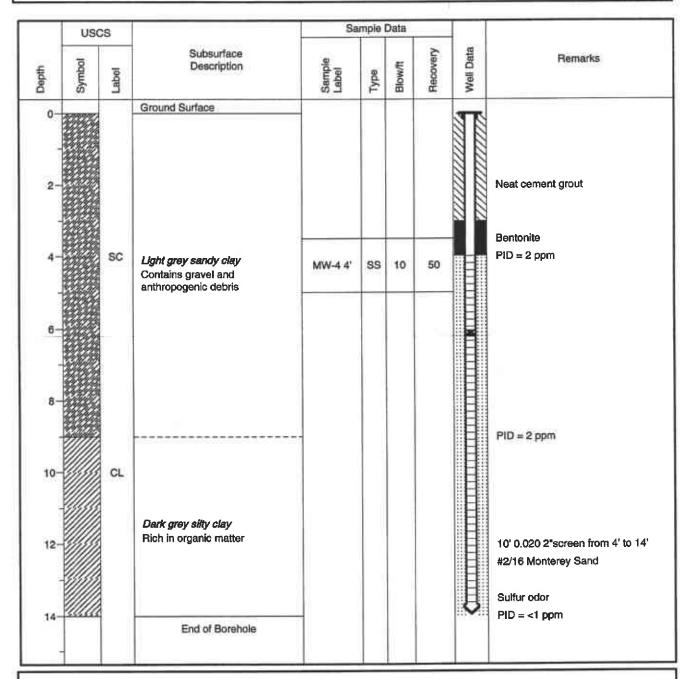
Project No: 5526

Project Name: Cruise America

Log of Borehole: MW-5

Client

Location:



Drill Date 9/18/02

Drill Method: HSA

Total Depth: 14 Depth to Water: 6.2 Reviewed by: EW

Logged by: NG

# ATTACHMENT C WELL FIELD SAMPLING FORMS

# AEI CONSULTANTS GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Cruise America	Date of Sampling: 9/30/2002
Job Number:	5526	Name of Sampler: N. Garfield
Project Address:	796 66th Avenue, Oakland	

MONITORIN	NG 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)	5.41				
Water Elevation (feet above msl)	5.47				
Well Volumes Purged	3				
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	16.8				
Actual Volume Purged (gallons)	16.5				
Appearance of Purge Water	clear				
Free Product Present?	? No Thickness (ft): -				

		GF	ROUNDW	ATER SAMPL	ES				
Number of Samp	oles/Container S	Size	**	3 40mL VOA					
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments		
15:23:46	2	-17.8	6.92	3955.2	2055	-10			
15:25:06	5	-17.8	6.92	3737.54	1013	-26			
15:26:26	7	-17.8	6.92	3661.97	196	-53			
15:27:46	10	-17.8	6.9	3691.34	183	-65			
15:29:06	13	-17.8	6.89	3690.32	177	-72			
15:30:26	16.5	-17.8	6.88	3680.29	173	-77			

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

# <u>AEI CONSULTANTS</u> GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number:

MW-2

Project Name:	Cruise America	Date of Sampling: 9/30/2002
Job Number:	5526	Name of Sampler: N. Garfield
Project Address:	796 66th Avenue, Oakland	

MONITORIN	NG WELL DATA			
Well Casing Diameter (2"/4"/6")	2			
Wellhead Condition	ок	_		
Elevation of Top of Casing (feet above msl)	10.77			
Depth of Well	14.00			
Depth to Water (from top of casing)	8.00			
Water Elevation (feet above msl)	2.77			
Well Volumes Purged	3			
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	2.9			
Actual Volume Purged (gallons)	3.0			
Appearance of Purge Water	clear			
Free Product Present?	P No Thickness (ft): -			

		G.	COUNDY	ATER SAMPL	ES					
Number of Sam	ples/Container S	Size		3 40mL VOA	3 40mL VOA					
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments			
14:15:51	0.5	-17.8	6.82	23876.53	2376	-19				
14:16:21	1	-17.8	6.83	23840.53	1897	-3				
14:16:51	1.5	-17.8	6.84	23896.59	1555	2	dry			
14:17:21	2	-17.8	6.86	23914.23	1274	6				
14:27:42	2.5	-17.8	7	23723.67	3787	25	dry			
14:28:17	3	-17.8	6.94	23812.41	1922	24				

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

sulfide odor				
			•	

# AEI CONSULTANTS GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Cruise America	Date of Sampling: 9/30/2002
Job Number:	5526	Name of Sampler: N. Garfield
Project Address:	796 66th Avenue, Oakland	

MONITORIN	IG WELL DATA		
Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	ОК		
Elevation of Top of Casing (feet above msl)	10.20		
Depth of Well	14.00		
Depth to Water (from top of casing)	5.21		
Water Elevation (feet above msl)	4.99		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.2		
Actual Volume Purged (gallons)	4.0		
Appearance of Purge Water	clear		
Free Product Present?	No Thickness (ft): -		

ber of Sam	ples/Container S	Size		3 40mL VOA			
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
14:39:04	0.5	72.17	6.78	19633.36	5581	-14	
14:39:29	1	72.61	6.64	18000.31	1960	0	
14:39:54	2	73.86	6.6	16986.73	505	12	
14:40:19	2.5	73.4	6.59	17719.27	474	15	
14:40:49	3.5	72.15	6.62	18760.31	632	1	
14:41:19	4	71.65	6.66	19088.98	813	5	dry

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

sulfide odor	

# AEI CONSULTANTS GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Cruise America	Date of Sampling: 9/30/2002
Job Number:	5526	Name of Sampler: N. Garfield
Project Address:	796 66th Avenue, Oakland	

MONITORIN	G WELL DA	TA			
Well Casing Diameter (2"/4"/6")		2			
Wellhead Condition	ок				
Elevation of Top of Casing (feet above msl)	11.07				
Depth of Well	14.00				
Depth to Water (from top of casing)	5.50				
Water Elevation (feet above msl)	5.57				
Well Volumes Purged	3				
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		4.1			
Actual Volume Purged (gallons)		4.0			
Appearance of Purge Water		black turning clear			
Free Product Present?	No	Thickness (ft):			

nber of Sam	nples/Container S	Size		3 40 mL VOA			
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:55	2	20.6	7.73	1680			
11:56	3	21.6	7.57	1653			
11:57	4	23	7.53	1642			clear @ 3.5
<b></b>							

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

# <u>AEI CONSULTANTS</u> GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Cruise America	Date of Sampling: 9/30/2002
Job Number:		Name of Sampler: N. Garfield
Project Address:	796 66th Avenue, Oakland	

MONITORIN	G WELL DA	TA !!!		
Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	ок	▼		
Elevation of Top of Casing (feet above msl)		11.18		
Depth of Well	14.00			
Depth to Water (from top of casing)	5.62			
Water Elevation (feet above msl)	5.56			
Well Volumes Purged	3			
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)		4.0		
Actual Volume Purged (gallons)	4.0			
Appearance of Purge Water	···	black turning clear		
Free Product Present?	No No	Thickness (ft):		

ber of Sam	nples/Container S	Size		3 40mL VOA			
Time	Vol Removed (gal)	Temperature (deg C)	pН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
12:05	1.5	22.2	7.06	>3999			clear
12:06	3	23.2	7.09	>3999			
12:07	4	24.1	7.04	>3999			
<del></del>							
					- <del>-</del>		

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

## APPENDIX D

# LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION

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

All Environmental, Inc.	Client Project ID: #5526; Cruise America	Date Sampled:	09/06/02
3210 Old Tunnel Rd., Ste. B		Date Received:	09/06/02
Lafayette, CA 94549-4157	Client Contact: Nathan Garfield	Date Reported:	09/20/02
Latayono, On 94949-4197	Client P.O.: Nathan Garfield	Date Completed:	09/20/02

September 20, 2002

## Dear Nathan:

## Enclosed are:

- 1). the results of 14 analyzed samples from your #5526; Cruise America 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.

