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Environmental Health

August 22, 2007

GROUNDWATER MONITORING REPORT
2nd Quarter, 2007

6310 Houston Place
Dublin, California

Project No. 261639
ACHCSA Fuel Leak Case RO0002862

Prepared For

Mr. Cary Greyson
G & G International Holding
PO Box 1435
Alamo, CA 94507

Prepared By

AEI Consultants
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Walnut Creek, CA 94597
(925) 283-6000

AEI



August 22, 2007

Mr. Cary Greyson
G & G International Holding
PO Box 1435
Alamo, CA 94507

Subject: 2nd Quarter Groundwater Monitoring Report
6310 Houston Place
Dublin, California
AEI Project No. 261639
ACHCS Fuel Leak Case RO0002862

Dear Mr. Greyson:

AEI Consultants (AEI) has prepared this report on your behalf to document the required ongoing groundwater investigation at the above referenced property (Figure 1: Site Location Map). The investigation was initiated by the Alameda County Health Care Services Agency (ACHCSA). The purpose of this procedure is to monitor groundwater quality in the vicinity of previous underground storage tanks. This report presents the monitoring and sampling event performed during the 2nd Quarter 2007, which occurred on July 12, 2007.

I Background

The subject property is located in a commercial and light industrial area of Dublin, on the south side of Houston Place, just east of Dougherty Road. The subject property yard is currently vacant, although, the building is used for storage. Please refer to Figures 1 and 2 for the site location map and site plan details.

According to records on file with the Dublin Building Department (DBD), three USTs (one 12,000-gallon diesel USTs, one 7,500-gallon gasoline UST, and one 2,000-gallon gasoline UST) were installed on the subject property in 1968.

According to a case closure summary report prepared by the ACHCSA, a piping leak and a localized surface spill of used motor oil were discovered at the site prior to 1984. Following the release, 156 cubic yards of contaminated soil was removed from the site to the satisfaction of San Francisco Bay Regional Water Quality Control Board (SFRWQCB). On March 31, 1989, four USTs (one 500-gallon waste oil, two 12,000-gallon and one 8,000-gallon diesel tanks) were excavated, three of which were removed. One 12,000-gallon diesel UST was refinished internally with "Glass Armor" coating and was reinstalled for continued use. Soil samples collected from the sidewalls of the excavation during tank removal activities had concentrations of Total Petroleum Hydrocarbons as diesel (TPH-d) to 190 milligrams per kilogram (mg/kg) and Total

Oil and Grease (TOG) up to 240 mg/kg. No concentrations of TPH as gasoline; Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX); or chlorinated hydrocarbons were detected in these samples. One grab groundwater sample was collected from the diesel UST excavation, which had concentrations of TPH-d and TOG up to 380,000 micrograms per liter ($\mu\text{g/L}$) and 50,000 $\mu\text{g/l}$, respectively.

Following removal of the three USTs, three groundwater monitoring wells (MW-1 through MW-3) were installed on August 9, 1989, and quarterly groundwater monitoring and sampling commenced. To further define the extent of the groundwater contamination plume, three additional wells (MW-4 through MW-6) were installed between May 1990 and March 1991. TPH-d and TOG were detected up to 22,000 $\mu\text{g/L}$ and 8,600 $\mu\text{g/L}$, respectively, during initial sampling of these wells. Intermittent monitoring and sampling of the wells continued between August 1989 and October 1994. During the last sampling episode conducted in October 1994 concentrations of TPH-d and TOG were detected up to 850 $\mu\text{g/L}$ and 600 $\mu\text{g/L}$, respectively. Refer to Appendix A for previous groundwater sample analytical results. Based on a recent site inspection, the former onsite monitoring wells had been decommissioned. Approximate former well locations are shown on Figure 2.

Based on the gradual decline of TPH-d and TOG in the groundwater, and the remaining low concentrations of these contaminants in groundwater and soil, the ACHCSA granted case closure in a letter dated February 28, 1995.

At the request of a prospective purchaser of the property, AEI collected samples from on-site monitoring wells MW-1, MW-2, and MW-5 on January 23, 2001. TPH-d was detected up to 5,200 $\mu\text{g/L}$ in the samples. No concentrations of TOG were detected in these samples.

On October 27, 2004, the remaining 12,000-gallon diesel UST, fuel dispensers, and product piping were removed from the subject property by Golden Gate Tank Removal, Inc. (GGTR). Following excavation, GGTR collected a total of seven soil and two groundwater samples from the UST excavation bottom and sidewall, overburden stockpile, and areas in the vicinity of the fuel dispensers and product piping. These samples were analyzed for TPH-d, MTBE, and BTEX. TPH-d was detected at concentrations of 6 mg/kg and 197 mg/kg in stockpile soil samples and at a concentration of 1 mg/kg in a soil sample obtained from the UST excavation sidewall. TPH-d was detected in the water sample collected from the UST pit at 0.3 mg/L and at 23.8 mg/L in water that was present in the shallow excavation beneath the dispenser. Locations of the samples collected by GGTR are shown on Figures 2 and 3 and a summary of sample analytical data from the tank removal is presented in Tables 1 and 2. The excavation was backfilled with the stockpiled soil and imported fill.

Upon reviewing the GGTR Tank Closure Report, the ACHCSA issued a letter requesting the investigation presented in this report.

II Summary of Activities

AEI measured depth to groundwater in the seven wells labeled MW-1 through MW-7 on July 12, 2007. The depth from the top of the well casings was measured with an electric water level indicator prior to sampling. The field parameters measured was recorded on field data forms. Copies of the field data are shown in Appendix A.