Angela Rydelius, Lab Manager



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. Client Project ID: #5526; Cruise America Date Sampled: 09/06/02 Date Received: 09/06/02 3210 Old Tunnel Rd., Ste. B Client Contact: Nathan Garfield Date Extracted: 09/06/02-09/16/02 Lafayette, CA 94549-4157 Date Analyzed: 09/06/02-09/16/02 Client P.O.: Nathan Garfield

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

Extraction method: SW5030E Analytical methods: SW8021B/8015Cm Work Order: 0209092 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene Xylenes % SS DF 001A SB-12 W ND<1000,j,i 31,000 44 ND<10 ND<10 ND<10 20 102 002A SB-13 W 13,000,a,i 51,000 300 1700 320 1800 200 99.4 003A SB-14 W ND<500,j,i 11,000 ND<5.0 ND<5.0 ND<5,0 ND<5.0 10 111 004A SB-15 W 300,b,i 730 ND 3,2 0.71 3.5 ---# 005A SB-16 W ND<200,j,h,i 3900 ND<1 2.1 ND<1 2.5 2 ---# ND<200,j,h,i 006A SB-17 W 5900 ND<1.7 3.8 ND<1.7 4.2 3.3 -# 007A SB-17-W 47' W 90,a,i 150 3.5 1.9 1 ---# 3.5 008A SB-12 5' S ND ND ND ND ND 1 111 ND 010A SB-13 4' S 15,000,a ND<50 21 840 300 1700 0001 ---# 012A SB-14 4' S ND ND ND ND ND 1 103 ND 014A SB-15 4' S ND ND ND ND ND ND 1 106 016A SB-16 4' S 73,g,m 1.5 ND<0.05 0.18 ND<0.05 ND<0.05 10 100 018A SB-17 4' S 1.2.a 2.1 0.0073 0.0070 ND 0.011 1 118 021A SB-17 39' S ND ND ND ND ND ND 1 117 Reporting Limit for DF =1: W 50 5.0 0.5 0.5 0.5 0.5 1 μg/L ND means not detected at or

0.05

1.0

0.005

0.005

0.005



above the reporting limit

0.005

mg/Kg

<sup>\*</sup>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.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>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) 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.

McC	Campbell Analyt	ical Inc.		Teleph	venue South, #D7, Pacheco, CA 94: none: 925-798-1620 Fax: 925-798- nccampbell.com E-mail: main@mcca	1622	
All Environn	nental, Inc.	Client Proj	ect ID: #5526	; Cruise America	Date Sampled: 09/06/0	)2	•
3210 Old Tu	nnel Rd., Ste. B				Date Received: 09/06/0	)2	
Lafavette C	A 94549-4157	Client Con	tact: Nathan G	arfield	Date Extracted: 09/11/0	)2-09/15/0	02
Larayette, Cz	1 74347-4137	Client P.O.	: Nathan Garf	ield	Date Analyzed: 09/11/0	)2-09/15/0	02
Extraction method:	SW5030B		Methyl tert-l	Butyl Ether* ethods: SW8260B		Work Order:	020909
Lab ID	Client ID	Matrix		Methyl-t-butyl ethe	er (MTBE)	DF	% S
001B	SB-12	w		32,000,i		1000	116
002B	SB-13	w		49,000,i		1000	118
003B	SB-14	w		9500,i		250	114
004B	SB-15	w		770,i		100	117
005B	SB-16	w		2700,i,h		100	117
006B	SB-17	W		5500,i,h		330	117
007В	SB-17-W 47'	w	***	120,i		3.3	116
						-	

above the reporting limit	S	NA	
* water and vapor samples and all TCLP & product/oil/non-aqueous liquid samples in n	SPLP extracts ng/L.	are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/wip	ie,

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

W

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



0.5

NA

Reporting Limit for DF =1;

ND means not detected at or

μg/L

NA

#### 110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 McCampbell Analytical Inc. Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com All Environmental, Inc. Client Project ID: #5526; Cruise America Date Sampled: 09/06/02 Date Received: 09/06/02 3210 Old Tunnel Rd., Ste. B Client Contact: Nathan Garfield Date Extracted: 09/06/02 Lafayette, CA 94549-4157 Date Analyzed: 09/06/02-09/09/02 Client P.O.: Nathan Garfield Lead by Graphite Furnace Atomic Absorption\* Extraction method: E200.9 Analytical methods: E200.9 Work Order: 0209092

				moraus. 2200.7	WOLL CIGO!	0203032
Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0209092-001C	SB-12	w	DISS.	ND	1	N/A
0209092-002C	SB-13	w	DISS.	ND	1	N/A
0209092-003C	SB-14	w	DISS.	ND	1	N/A
0209092-004C	SB-15	w	DISS.	0.039	2	N/A
0209092-005C	SB-16	w	DISS.	ND	1	N/A
0209092-006C	SB-17	w	DISS.	ND	1	N/A
0209092-008A	SB-12 5'	S	TTLC	1200	1	107
0209092-010A	SB-13 4'	S	TTLC	830	1	108
0209092-012A	SB-14 4'	S	TTLC	110	1	105
0209092-014A	SB-15 4'	s	TTLC	5.0	1	104
0209092-016A	SB-16 4'	s	TTLC	20	1	102
0209092-018A	SB-17 4'	s	TTLC	3.2	1	102
0209092-021A	SB-17 39'	s	TTLC	3.3	1	106
Reporting 1	Limit for DF =1:	737	Dice	0.005		or/I

ND means not detected at or	W	DISS.	0.005	mg/L
above the reporting limit	S	TTLC	3.0	mg/Kg

<sup>\*</sup> water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water-Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; z) reporting limit raised due to matrix interference.