AEI purged at least 3 well volumes from each well. These wells were purged with a submersible pump. Temperature, turbidity, pH, specific conductivity, and oxidation-reduction potential (ORP) were measured during the purging of the wells. Following the recovery of groundwater levels to at least 90%, a groundwater sample was collected using clean, disposable bailers. The well locations are shown in Figure 2.

Groundwater samples were collected into 40 ml volatile organic analysis vials (VOAs) supplied by the laboratory. The VOAs were filled and capped so that no head space or air bubbles were evident. Samples were labeled, placed in a pre-chilled cooler, and transported that same day under proper chain of custody protocol to McCampbell Analytical, Inc of Pittsburg, CA. The results of the groundwater samples have been summarized in Table 1. Laboratory results and chain of custody documents are included in Appendix B.

The seven groundwater samples were submitted for chemical analyses for the following:

- Total Petroleum Hydrocarbons as gasoline (TPH-g) by EPA method 8015M
- TPH as diesel (TPH-d) by EPA method 8015M
- Benzene, toluene, ethyl benzene, and xylenes (BTEX) by EPA method 8020/8021
- MTBE by EPA method 8260

III Field Results

Groundwater levels for the current monitoring episode ranged from 326.18 (DW-6) to 326.84 (DW-7) feet above Mean Sea Level (MSL). The direction of the groundwater flow at the time of measurement was towards the south/southeast. The latest estimated groundwater hydraulic gradient was approximately 0.0036 feet per foot. A sheen was noted during sample collection in wells DW-1 through DW-3 and DW-5.

Groundwater elevation data is summarized in Table 1. The groundwater elevation contours and the groundwater flow direction are shown in Figure 3. Refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms.

IV Groundwater Quality

Both TPH-g and TPH-d were detected in wells DW-1, DW-2, and DW-3. The highest detected concentrations of TPH-g and TPH-d were found in DW-3 at 2,200 µg/L and 210,000 µg/L, respectively. MTBE was detected at 0.87 µg/L in DW-4. MTBE was not detected at or

exceeding lab limits in any other wells. BTEX was non-detectable at or exceeding laboratory limits in all wells.

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

V Summary

Based on analytical data for this 2nd Quarter monitoring event, TPH-d concentrations increased significantly in wells DW-1 through DW-3. TPH-g concentrations in the wells remained at non-detect and low levels, with the exception of an increase in DW-3, however, the detections of TPH-g are likely the result of compound range overlap of the analytical method. The lack of BTEX detections in the wells as of yet confirm the hypothesis that the majority of the release from the USTs is composed of diesel-range compounds. MTBE was detected a relatively low levels again in DW-4. Water table and contaminant fluctuations will continue to be observed as a year elapses from the installation of the monitoring wells.

A sheen has been detected in several of the groundwater samples gathered from the site, however, no measurable free product has been observed to date. The extent of free phase diesel also appears to be limited. Based on findings from investigations to date and as required by the ACHCSA, an interim corrective action plan (ICAP) is being prepared to mitigate the diesel release.

VI Previous Documentation

ACHCSA, Letter, April 12, 2005

ACHCSA, Letter, January 20, 2006

ACHCSA, Letter, March 10, 2006

ACHCSA, Letter, July 31, 2006

ACHCSA, Letter, October 3, 2006

ACHCSA, Letter, November 14, 2006

AEI, *Work Plan – Soil and Groundwater Investigation*, 6310 Houston Place, Dublin, California, dated July 11, 2005.

AEI, *Soil and Groundwater Investigation Report*, 6310 Houston Place, Dublin, California, dated June 28, 2006.

AEI, *Monitoring Well Installation Workplan and Addendum*, 6310 Houston Place, Dublin, California, dated September 19, 2007 and November 2, 2007, respectively.

Golden Gate Tank Removal, *Tank Closure Report*, 6310 Houston Place, Dublin, California, dated December 2, 2004.

USGS, *Quaternary Geology Of Contra Costa County, And Surrounding Parts Of Alameda, Marin, Sonoma, Solano, Sacramento, And San Joaquin Counties, California, 1997*, Prepared by E. J Helley, et al.

VII Report Limitation

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

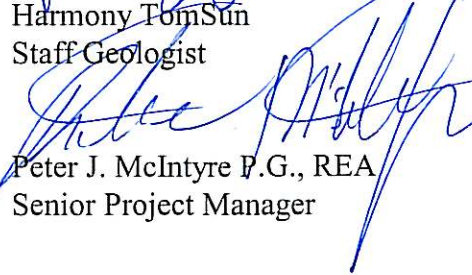
These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work.

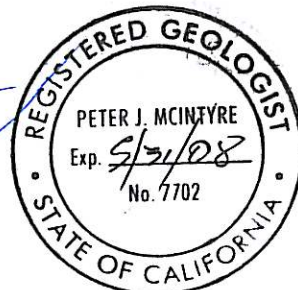
If you have any questions regarding our investigation, please do not hesitate to contact Peter McIntyre or Adrian Angel at (925) 944-2899.

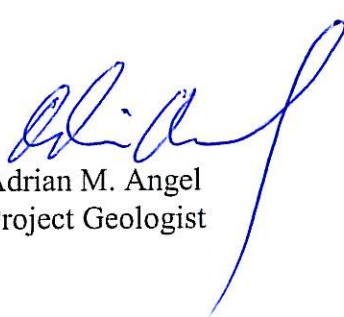
Sincerely,

AEI Consultants


Harmony TomSun
Staff Geologist


Peter J. McIntyre P.G., REA
Senior Project Manager




Adrian M. Angel
Project Geologist

Figures

Figure 1: Site Location Map

Figure 2: Site Plan

Figure 3: Groundwater Elevation

Figure 4: Analytical Data

Tables

Table 1: Groundwater Levels

Table 2: Groundwater Sample Analytical Data

Attachments

Appendix A: Groundwater Monitoring Well Field Sampling Forms

Appendix B: Laboratory Analyses With Chain of Custody Documentation

Distribution:

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Alamo, CA 945407
2 Hard Copies

Mr. Barney Chan
ACHCSA
1131 Harbor Bay Parkway, #250
Oakland, CA 94612
Electronic upload to FTP site

Geotracker (electronic upload)

FIGURES



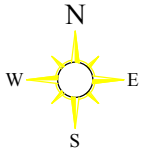


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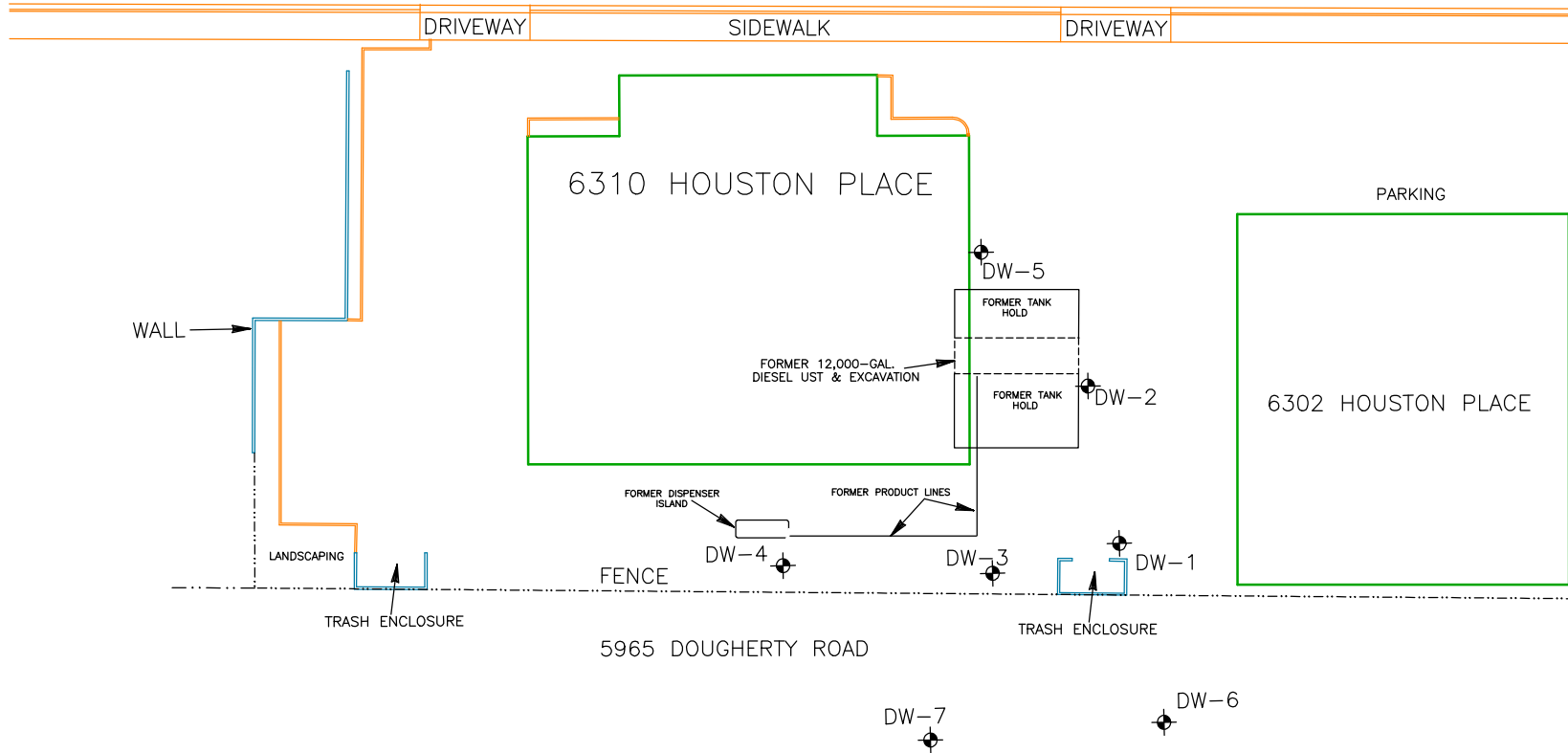
0 0.5 1 MILE
0 1000 FEET 0 500 1000 METERS
Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)

USGS DUBLIN, CALIFORNIA
QUADRANGLE TOPOGRAPHIC MAP
Created 1979, Revised 1980

AEI CONSULTANTS 2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597	
SITE LOCATION MAP	
6310 HOUSTON PLACE DUBLIN, CA 94568	FIGURE 1 PROJECT No. 261639



HOUSTON PLACE



LEGEND

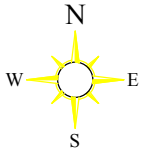
- GROUNDWATER MONITORING WELL
- EXCAVATION BOUNDARY (12,000-GAL. DIESEL UST)
- SUBJECT PROPERTY LINE

AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

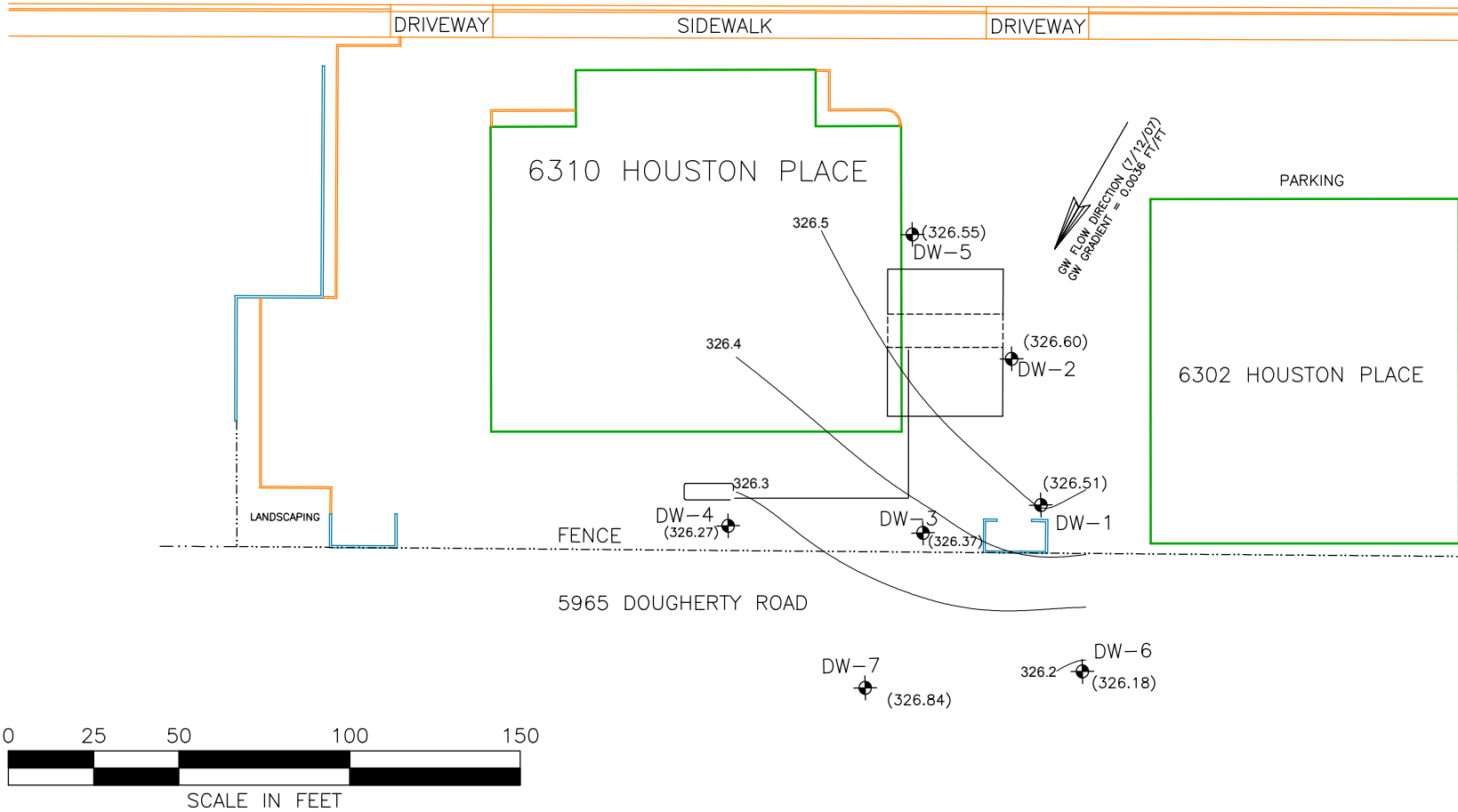
SITE PLAN

6310 HOUSTON PLACE
DUBLIN, CALIFORNIA

FIGURE 2
PROJECT NO. 261639



HOUSTON PLACE



LEGEND

◆ GROUNDWATER MONITORING WELL

***EVENT PERFORMED 7/12/07
MW-7 NOT USED IN CALCULATION

(326.51) = GROUNDWATER ELEVATION
ABOVE MEAN SEA LEVEL

326.4 = Contour Elevation

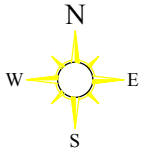
CONTOUR INTERVAL = 0.01 FT.

AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

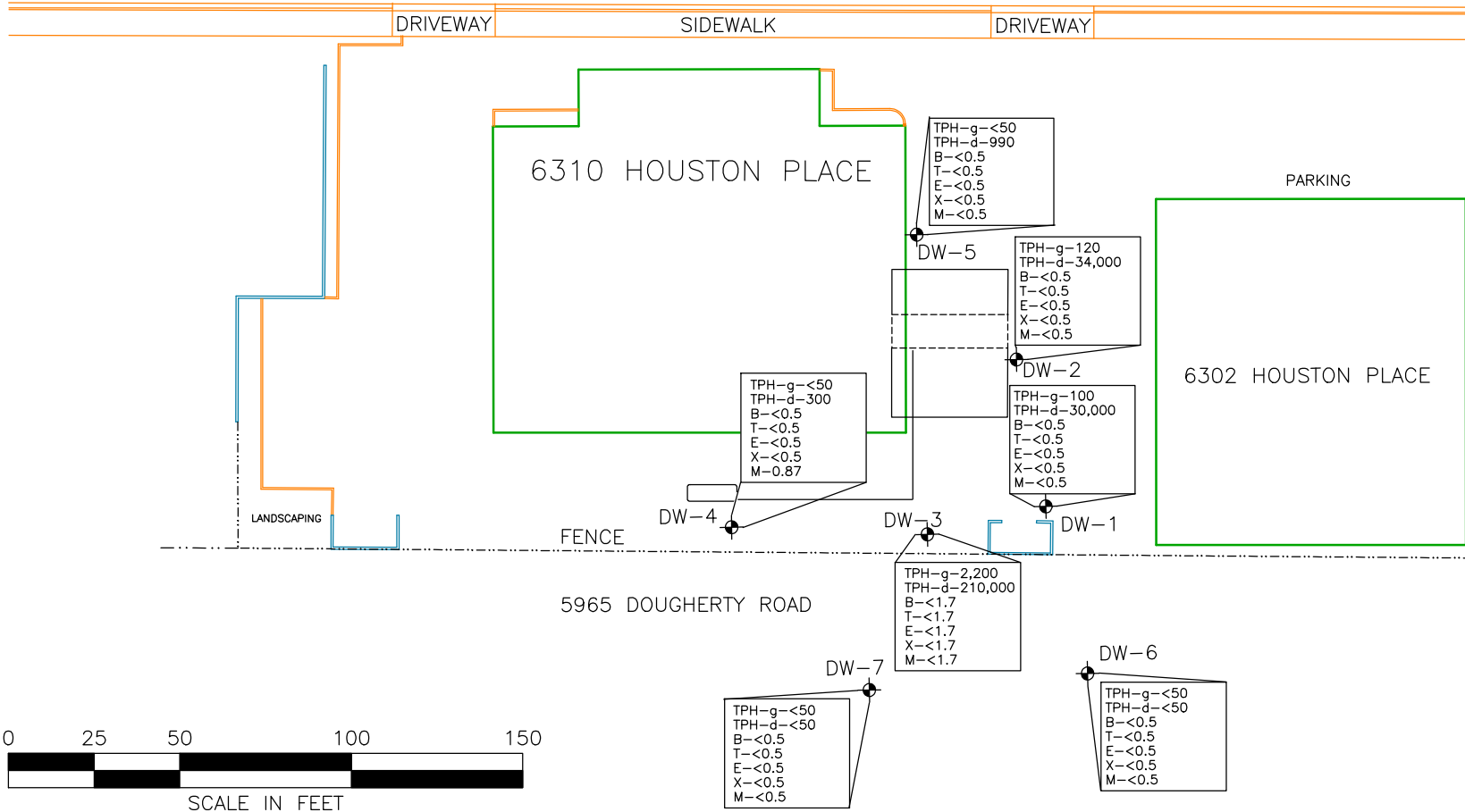
GROUNDWATER ELEVATION
(7/12/07)

6310 HOUSTON PLACE
DUBLIN, CALIFORNIA

FIGURE 3
PROJECT NO. 261639



HOUSTON PLACE



LEGEND

GROUNDWATER MONITORING WELL

*EVENT PERFORMED 7/12/07

TPH-G-TOTAL PETROLEUM HYDROCARBONS AS GAS
 TPH-D-TOTAL PETROLEUM HYDROCARBONS AS DIESEL
 TPH-MO-TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
 B-BENZENE, T-TOLUENE, E-ETHYLBENZENE, X-XYLENES, M-MTBE
 **SAMPLE CONCENTRATIONS IN MICROGRAMS PER LITER (uG/L)

AEI CONSULTANTS
 2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK
GROUNDWATER ANALYTICAL DATA
 (7/12/07)

6310 HOUSTON PLACE
 DUBLIN, CALIFORNIA

FIGURE 4
 PROJECT NO. 261639

TABLES



**Table 1: 6310 Houston Place, Dublin, CA
Groundwater Elevation Data**

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
DW-1 (7 - 17)	4/10/2007 7/12/2007	334.23 334.23	7.44 7.72	326.79 326.51
DW-2 (7 - 17)	4/10/2007 7/12/2007	334.00 334.00	7.09 7.40	326.91 326.60
DW-3 (7 - 17)	4/10/2007 7/12/2007	334.56 334.56	7.90 8.19	326.66 326.37
DW-4 (7 - 17)	4/10/2007 7/12/2007	334.49 334.49	7.99 8.22	326.50 326.27
DW-5 (7 - 17)	4/10/2007 7/12/2007	333.91 333.91	7.00 7.36	326.91 326.55
DW-6 (7 - 17)	4/10/2007 7/12/2007	334.99 334.99	8.62 8.81	326.37 326.18
DW-7 (7 - 17)	4/10/2007 7/12/2007	335.18 335.18	8.11 8.34	327.07 326.84

Event #	Date	Average Water Table Elevation (ft amsl)	Change from Previous Episode (ft)	Flow Direction (gradient) (ft/ft)
1	3/9/2006	326.74	NA	S-SE / 0.005
2	7/12/2006	326.41	-0.33	S-SE/0.0036

ft amsl = feet above mean sea level

All water level depths are measured from the top of casing

***Average Water Table Elevation and Flow Direction do not include DW-7

**Table 2: 6310 Houston Place, Dublin, CA
Groundwater Sample Analytical Data - TPH, BTEX, Fuel Additives**

Sample ID	Date	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	TAME µg/L	TBA µg/L	DIPE µg/L	ETBE µg/L	Ethanol µg/L	Methanol µg/L
DW-1	4/10/2007	100	8,000	2,800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500
	7/12/2007	100	30,000	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
DW-2	4/10/2007	180	8,200	<5,000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500
	7/12/2007	120	34,000	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
DW-3	4/10/2007	220	27,000	9,200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500
	7/12/2007	2,200	210,000	-	<0.5	<1.7	<1.7	<1.7	<1.7	-	-	-	-	-	-
DW-4	4/10/2007	<50	65	<250	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<5.0	<0.5	<0.5	<50	<500
	7/12/2007	<50	300	-	<0.5	<0.5	<0.5	<0.5	0.87	-	-	-	-	-	-
DW-5	4/10/2007	<50	800	320	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500
	7/12/2007	<50	990	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
DW-6	4/10/2007	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	0.81	<0.5	<50	<500
	7/12/2007	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
DW-7	4/10/2007	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500
	7/12/2007	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-