McC	ampbell Analyti	ical Inc.		Telepho	venue South, #D7, Pacheco, one: 925-798-1620 Fax: 9 ccampbell.com E-mail: mai	925-798-1622	
All Environme	ental, Inc.	Client Pro	pject ID: #5526	; Cruise America	Date Sampled: 0	9/06/02	
3210 Old Tuni	nel Rd., Ste. B				Date Received: 0	9/06/02	
Lafayette, CA	94549-4157	Client Co	ntact: Nathan G	arfield	Date Extracted: 0	9/16/02-09/18/0	)2
	71017 1101	Client P.C	D.: Nathan Gari	field	Date Analyzed: 0	9/18/02-09/19/0	)2
Extraction method: O	CA Title 22			Dy ICP* ethods: SW6010C		Work Order:	0209092
Lab ID	Client ID	Matrix	Extraction		Lead	DF	% SS
0209092-008A	SB-12 5'	S	STLC		23	1	N/A
0209092-010A	SB-13 4'	S	STLC		7.5	1	N/A
0209092-012A	SB-14 4'	s	STLC		2.7	1	N/A
1							
	•••						
				<del></del>			
							<u>-</u>
	Tinta Co. PT. 1						<u> </u>
ND means	Limit for DF =1; not detected at or ne reporting limit	S S	TTLC STLC		NA 0.2		g/L g/L

ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water-Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; z) reporting limit raised due to matrix interference.



<sup>\*</sup> water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

WorkOrder: 0209092

EPA Method: SW802	1B/8015Cm E	xtraction:	SW5030E	3	BatchID:	3838	Spiked Sample ID: 0209067-001A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High	
TPH(gas)	ND	0.60	106	118	10.2	109	107	1.40	80	120	
MTBE	ND	0.10	94.2	88.3	6.50	95.8	95	0.841	80	120	
Benzene	ND	0.10	102	99.5	2.47	95.2	97.8	2.72	80	120	
Toluene	ND	0.10	113	113	0.277	92	93.6	1.72	80	120	
Ethylbenzene	ND	0.10	110	108	2.00	99.3	100	1.09	80	120	
Xylenes	ND	0.30	110	103	6.25	93.3	93.3	0	80	120	
%SS:	107	100	111	112	0.796	97.5	100	2.46	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.

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0209092

EPA Method: SW802	:1B/8015Cm E	extraction:	SW5030B	}	BatchID:	3860	Spiked Sample ID: 0209087-006A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound	μg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High	
TPH(gas)	ND	60	102	103	0.991	113	114	0.611	80	120	
MTBE	ND	10	86.7	115	28.0	92.4	96	3.87	80	120	
Benzene	ND	10	96.1	91.8	4.63	94.8	95.8	1.03	80	120	
Toluene	ND	10	103	98.5	4.32	92.6	91.2	1.49	80	120	
Ethylbenzene	ND	10	106	102	4.60	97.8	98.9	1.11	80	120	
Xylenes	ND	30	110	103	6.25	93.3	93	0.358	80	120	
%SS:	99,7	100	101	96.7	4.38	103	99.8	2.73	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

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

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

## QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0209092

EPA Method: SW8260B	E	xtraction:	SW5030E	SW5030B BatchID: 3859			Spiked Sample ID: 0209089-003A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)	
Compound	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High	
Methyl-t-butyl ether (MTBE)	ND	10	81.3	85.6	5.15	92.2	89.9	2.56	70	130	
%SS1:	97.7	100	93.3	95.1	1.93	116	117	0.925	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) / (Arnount Spiked); RPD = 100 \* (MS - MSD) / (MS + MSD) \* 2.

## QC SUMMARY REPORT FOR 6010C

Matrix: S

WorkOrder: 0209092

EPA Method: 6010C	E	xtraction:	SW3050B BatchID: 3863			s	Spiked Sample ID: 0209092-014A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Lead	N/A	500	N/A	N/A	N/A	107	102	5.18	70	130
%SS:	N/A	100	N/A	N/A	N/A	108	108	0.309	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, or analyte concentration in sample exceeds spike amount.

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

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

## QC SUMMARY REPORT FOR E200.9

Matrix: W

WorkOrder: 0209092

EPA Method: E200.9	Extraction:		E200.7/E	E200.7/E200.9 BatchiD		3862 Spiked Samp		e ID: N/A		
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Lead	N/A	0.010	N/A	N/A	N/A	94.9	115	19.1	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 splke, or analyte concentration in sample exceeds spike amount.

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

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

## QC SUMMARY REPORT FOR SW6010C

Matrix: S

WorkOrder: 0209092

EPA Method: SW6010C	E	xtraction:	action: CA Title 22 BatchID: 3970					Spiked Sample ID: N/A							
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)					
Compound	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High					
Lead	N/A	10	N/A	N/A	N/A	113	102	10.3	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, or analyte concentration in sample exceeds spike amount.

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

## McCampbell Analytical Inc.

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

## **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0209092

Client:

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

(925) 283-6000

FAX: ProjectNo: (925) 283-6121 #5526; Cruise A

PO:

Nathan Garfield

06-Sep-02

							Re	quested Tests		
Sample ID	ClientSamplD	Matrix	Collection Date	Bottle	6010C	E200_9	V8021B/8015C	SW8260B		
0209092-001	SB-12	Water	9/6/02			С	Α	В		
0209092-002	SB-13	Water	9/6/02			С	Α	В		
0209092-003	SB-14	Water	9/6/02			C	Α	В		
0209092-004	SB-15	Water	9/6/02			С	A	В		
0209092-005	SB-16	Water	9/6/02			С	A	В		
0209092-006	SB-17	Water	9/6/02			С	A	В		
0209092-007	SB-17-W 47'	Water	9/6/02	<u> </u>			Α	В		
0209092-008	SB-12 5'	Soil	9/6/02		Α		A			
0209092-009	SB-12 7'	Soil	9/6/02		Α		A			
0209092-010	SB-13 4'	Soil	9/6/02		Α		Α			
0209092-011	\$B-13 7'	Soil	9/6/02		Α		A			
0209092-012	SB-14 4'	Soil	9/6/02		Α		A			
0209092-013	SB-14 7	Soil	9/6/02		Α		Α			
0209092-014	SB-15 4'	Soil	9/6/02		Α		Α			
0209092-015	SB-15 7'	Soil	9/6/02		Α		Α			
0209092-016	SB-16 4'	Soil	9/6/02		Α		A			

#### Comments:

	Date/Time		Date/Time	Н
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.