Notes:

TPHmo = total petroleum hydrocarbons as motor oil (C18+) using EPA Method 8015
 TPHd = total petroleum hydrocarbons as diesel (C10-C23) using EPA Method 8015
 TPHg = total petroleum hydrocarbons as gasoline (C6-C12) using EPA Method 8015
 Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B
 MTBE = methyl-tertiary butyl ether using EPA Method 8260B
 TBA = tert-butyl alcohol using EPA Method 8260B
 TAME = tert-amyl methyl ether using EPA Method 8260B
 DIPE = diisopropyl ether using EPA Method 8260B
 ETBE = ethyl tert-butyl ether using EPA Method 8260B
 Methanol and Ethanol using EPA Method 8260B
 SVOCs using EPA Method 8270C
 µg/L= micrograms per liter
 ND<50 = non detect at respective reporting limit

APPENDIX A

MONITORING WELL FIELD SAMPLING FORMS



AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-1

Project Name:	G&G International Holding	Date of Sampling:	7/12/2007
Job Number:	261639	Name of Sampler:	A. Nieto
Project Address:	6310 Houston Place, Dublin, CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	334.23		
Depth of Well	17.00		
Depth to Water (from top of casing)	7.72		
Water Elevation (feet above msl)	326.51		
Well Volumes Purged	3		
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.5		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Initially gray , clear at 1 gallon		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liters			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
9:53	1	18.89	6.89	5122	1.67	-146.7	Light gray
9:54	2	19.47	6.88	5142	1.28	-157.3	Clear
9:55	3	19.35	6.88	5185	1.13	-164.0	Clear
9:56	4	19.18	6.89	5214	1.23	-161.3	Clear
9:57	5	19.04	6.86	5221	1.07	-170.4	Clear

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

Slight hydrocarbon odors.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-2

Project Name:	G&G International Holding	Date of Sampling:	7/12/2007
Job Number:	261639	Name of Sampler:	A. Nieto
Project Address:	6310 Houston Place, Dublin CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	334.00		
Depth of Well	17.00		
Depth to Water (from top of casing)	7.40		
Water Elevation (feet above msl)	326.60		
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)	4.6		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Greenish, clears at 1.5 gallons purge		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liter			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
9:43	1	21.34	7.39	1743	0.44	-171.9	Green
9:44	2	22.04	7.39	1706	0.39	-171.8	Clear
9:45	3	21.61	7.38	1806	0.36	-180.5	Clear
9:46	4	21.44	7.38	1789	0.35	-190.1	Clear
9:47	5	20.91	7.40	1513	0.33	-198.6	Clear

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

Strong hydrocarbon odor present and thin sheen noted.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-3

Project Name:	G&G International Holding	Date of Sampling:	7/12/2007
Job Number:	116075	Name of Sampler:	A. Nieto
Project Address:	6310 Houston Place, Dublin, CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	334.56		
Depth of Well	17.00		
Depth to Water (from top of casing)	8.19		
Water Elevation (feet above msl)	326.37		
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)	5.0		
Appearance of Purge Water	Almost clear, quickly clearing		
Free Product Present?	-	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liter			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
10:11	1	19.97	6.85	4859	0.64	-167.8	clear
10:12	2	20.24	6.86	4892	0.65	-171.9	Clear
10:13	3	19.62	6.83	4913	0.70	-176.3	clear
10:14	4	19.13	6.78	4807	0.80	-178.7	clear
10:15	5	19.04	6.77	4775	0.89	-179.1	clear

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

Strong hydrocarbon odors cleared quickly.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-4

Project Name:	G&G International Holding	Date of Sampling:	7/12/2007
Job Number:	261639	Name of Sampler:	A. Nieto
Project Address:	6310 Houston Place, Dublin CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	334.49		
Depth of Well	17.00		
Depth to Water (from top of casing)	8.22		
Water Elevation (feet above msl)	326.27		
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)	5.0		
Appearance of Purge Water	Started light gray, clears at 1.5 gallons		
Free Product Present?	-	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liter			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
9:22	1	20.36	6.92	3321	1.90	-123.1	Clera
9:23	2	20.93	6.88	3337	1.50	-119.2	clear
9:24	3	20.54	6.85	3376	1.42	-117.9	clear
9:25	4	20.20	6.81	3413	1.38	-117.0	clear
9:26	5	19.82	6.78	3442	1.39	-118.4	clear

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

No hydrocarbon odors.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-5

Project Name:	G&G International Holding	Date of Sampling:	7/11/2007
Job Number:	261639	Name of Sampler:	A. Nieto
Project Address:	6310 Houston Place, Dublin CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	333.91		
Depth of Well	17.00		
Depth to Water (from top of casing)	7.36		
Water Elevation (feet above msl)	326.55		
Well Volumes Purged	5		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.6		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Milky grey, clears fast		
Free Product Present?	-	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liter			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
9:34	1	20.29	6.98	3072	0.84	-153.0	Clear
9:35	2	20.84	7.00	2922	0.77	-149.8	clear
9:36	3	20.70	6.96	3026	0.75	-146.9	Clear
9:37	4	20.60	6.95	3069	0.74	-146.5	Clear
9:38	5	20.25	6.82	3226	0.76	-128.5	Clear

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

Slight odors noted in purged water.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-6