## McCampbell Analytical Inc.

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

## **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0209092

Client:

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

(925) 283-6000

FAX: ProjectNo: (925) 283-6121 #5526; Cruise A

PO:

Nathan Garfield

06-Sep-02

	•						Re	quested Test	s	
Sample ID	ClientSampID	Matrix	<b>Collection Date</b>	Bottle	6010C	E200_9	V8021B/8015C	SW8260B		
0209092-017	SB-16 9'	Soil	9/6/02		Α		A			·
0209092-018	SB-17 4'	Soil	9/6/02		А		Α			
0209092-019	SB-17 7"	Soil	9/6/02		Α		Α			
0209092-020	SB-17 20'	Soil	9/6/02		Α		А			
0209092-021	SB-17 39'	Soil	9/6/02		Α		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-Soll Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

	Report To: N	: (925) 798-1 <i>i</i>	2 <sup>nd</sup> AVEN PACHECO 520	J, CA 94.	553 I To:	-	c: (925	798 (	-162	2				, ,	TUI	.M	AR	OU	ND	TI	ME			I ] ISH			<b>J</b>	OR		: UR • £	į Į
	Report To: NATHE Company: All Envir	omnental	41	BIL	1 10:			<u>-</u>	<del>-                                    </del>								. A	naly	/sis	Requ	est							Othe			unent
	3210 Old	Tunnel Road	Suite B				<del></del>				· -				E	T	Τ	7	T	T							$\overline{}$	7	<del>-</del>	Con	unen
	Lafayette,	CA 94549-41	57				<del></del> ,-								# / P				1						2			-			
	Tele: (925) 283-6000			Fax	. (925	1 283	-6121						MTBE		3					21/4		55			disselve						
	Project#: 55	26		Proi	ect N	mer	0121	<del></del>	<i>A</i>				5		3 8							∞ /			3						
	Project Location:	66+5	Ave	_^^^	2-12	<u></u>	Crv:	<u> </u>	Jime	<u> </u>	4		¥5015)		3		6			8c		22	- 1	ŀ	7		-	-			
ļ	Sampler Signature:		Contraction of				1						+020g		Carbons (41.8.1)		802		Ş	1/2		2							1 1	•	
	4	S	AMPLIN		1 8	T	MAT	RIX	Τ,	ME	THO	Ď	2		doca.		7 209 7		O S	166	1	27.A 62			7,27601						
	SAMPLE ID L	OCATION Da	te Tim	්	Type Containers	ater	Soil	ıdge		T	T		H.	Total Petroleum Oil &	Total Petroleum Hydrocarbons (418 1)	EPA 601 / 8010	X ONLY (EP.	608 / 8080	608 / 8080 PC	EPA 624/8240 (8260) WTBE C	0/79/07/0	CAN 171	I TET SACALLA	Lead (7740) Mais	14401421123		-				-
76	13-12	9/	6	# 700	L	X	8 4	iš	5 2	岡	SNE SNE	ਰੈ	TPH	Tota	F	EPA	H	EPA	[]	EPA EPA	PAH	Z Z	3	Total 1							
, [~	B · 13			-12	+-	`			-	11		_[2					$\top$	T			1	1	$\top$	7	1	1-	<del> </del>	<del>                                     </del>			
ال	38. 14		<del></del>	$-\!$	╂┼	<del>    </del>			Ш	Ш		_ [1						7		il	+	+-	+	+-,		┼-	-	<del>  -</del>			
	313-15	<del></del>		- -	- - -	Ш	_ _		Ш	Ш							_	_	-†-	H	+	+-	╁	$\mathcal{H}$		+-		<del>  </del>			
					11	Ш		_	$\parallel$			71		1				-		-	+-	╁	+	++	┥—	-		$\dashv$			·
30 <u>=</u> 14 5	B 11			$\perp \perp$		Ш		$\top$			71	71	†-	†-			+	-	-11		+		┼	#			_	$\rightarrow$			
	13-17-W 47			1	1				$\prod$	7	1	-   -	†-				-	+	++	+	╀—	ļ	<u> </u>	1.1	<u> </u>				$\perp$		
-	13-17-W 47	1		Verl	114	V			1	#	-		,—	H	$\dashv$		- -	<del></del>	-#		<b> </b>	<u> </u>	<del> </del>	4	L.,			[	- 1 -		
$\vdash$	A							+	1-1	+	-	1.7					$\downarrow$		1	4_		<u> </u>	ļ						T		
5	13/1/1						+		$\vdash$	-+			<del> -</del> -		-	- -	<u> </u>		Т.								$\Box$	1.	1		
	1/1/2	., -		1 .			╌┼╌┼	+	H	{-	- -	$\bot$					1_			L.							_		1		
$\coprod$	1/1/4/		<del>-  </del>	1-1			+	-	$\vdash$	-		4_	_			_ _			1							_	_	-			<del></del> -
	V////81			<del>  </del>		<del>- -</del> -	+	-		_ _	1	_				1	T	T	1					_	$\dashv$	$\dashv$	+		┼-	_ <del>.</del>	
	1011	<del></del>		-JI	~	_										$\top$	$\top$	1-	1		$\dashv$				$\dashv$		+		<del> </del>		
<b> </b>	101	<del></del>	<del> </del>							T				_†	_	+	+	┼─		-	$\dashv$				4	4	4		↓_		
<del> </del> -									+	$\top$	+-	$\vdash$	$\dashv$	-+		+-	+-	⊬			_	$\rightarrow$		_	$\bot$		L	_	1	,	
-						1	1	╁╾╂		- -	-	$\vdash$				-	<u> </u>	<u> </u>			$\bot$							T			
Keli	nquished By:	Dato!	Time:	Receiv	ed By:			, ,			1	<del></del>	Ц.	<u> </u>			بل							. 🕂	T	1		T			
्रच-1		9/90	2 2:20		200	<b>-</b> :		in and the second		<b>7</b> 8		Ke	mar)		CE/tº		and the same of th						~L		V	<u> </u>	 	ـــــــــــــــــــــــــــــــــــــ	ALTERIAL C	I OTH	
1.50	nquished By:	Date:	Time:	Receiv	ed By:		1.70	M		M	7	1		G	OOD	CON	DITI	ON			P)	RESI	erv. Ofri	ATIO	N ~					LOTH	DCR.
									-					E	OOD EAD ECH	SPA(	<b>1</b> 2	₩Ē	VI	_	. C	ONT	AIN	RR9				•			
Keli	nquished By:	Date:	Time:	Receiv	ed By:			·····	<del></del>		-			-			(	Ţ	4 446	7		1	WHY.	<b>#</b> ][	NLA	H					٠.
 		1																•		.1	0	: 1		س							

3 Milwag Valle

Mo	CAMPB:	2" AVEN	NAL) UESOU	Y IJU. TH, #D7	YT TV	۱C. ِ (	ر ا	20'	4	ʹʹʹͿ	Ó			,	CE	[A]	N	OF	Ct	JST	OD	ΥF	ŒC	ŌŔĴ	D ·	<del></del>	<u> </u>
Telephone, (925	1	ハンババハヘハ	, CA 945	133		925) 79				- [		Τţ	JR1	(A V	ROU	JNI	OT.	IMЕ	3			{	□ <b>}</b>	i i		· 5,20A	
Report To: NATHAN Z	ORFIEL	7	Bill	To	1 47. (	723) 13	0-10	022		$\dashv$	<b>-</b> ,									RUS	H :	24 F	IOU.	48]	HOUR	· 520A	Ÿ
Company: All Environment	ar									-	<del></del>		,	· .	Ana	lysis	Rec	uest					53	ther	Tc	omment	
3210 Old Tunnel	Road, Sui	ite B	<del></del>								.	<u> </u>	1		-	-							n Z	7	<del>    _</del>		
Lafayette, CA 94	549-4157	·					<u> </u>	·	<del></del>	<b> </b>	23	Grease (5520 E&F/B&F)											70/9				
Tele: (925) 283-6000			Fax	(925)	283-61	71				6	A L	133							310		77		13			,	
Project#: 5526	<del></del>		D !!		me: (	121 17182		<del></del>				2	∞						/8				6				•
Project Location: 661	-Hre	Cal	76.4	-0	шо, с	17.50	Hm	ericq	<u>-                                    </u>	7803		18	4	1	ေါ	1.			3270		11-			11	- 1		
Sampler Signature:	- 22	و المستحديد	<u> </u>			·			-+	- 8 8		Š	اق	6	\$	7	1		5/2		6		3	11	·		ļ
		MPLINC	;	T	T M	ATRIX	,	MET	HOD	S02/8(		ঠ	Aoral Petroleum Hydrocarbons (418.1)	ŝ	EPA 608 / 8080	ģ		1 1	EPA 625 / 8270 / 8310		Lead (7240/7421/239.2/6010)		Molala				
				£ 5	147	VIVIV		PRESE	RVED	, si	(8015)	8		4	5	Ö	28		刨	-	365	- 1	ł				
SAMPLE ID LOCATION	N		# Containers	Type Containers	11					] =	100	Total Petroleum Oil	<b>E</b> :		1 €	80 1	46/	2	ъ. Ъ	를 <u>의</u>	121	ŀ	2				- 1
* * * * * * * * * * * * * * * * * * * *	Date	Time		Ö		l o			i	TPH as	Ä	Ĕ.	ğ	~   z		)% /	/82	23	٤  :	Ag Ag	8	_  \	<u> </u>	1 1		•	
			්	8	뛼	L I 웹	ä	o Fi	င္အိုမ္တ	1 X	i as	4	3 3		8	8	24	52	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	3 5	13	.	7		.		-
5B-12 51	1011	- <del></del>	_ <del> </del> *	. E	E N	Air	Õ,	티티	国图	BTEX&	TPH as Diesel (	ig F	Fb / Co. Cot.		PA Edi	E A	HA HA	EPA 625 / 8270	\{\bar{\}}	LUFT 5 Metals	हि	<u> </u>	0]				
513-12.71	9/6	<del> </del> -	_ 1		LX			AT		X			1	-	-			-	-	1-	<del>   </del>		<u> </u>			·	
57 17 11		<del> </del>			ľ					1			+	+	+	$\vdash$				_	$\triangle$		1	$\perp$			
513-13 41							$\exists$			X	-		- -	-	1-1	-+	$\dashv$	- -	-	_					ho	id	
58-13 7			$\Pi$				7		+	<del>/                                    </del>			+-	+-	$\vdash$	-1	_ _			1	X	X					7
5B-14 41							-#	<del>     </del>	- -	<del>/</del> -			┦	-			_ -		$\perp$		_	].		$\top$	ho	10	1
58-14 7			1/-		$\neg \uparrow \uparrow \uparrow$	`- - -		╅┿		4		_	<del> </del>	1					<u> </u>	$\perp$ !	XΓ	X	7			. 27	寸.
38-15 4	17				$\dashv \vdash \vdash$		-#-		+-1	-+	_	_ _	_				_L			TT			+-+	_	hol	10	-
3B·15 7	11		1-1-1		┵		-	1-1-	-  /	X L		_ _							Τ		X	+			+	<u> </u>	7
58-16 4-	11-	<u>-</u>	╂┼┼┼	-+			-11-		11	_ _			<u> </u>		T			$\top$	1	1-1	-	1-	<del>  -</del>	+-	1		-
58 16 9	<del>                                     </del>		<del>     </del>				-  _	<del>   </del>		X	⅃					1	T	$\top$		1-1	X	+-	╁╌┼╸		hol	<u>cf.</u>	+
58-17 4	<del>     </del>				_  -		$\bot\!$									1	╁-	+	_	<del></del>	<del>/</del> } -	<del> </del>	╀┷┼		<del>  ,</del>		_
B-17 7	╫		╂╌╁╌╂	_			_  _			6		1			_	+	1	+-	-	<del>   </del> ;	X	+-	<del>├</del> -}-		40	4	_
18-17 20	<del>                                     </del>	<del></del> -		L	111						T			-	+	+-	+-	-	<del>                                     </del>	+	4-		<del>  -</del>		<b> </b>		_
B-17-39"	H						$\prod$	7-		1-	1	1		+	- -	+-	+	-	$\mid \rightarrow \mid$		-	_		$\perp \rfloor$	hole	P	ታ ነ
<u> </u>			V		1	TT	1		X	:  -	-	1-1			-	+								<u> </u>	help	P	<b>}</b> ,'
					11	1-	1	-	1	+-	+	╂		-		<del> </del>	_		_		X		1	11			1
The second secon	Dale:	Time: Z:20	Receive	d By:							Ļ.										$\cdot   \neg$		7	1	<del></del>	- <del></del> -	1
	1/6/02	2:10						ANGEL PARTER	1 1	ema	arks:	•							·····				<del></del>	<u></u>		<u> </u>	1
elinquished By-	Date:	Time:	Receive	d By:			8				I	CE				···	٠	Turn-		·	VO	48	Ola	1 1/	Mar		1
(f.,) [ 1 ]											F	HOOD HEAD	CON	DETK	)N	<del></del>	. ,	AP	-ROE	VATI DATI	ON <u> </u>				ALS OF	1002	
linquished By:	Date: 7	lime:	Receive	d By:		······			$\dashv$		ľ	ECHI	Okii	NATE	DIN	LAB	اکست	_ (CQ)	VIAL	NERS	Ņ LAB						
													7							.,51)	ήν ΓΑΒ						
												-	110	-	<del></del> -		<del></del>			<b></b>						j	
· · · · · · · · · · · · · · · · · · ·	Rokov namitani * . *					(₺)	) (	M	de	100	/	/xi	H	2-													
سفهدس رو				•		LOG BY ME	L	シレビ	W WOO	91	v	, [	للمار								-						

McCampbell Analytical Inc.	110 2πd 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.	Client Project ID: #5526; Cruise America	Date Sampled:	09/19/02
3210 Old Tunnel Rd., Ste. B		Date Received:	09/19/02
Lafayette, CA 94549-4157	Client Contact: Nathan Garfield	Date Reported:	09/26/02
Bullyone, OII 745474137	Client P.O.: Nathan Garfield	Date Completed:	09/26/02

September 26, 2002

Dear Nathan:

## Enclosed are:

- 1). the results of 5 analyzed samples from your #5526; Cruise America 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.