Project Name:	G&G International Holding	Date of Sampling:	7/12/2007
Job Number:	261639	Name of Sampler:	A. Nieto
Project Address:	6310 Houston Place, Dublin CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	334.99		
Depth of Well	17.00		
Depth to Water (from top of casing)	8.81		
Water Elevation (feet above msl)	326.18		
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)	3.9		
Actual Volume Purged (gallons)	4.0		
Appearance of Purge Water	Brown clears at 3.5 gallons		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liter			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
8:39	1	18.97	6.82	4592	18.74	-40.6	Brown
8:41	2	19.08	6.81	4539	17.75	-75.9	light brown
8:42	3	18.85	6.83	4444	17.10	-107.6	Clear
8:43	4	18.78	6.82	4450	16.44	-116.9	Clear

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

No hydrocarbon odor.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: DW-7

Project Name:	G&G International Holding	Date of Sampling:	7/12/2007
Job Number:	261639	Name of Sampler:	A Nieto
Project Address:	6310 Houston Place, Dublin CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	335.18		
Depth of Well	17.00		
Depth to Water (from top of casing)	8.34		
Water Elevation (feet above msl)	326.84		
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)	5.0		
Appearance of Purge Water	Light brown,fast clearing		
Free Product Present?	NO	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size				3 VOAs & 2 1-liter			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
8:53	1	18.97	7.05	4625	13.70	-140.7	Lihgt brown
8:54	2	19.15	7.03	4598	12.55	-147.6	clear
8:55	3	18.06	7.04	4593	12.15	-158.0	clear
8:56	4	18.82	7.04	4596	12.00	-158.5	clear
8:57	5	18.70	7.06	4519	11.69	-160.9	clear

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

No hydrocarbon odor.

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION





McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #116075; G&G International	Date Sampled: 07/01/12-07/12/07
		Date Received: 07/12/07
	Client Contact: Adrian Angel	Date Reported: 07/19/07
	Client P.O.:	Date Completed: 07/19/07

WorkOrder: 0707251

July 19, 2007

Dear Adrian:

Enclosed are:

- 1). the results of **7** analyzed samples from your **#116075; G&G International project**,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

656 0707203



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: Email: main@mecampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME
RUSH 24 HR 48 HR 72 HR 5 DAY
GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Edward Kane Bill To:
Company: The Geoservices Group
874 Gravenstein Hwy. #12
Sebastopol CA E-Mail: geoservicesgroup
Tele: (707) 823-9290 Fax: (707) 8230 9218
Project #: 178.0208 Project Name:
Project Location: 1807 SONOMA HWY. BOYER WPT SPRINGS
Sampler Signature: *[Signature]* EDWARD KANE

Analysis Request Other Comments

SAMPLE ID	LOCATION Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED		Analysis Request	Other	Comments	
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL				HNO ₃
178-SBP		7/10/07	13:20	5	500ml	X					X	X	X	X	X	Filter Samples for Metals analysis: Yes / No

Relinquished By: *[Signature]* Date: 7/10/07 Time: 13:30
Received By: *[Signature]*
Relinquished By: *[Signature]* Date: 7/10/07 Time: 13:45
Received By: Humboldt Burns
Relinquished By: _____ Date: _____ Time: _____
Received By: _____

ICE/9.14
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB
COMMENTS: FOR 8260 REPORT BTEX & FUEL OXIGENATES ONLY
VOAS O&G METALS OTHER
PRESERVATION pH<2

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0707251

ClientID: AEL

EDF Excel Fax Email HardCopy ThirdParty

Report to:

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

Email: aangel@aeiconsultants.com
TEL: (925) 283-600 FAX: (925) 944-289
ProjectNo: #116075;G&G International
PO:

Bill to

Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received 07/12/2007

Date Printed: 07/12/2007

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0707251-001	DW-1	Water	7/12/07 11:09:00	<input type="checkbox"/>	B	C	A	A									
0707251-002	DW-2	Water	7/12/07 11:00:00	<input type="checkbox"/>	B	C		A									
0707251-003	DW-3	Water	7/12/07 11:17:00	<input type="checkbox"/>	B	C		A									
0707251-004	DW-4	Water	7/12/07 10:40:00	<input type="checkbox"/>	B	C		A									
0707251-005	DW-5	Water	7/1/712 10:49:00	<input type="checkbox"/>	B	C		A									
0707251-006	DW-6	Water	7/12/07 11:38:00	<input type="checkbox"/>	B	C		A									
0707251-007	DW-7	Water	7/12/07 11:47:00	<input type="checkbox"/>	B	C		A									

Test Legend:

1	G-MBTX_W	2	MTBE_W	3	PREF REPORT	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

Prepared by: Kimberly Burks

Comments: THE COC READS DW, BUT THE ACTUAL SAMPLES ARE LABELED WITH MW. KB

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.



Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **7/12/2007 4:56:02 PM**
Project Name: **#116075;G&G International** Checklist completed and reviewed by: **Kimberly Burks**
WorkOrder N°: **0707251** Matrix Water Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present? Yes No
Chain of custody signed when relinquished and received? Yes No
Chain of custody agrees with sample labels? Yes No
Sample IDs noted by Client on COC? Yes No
Date and Time of collection noted by Client on COC? Yes No
Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
Shipping container/cooler in good condition? Yes No
Samples in proper containers/bottles? Yes No
Sample containers intact? Yes No
Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
Container/Temp Blank temperature Cooler Temp: 16.4°C NA
Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
Sample labels checked for correct preservation? Yes No
TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA

Client contacted: Date contacted: Contacted by:

Comments:



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #116075; G&G International	Date Sampled: 07/01/12-07/12/07
		Date Received: 07/12/07
	Client Contact: Adrian Angel	Date Extracted: 07/12/07-07/13/07
	Client P.O.:	Date Analyzed 07/12/07-07/13/07