Angela Rydelius, Lab Manager

McCa	mpbell Analyt	tical Inc.		Teleph	venue South, #D7, Pacheco, CA 94553 ione: 925-798-1620 Fax: 925-798-16 ioccampbell.com E-mail: main@mccamp	22	
All Environmen	ntal, Inc.	Client Pro	ject ID: #552	26; Cruise America	Date Sampled: 09/19/02		
3210 Old Tunn	el Rd., Ste. B				Date Received: 09/19/02		
		Client Cor	ntact: Nathan	Garfield	Date Extracted: 09/19/02		
Lafayette, CA 9	94549-4157	Client P.C	D.: Nathan Ga	rfield	Date Analyzed: 09/19/02		
Extraction method: SV	W3050B	<del></del>		by ICP* methods: 6010C	W	ork Order:	0209296
Lab ID	Client ID	Matrix	Extraction		Lead	DF	% SS
0209296-001A	MW-1 4'	S	TTLC		5,9	1	88.1
0209296-002A	MW-2 4'	s	TTLC		25	1	95.8
0209296-003A	MW-3 4'	s	TTLC		25	1	96.4
0209296-004A	MW-4 4'	s	TTLC		160	1	87.4
0209296-005A	MW-5 4'	S	TTLC		190	1	96.4
						<u> </u>	-
						ļ	<del> </del>
		_				<del> </del>	<del> </del>
	· · · · · · · · · · · · · · · · · · ·		1			<del> </del>	+
		-					<del> </del>
							<u> </u>
						<u> </u>	
Reporting	Limit for DF =1;	w	TTLC	<u> </u>	NA	ı	ng/L

TTLC

ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200,7 for all elements except: 200.9 (water-Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes-As, Se, Tl); 7471B (Hg).

DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; z) reporting limit raised due to matrix interference.



mg/Kg

ND means not detected at or

above the reporting limit

<sup>\*</sup> water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

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.

Client Project ID: #5526; Cruise America

Date Sampled: 09/19/02

3210 Old Tunnel Rd., Ste. B

Date Received: 09/19/02

Lafayette, CA 94549-4157

Date Extracted: 09/19/02

Client P.O.: Nathan Garfield

Client Contact: Nathan Garfield

Date Analyzed: 09/20/02-09/24/02

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

Extraction 1	nethod: SW5030B	_	,c (C0 C12)		methods: SW80211			Work (	Order; 0:	209296
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1 4'	s	ND	ND	ND	ND	ND	ND	1	102
002A	MW-2 4'	s	ND	ND	ND	ND	ND	ND	1	101
003A	MW-3 4'	s	ND	ND	ND	ND	ND	ND	1	110
004A	MW-4 4'	s	6.2,m	ND	ND	0.0080	0.0078	0.021	1	90.5
005A	MW-5 4'	S	ND	2.0	0.0053	0.0088	ND	0.010	1	104
										-
			<del></del> -						-	
		1	··						ļ	<del> </del>
									-	<u> </u>
						<u> </u>			+	
										<u> </u>
										<del> </del>
								·		+
		-			-					-
									<del>                                     </del>	<u> </u>
	g Limit for DF =1; s not detected at or	W	NA	NA	NA	NA	NA NA	NA 0.005	1	ug/L
	the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/K

\*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.

<sup>+</sup>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) 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.



Edward Hamilton, Lab Director

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

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

## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S

WorkOrder: 0209296

EPA Method: SV	V8021B/8015Cm I	Extraction:	SW5030B	i	BatchID: 4053		S			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(gas)	N/A	0.60	N/A	N/A	N/A	110	110	0.0617	80	120
мтве	N/A	0.10	N/A	N/A	N/A	93.5	93.9	0.485	80	120
Benzene	N/A	0.10	N/A	N/A	N/A	98.3	98.4	0.0554	80	120
Toluene	N/A	0.10	N/A	N/A	N/A	102	103	0.684	80	120
Ethylbenzene	N/A	0.10	N/A	N/A	N/A	103	102	1.02	80	120
Xylenes	N/A	0.30	N/A	N/A	N/A	103	103	0	80	120
%SS:	N/A	100	N/A	N/A	N/A	93.3	95.4	2.30	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 splke 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.

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

## QC SUMMARY REPORT FOR 6010C

Matrix: S

WorkOrder: 0209296

EPA Method: 6010C	E	xtraction:	SW3050B BatchID: 4054			Spiked Sample ID: 0209296-002A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)
Compound	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Lead	ND	500	85.8	88.2	2.83	83.9	89.8	6.84	70	130
%\$S:	95.8	100	98.3	100	1.68	103	101	1.98	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, or analyte concentration in sample exceeds spike amount.

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

AEI Consultants / All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549

0209296

			1
PAGE	1	OT	2
FAUE	1	OF	i
75° : "\ —	<del></del>	_	

ONSTITUTE (925) 283-6000		_					AT: I	RUSF	I / 2	4 hr	/ 48	hr / I	5 day	1 0	her		
AEI PROJECT MANAGER Nathor PROJECT NAME Consider Hand Project Number 5526  OTAL # OF CONTAINERS  CVD. GOOD CONDITION/COLD	erica B	]N	MATRI	H(g), BTEX 12	ER EFA 503,000 ST. 18E - H(d) - EFA 503,000 ST. 602	LEX, MTBE	TAL OIL & GREAT	NATURE HALOCATE	VOC'S SOLL'S WATER WAS	SMI-VOLATILE OF	DTAL LEAD (TTI C.)	14 DISSOLVED 239.2 (AA.)	720, 730, 7120, 7120, 720, 7930			HOLD	OF CONTAINERS
SAMPLE ID	DATE	TIME	MATRE	(VF 8		<b>10</b> 8 8	<b>                                   </b>	\ <b>Z</b> \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ <u>z</u> 8\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ <u>@</u> \&\\	/ P. S. S.	138		<del>                                     </del>	<del> </del>	<del>  ~</del>	#
MW-1 4'	9/19/2002		50 -	<u>  Y</u>							<u>X</u>				<u> </u>		ļ
MW-2 4'	9/19/02							·									
MW-3 4'	9/19/02		1														1
MW-4 4'	9/19/02				ļ												-
MW-5 4'	9/19/02		1	14					-								
																<u> </u>	
														! 		<del> </del>	
				<u> </u>												<u> </u>	
- Andrews																	
GOOD CONDITION	APPROFRIATE CONTAINERS																
DECHIANDATED DI AR	PRESERVED	NIAB															
	-													,			
)MMENTS / INSTRUCTIONS	<u> </u>			RELING	UISHED	-	•	RECEIVE	i i A		RELI	NQUISH	KED BY		REC	CEIVED B	Y
N.O.	all Amountined			N. SIGI	ATURE /	10	500	SIGNAT		0	\$	SIGNATU	RE		SIG	SNATURE	
ADDRESS 110 2nd Av	ell Analytical, enue S, #D7	II IC.		PRINTE	NAME		504	RIVIED	NAME			INTED N		_ _		TED NAME	Ē
Pacheco, C			DAT	/19 COI	MPANY	:\$\$	DATE	, СОМРА	ME X		ATE.	ANT AIT		DA		YMANY BMIT	
ONE 925/798.1620 FAX 925/798.16			DAI	<u></u>	171711			<u> </u>					···				

## McCampbell Analytical Inc.

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

## **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0209296

Client:

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

TEL:

(925) 283-6000

FAX:

(925) 283-6121

ProjectNo:

#5526; Cruise A

PO:

19-Sep-02

				-						 
							Re	quested Test	5	
Sample iD	ClientSampID	Matrix	<b>Collection Date</b>	Hold	6010C	8021B/8015				
				•						
0209296-001	MW-1 4'	Soil	9/19/02	ППП	A	i A	T			 
0209296-002	MW-2 4'	Soil	9/19/02		А	А				
0209296-003	MVV-3 4'	Soil	9/19/02		A	A				
0209296-004	MW-4 4'	Soil	9/19/02		A	А				† <del></del>
0209296-005	MW-5 4'	Soil	9/19/02		Α	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.