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0707251

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001B	DW-1	W	100,g,h	---	ND	ND	ND	ND	1	92
002B	DW-2	W	120,g,h	---	ND	ND	ND	ND	1	90
003B	DW-3	W	2200,g,h	---	ND<1.7	ND<1.7	ND<1.7	ND<1.7	3.3	91
004B	DW-4	W	ND	---	ND	ND	ND	ND	1	97
005B	DW-5	W	ND,h	---	ND	ND	ND	ND	1	92
006B	DW-6	W	ND	---	ND	ND	ND	ND	1	92
007B	DW-7	W	ND	---	ND	ND	ND	ND	1	94

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #116075; G&G International	Date Sampled: 07/01/12-07/12/07
	Client Contact: Adrian Angel	Date Received: 07/12/07
	Client P.O.:	Date Extracted: 07/13/07-07/14/07
		Date Analyzed: 07/13/07-07/14/07

Methyl tert-Butyl Ether*

Extraction method SW5030B

Analytical methods SW8260B

Work Order: 0707251

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
001C	DW-1	W	ND,h	1	114
002C	DW-2	W	ND,h	1	113
003C	DW-3	W	ND,h	1	113
004C	DW-4	W	0.87	1	113
005C	DW-5	W	ND,h	1	112
006C	DW-6	W	ND	1	108
007C	DW-7	W	ND	1	113

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

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

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

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

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



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #116075; G&G International	Date Sampled: 07/01/12-07/12/07
	Client Contact: Adrian Angel	Date Received: 07/12/07
	Client P.O.:	Date Analyzed 07/14/07-07/18/07
		Date Extracted: 07/12/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method SW3510C

Analytical methods SW8015C

Work Order: 0707251

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0707251-001A	DW-1	W	30,000,a/c,h	10	95
0707251-002A	DW-2	W	34,000,a,h	20	110
0707251-003A	DW-3	W	210,000,a,h	20	100
0707251-004A	DW-4	W	300,a	1	90
0707251-005A	DW-5	W	990,a,g,h	1	86
0707251-006A	DW-6	W	ND	1	115
0707251-007A	DW-7	W	ND	1	92

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

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0707251

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 29289			Spiked Sample ID: 0707243-001A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	99.4	101	1.73	104	95.9	8.40	70 - 130	30	70 - 130	30
MTBE	ND	10	98.8	93.9	5.16	93.3	96.2	3.11	70 - 130	30	70 - 130	30
Benzene	ND	10	96.4	94.1	2.33	96.1	99.2	3.15	70 - 130	30	70 - 130	30
Toluene	ND	10	95.9	94	1.91	101	98.9	1.60	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	95.1	95.7	0.677	97.6	97.3	0.268	70 - 130	30	70 - 130	30
Xylenes	ND	30	87	90.3	3.76	87.7	87	0.763	70 - 130	30	70 - 130	30
%SS:	101	10	108	105	2.34	109	111	1.73	70 - 130	30	70 - 130	30

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

BATCH 29289 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0707251-001B	07/12/07 11:09 AM	07/13/07	07/13/07 6:44 PM	0707251-002B	07/12/07 11:00 AM	07/13/07	07/13/07 7:54 PM
0707251-003B	07/12/07 11:17 AM	07/13/07	07/13/07 8:28 PM	0707251-004B	07/12/07 10:40 AM	07/13/07	07/13/07 4:42 AM
0707251-005B	07/01/12 10:49 AM	07/12/07	07/12/07 8:59 PM	0707251-006B	07/12/07 11:38 AM	07/12/07	07/12/07 9:32 PM
0707251-007B	07/12/07 11:47 AM	07/12/07	07/12/07 10:39 PM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0707251

EPA Method SW8260B		Extraction SW5030B			BatchID: 29281			Spiked Sample ID: 0707255-002B				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Methyl-t-butyl ether (MTBE)	ND	10	92.2	95.3	3.27	95.9	97	1.06	70 - 130	30	70 - 130	30
%SS1:	115	10	119	114	4.71	111	110	1.37	70 - 130	30	70 - 130	30

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

BATCH 29281 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0707251-001C	07/12/07 11:09 AM	07/14/07	07/14/07 2:50 AM	0707251-002C	07/12/07 11:00 AM	07/14/07	07/14/07 3:35 AM
0707251-003C	07/12/07 11:17 AM	07/14/07	07/14/07 4:20 AM	0707251-004C	07/12/07 10:40 AM	07/14/07	07/14/07 5:05 AM
0707251-005C	07/01/12 10:49 AM	07/14/07	07/14/07 5:49 AM	0707251-006C	07/12/07 11:38 AM	07/13/07	07/13/07 4:27 PM
0707251-007C	07/12/07 11:47 AM	07/14/07	07/14/07 6:33 AM				

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

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

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

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

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



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0707251

EPA Method SW8015C		Extraction SW3510C			BatchID: 29220			Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	109	110	0.980	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	87	89	2.03	N/A	N/A	70 - 130	30

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

BATCH 29220 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0707251-001A	07/12/07 11:09 AM	07/12/07	07/16/07 7:57 PM	0707251-002A	07/12/07 11:00 AM	07/12/07	07/18/07 4:06 PM
0707251-003A	07/12/07 11:17 AM	07/12/07	07/14/07 11:01 AM	0707251-004A	07/12/07 10:40 AM	07/12/07	07/16/07 6:01 PM
0707251-005A	07/01/12 10:49 AM	07/12/07	07/14/07 10:25 AM	0707251-006A	07/12/07 11:38 AM	07/12/07	07/16/07 11:22 PM
0707251-007A	07/12/07 11:47 AM	07/12/07	07/14/07 12:40 PM				

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

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

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

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

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