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.	Client Project ID: #5526; Cruise America	Date Sampled:	09/30/02
3210 Old Tunnel Rd., Ste. B		Date Received:	09/30/02
Lafayette, CA 94549-4157	Client Contact: Nathan Garfield	Date Reported:	10/07/02
Latayono, OA 9+3+9-4137	Client P.O.: Nathan Garfield	Date Completed:	10/07/02

October 07, 2002

Dear Nathan:

Enclosed are:

- 1). the results of 5 analyzed samples from your #5526; Cruise America 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.

Angela Rydelius, Lab Manager

## 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.	Client Project ID: #5526; Cruise America	Date Sampled: 09/30/02
3210 Old Tunnel Rd., Ste. B		Date Received: 09/30/02
Lafayette, CA 94549-4157	Client Contact: Nathan Garfield	Date Extracted: 10/02/02-10/05/02
Latayono, 021 74347-4137	Client P.O.: Nathan Garfield	Date Analyzed: 10/02/02-10/05/02

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm World Order 0200495

Extraction	method: SW5030B			Analytical methods: SW8021B/8015Cm				Work Order: 0209495				
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS		
001A	MW-1	w	1800,a	19,000	50	15	16	18	10	106		
002A	MW-2	w	ND	ND	ND	ND	ND	ND	1	106		
003A	MW-3	w	ND	ND	ND	ND	ND	ND	1	111		
004A	MW-4	w	ND<100.j	790	ND	ND	ND	ND	1	110		
005A	MW-5	w	ND<2000,j	19,000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	10	101		
								_	<del>-</del>			
				==								
									İ			
		:										
	Limit for DF =1; s not detected at or	W	50	5.0	0.5	0.5	0.5	0.5	1	μg/L		
	above the reporting limit		NA	NA	NA	NA	NA	NA	1	mg/Kg		

\*water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L, and TCLP 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 (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) 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.



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.	Client Project ID: #5526; Cruise America	Date Sampled: 09/30/02
3210 Old Tunnel Rd., Ste. B		Date Received: 09/30/02
Lafayette, CA 94549-4157	Client Contact: Nathan Garfield	Date Extracted: 10/02/02-10/03/02
2000, 0.13 (3 (3 (12)	Client P.O.: Nathan Garfield	Date Analyzed: 10/02/02-10/03/02

# Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\* Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0209495 Lab ID 0209495-001B 0209495-002B 0209495-003B 0209495-004B Client ID MW-1 MW-2 MW-3 MW-4 Reporting Limit for DF = 1 Matrix W W W W

Crient ID	IVI W - I	MW-2	MW-3	M W -4	Reporting	
Matrix	W	W	W	W	DF	=1
DF	1000	1	1	20	s	W
Compound		ug/kg	μg/L			
Diisopropyl ether (DIPE)	ND<500	ND	ND	ND<10	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<500	ND	ND	ND<10	NA	0.5
Methyl-t-butyl ether (MTBE)	13,000	0.84	ND	750	NA	0.5
tert-Amyl methyl ether (TAME)	ND<500	ND	ND	ND<10	NA	0.5
t-Butyl alcohol (TBA)	ND<5000	ND	ND	ND<100	NA	5.0
1,2-Dibromoethane (EDB)	ND<500	ND	ND	ND<10	ŇA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<500	ND	ND	ND<10	NA	0.5
	Surr	ogate Recoveries	s (%)		_ <b>.</b>	
%SS:	92.4	98.4	99.4	95.6		
		1	1	1		

<sup>\*</sup> water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/wipe,

product/oil/non-aqueous liquid samples in mg/L.

Comments

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

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

McCampbell Analytic	al Inc.	Teleph	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.	Client Project ID: #552	6; Cruise America Date Sampled: 09/30/02											
3210 Old Tunnel Rd., Ste. B		Date Received: 09/	Date Received: 09/30/02										
Lafayette, CA 94549-4157	Client Contact: Nathan C	Garfield	Date Extracted: 10/02/02-10/03/02										
	Client P.O.: Nathan Gar	field	Date Analyzed: 10/	02/02-10/0	3/02								
Oxygenated Extraction Method: SW5030B	l Volatile Organics + ED Analytical Meth		P&T and GC/MS*	Work Ord	er: 0209495								
Lab ID	0209495-005B												
Client ID	MW-5			Reporting									
Matrix	W			DF	=1								
DF	500		-	S	W								
Compound		Concentration		ug/kg	μg/L								
Diisopropyl ether (DIPE)	ND<250			NA	0.5								
Ethyl tert-butyl ether (ETBE)	ND<2.50			NA	0.5								
Methyl-t-butyl ether (MTBE)	18,000			NA	0.5								
tert-Arnyl methyl ether (TAME)	ND<250			NA	0.5								
t-Butyl alcohol (TBA)	ND<2500			NA	5.0								
1,2-Dibromoethane (EDB)	ND<250			NA	0.5								
1,2-Dichloroethane (1,2-DCA)	ND<250			NA	0.5								
	Surrogate Re	coveries (%)											
%SS:	97.8												
Comments													
* water and vapor samples and all TCLP & product/oil/non-aqueous liquid samples in r ND means not detected above the reporting	ng/L. limit; N/A means analyte not ap			s in ug/wipe,									

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.



## QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0209495

EPA Method: SW802	1B/8015Cm E	xtraction:	SW5030B		BatchID:	4207	Spiked Sample ID: 0209495-002A							
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)				
Compound	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High				
TPH(gas)	ND	60	120	116	3.33	99.9	101	0.829	80	120				
мтве	ND	10	107	119	10.3	103	93.3	10.1	80	120				
Benzene	ND	10	101	105	3.90	106	98.2	7.84	80	120				
Toluene	ND	10	96.8	102	4.79	109	101	7.59	80	120				
Ethylbenzene	ND	10	97.9	103	4.79	114	101	12.5	80	120				
Xylenes	ND	30	96.7	103	6.67	110	103	6.25	80	120				
%SS:	106	100	98	103	5.23	98.4	91.4	7.37	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.

## QC SUMMARY REPORT FOR SW8260B

Matrix: W

WorkOrder: 0209495

EPA Method: SW8260B	E	xtraction:	SW5030E	3 .	BatchID:	4199	Spiked Sample ID: 0209480-010A									
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance	Criteria (%)						
Compound	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High						
tert-Amyl methyl ether (TAME)	ND	10	100	99.1	1.08	96.7	94.1	2.78	70	130						
Methyl-t-butyl ether (MTBE)	ND	10	98.1	98	0.0877	95.8	93.1	2.88	70	130						
Diisopropyl ether (DIPE)	ND	10	107	105	1.07	99.2	95.3	4.00	70	130						
Ethyl tert-butyl ether (ETBE)	ND	10	103	103	0.0428	96.9	93.3	3.79	70	130						
%SS1:	103	100	92.9	93.3	0.463	99.6	99.4	0.175	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 metrix 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

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

## McCampbell Analytical Inc.

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

## **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0209495

Client:

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

(925) 283-6000

FAX:

(925) 283-6121

ProjectNo: PO: #5526; Cruise A Nathan Garfield

30-Sep-02

							Re	quested Test	ts	
Sample ID	ClientSamplD	Matrix	Collection Date Hold 802		8021B/8015	SW8260B				
0209495-001	MW-1	Water	9/30/02		Α	В			 : i	:
0209495-002	MW-2	Water	9/30/02		Α	₿				
0209495-003	MW-3	Water	9/30/02		А	В	-			
209495-004	MW-4	Water	9/30/02		Α	В				
209495-005	MW-5	Water	9/30/02		Α	В				

#### 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.

KV	Tele Report To: N Company: All	phone: (925)	798-1620	2°° AVER ACHECO	NUE SOU O, CA 94:	TH, #D 553	AL 1			8-16	22					TU	ŔŊ	AR	CH OU	AI	N (	OF ME		IST D RUS	OI SH	ΟΥ 24	Ri O Ho	3C0	ORJ 48	HOU	IR · 5	DA w	
•		0 Old Tunnel		. n	<del></del>								<del></del> -	_		$\overline{\Box}$	$\neg$	7	TIAL.	ysis.	Keq	nest						-0	ther	$\dashv$	Com	ments	
	Laf	yefte, CA 945	KOAO, SU	ite B		-								1		Carbons (418 1)	- [				3			1									144
	Tele: (925) 283	3-6000	7,0,7	<del></del>		(00.0)								MTBE		E S					1 5		اء						1			÷	_  `
	Project#: 5	526		<del></del>	rax:	(925)	283-	6121				<u></u>		X		ŭ l	-				Chypenotes		8310				ĺ					G	3 \ .
:	Project Locatio	n: 796	115	11	Proj	ect Na	me: C	AV i	se f	Time	٠٠٬٠	7		\$015)		(327					100	7	22	- 1	-				1 1			×	
ĺ	Sampler Signat	ure:	96	rve		aklar	cl						_			Se S		188			(W)		2 / 8		la	ş .	1			j		`	
	3	<u> </u>	CAT	MPLIN	- I	-					7 /20		$\Box$	(602/8020		5   5		177		ð	12	- }	8		901							•	
		1	DAU	WIPLIN		] g	1 1	TAM.	RIX		me Pres	PHOI ERVI	D ED	9	(6109)	8 5		4		m	260		E		200	!				ı	_		
	SAMPLE ID	LOCATION	Date	Tin	# Containers	Type Containers	Water	F. SE	Indge		HCI			TPH as Direct Con	Total Petrolem Od 8	tal Petroleum H	EPA 601 / 8010	EX ONLY (EP	A 608 / 8080	A 608 / 8080 PC	A 624/8240/8	PAH's (DNA).	CAM-17 Metri.	LUFT 5 Metals	Lead (7240/7421/239,2/6010)								
$\star \Gamma$	Mw-1	<del></del>	9/30	┪—	<del></del>		12/	1	10		_	H (		!	ြို	la	<b>[</b> E	H	日	哥		PA	1 3		Lead	ZCI			$\cdot$	-		_	1
-	UW-Z	<del></del>	1,420	┼	- -	<del> </del>	M-	$\bot$		X	X			$\langle    $	T					1	X	+	+	+	-	$\vdash$							4
P	uw-3	<del></del>		<del> </del>		ļ	Ш	<u> </u>			$\coprod$	1	Ti		7	1			-+	-/	;  -	+-	+	+				~-		- -			1
	uw-4	<del> </del>	<del>   </del>	<del> </del>		<u> </u>	Ш.			Ш	$\prod$	T	1	1	1	1			$\dashv$				+-	$\left\{ -\right\}$									]
	uw-5	<del></del>	<del>                                     </del>	<del> </del>		C				$\top$	$\prod$		-  -	+	†			-			+		<del> </del> -		_		-1	$\downarrow$	_	1_			
1	תשים	<del> </del>	14		_L		T		T	7	1	+	1	1-			-+		+		- -	+-	<b>├</b>				_ _	$\perp$	_ _	1_			1
-		<u> </u>	ļ							1		+	1-	+	-	$\dashv$	-	-+		-	+-	$\perp$			_		$\perp$						1
┝	<u> </u>	<u> </u>				-				†-	-	+-	┼─	╁			-+		-			<u> </u>	Ĺ.,							Γ			1
_							7-	計	+	+	-	+				-	4	-		<u> </u>	$\perp$				.	. ] .	Т		7				
<u> </u>	.,*				1-1			$\vdash$	-	+	-	<del>- -</del> -	╄	-			_[_		1						$\top$	T	7		T.				
	<u> </u>	•			1.			-		╂╌┤		╁┈	<b>-</b>		ļ				$\bot$						1		7	十	1	<del>                                     </del>			
L					+	$\dashv$	-{-i		-	┦╌┤	_				_ .		$\perp$								7	_	+	+	+		<del></del>		,
				· · ·			-		+	$\vdash \downarrow$		<u> </u>			7			-	30 mm 70						丁	+	-	<del> -</del>		<u> </u>			•
		-		<del></del>	+	<del> </del> -				<del>   </del>		IC				-6	,	T	PR		7740		YOu	4	***			1 07		1			
			·		+		-	_	<u> </u>		$\perp$	H	AD S	PAC	IITIC 8 AR	N SENT		7	AP	PROI VTA	RIA	TE	V	4	+-	<del></del>	-						
		<del></del>			1		11		$\perp$		1	DE	CHI	ORIN	ATE	D IV	4B_	1	PR	ESE	NEI ?VE	SINL	AH	+	+-	+-	<del> </del>	<b> </b>					
Reli	inquished By:	<del></del>	Data.	<del>_</del>			$\perp$ $\parallel$			T	7		$\dashv$		$\top$		+	†-	+			7	-	-	+-	+	<del> </del> _						
			<b>&gt;</b> / I	Time:	Receive	•	. /			7	<del></del>	<del>' </del>	Ren	nark	s:	<del>!</del>	1_	<u>1 · </u>							1_	1_							
Reli	nquished By			2:34. ( Time:	Receive	<i>ለ</i>		_0	γγ?	I)	) <u></u>	-		Fi		-	-(	0		И	ga	r <del>(</del>	el	20	2	ae	ice	اکا	1+	ant	3 . <i>c</i>	z y	
Relir	iquished By:	Ē	Date: 1	lime:	Received	d By:					<del></del>	$\dashv$							-	1		*			-							-	