

May 30, 2008

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**GROUNDWATER MONITORING REPORT**  
**2<sup>nd</sup> Quarter, 2008**

6310 Houston Place  
Dublin, California

AEI 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

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**AEI**



May 30, 2008

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

**Subject: 2<sup>nd</sup> 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 diesel underground storage tank (UST). This report presents the monitoring and sampling event performed during the 2<sup>nd</sup> Quarter 2008, which occurred on April 23, 2008.

## **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. 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. 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.

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. 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 300 µg/L and at 23,800 µg/L in water that was present in the shallow excavation beneath the dispenser. The excavation was backfilled with the stockpiled soil and imported fill.

Upon reviewing the GGTR Tank Closure Report, the ACHCSA issued a letter dated April 12, 2005 requesting additional investigation concerning the release of petroleum hydrocarbons from the 12,000-gallon UST. On March 14, 2006, AEI advanced five (5) soil borings in the areas of the former 12,000-gallon diesel UST, the former dispenser island and products lines, and down-gradient from the former diesel UST. TPH-d was detected in the soil up to a concentration of 53 mg/kg. TPH-d and MTBE were detected in the groundwater samples up to concentrations of 580,000 µg/L and 2.6 µg/L, respectively. The findings of this investigation concluded that the release of TPH-d originated from the 12,000-gallon diesel UST, as the diesel release post-dates the previous releases at the property.

Upon reviewing the *Soil and Groundwater Investigation Report*, the ACHCSA issued a letter, dated July 31, 2006, requesting the installation of monitoring wells. A *Monitoring Well Installation Workplan* for five (5) wells, dated September 19, 2006, was approved by the ACHCSA in a letter dated October 3, 2006. A request for two (2) additional off-site wells was subsequently approved by the ACHCSA in November 2006.

On March 14 and 15, 2007, AEI advanced seven (7) soil borings and converted them to monitoring wells. The findings of the well installation determined that the release to groundwater is limited in extent, and confirmed that the dissolved phase plume is limited to diesel range hydrocarbons and that LNAPL may be present, although not likely in volumes that are measurable in the wells. No significant soil source was identified, based on the analyses of collected soil samples and field observations, which is consistent with a UST partially submerged in the water table. More information regarding the monitoring well installation can be found in AEI’s *Monitoring Well Installation Report*, dated June 19, 2007. Monitoring well construction details are presented in Table 1.

## **II Summary of Activities**

AEI measured depth to groundwater in the seven wells labeled DW-1 through DW-7 on April 23, 2008. The depth from the top of the well casings was measured with an electric water level indicator prior to sampling. The field parameters measured were recorded on Groundwater Monitoring Well Field Sampling Forms. Copies of the forms for this event are presented in Appendix A.

AEI purged at least 3 well volumes from each well. These wells were purged with a submersible pump. Temperature, dissolved oxygen, 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 presented in Figure 2, Site Plan.

Groundwater samples were collected into 40 ml volatile organic analysis vials (VOAs) and one liter amber bottles supplied by the laboratory. The VOAs were filled and capped so that no head space or air bubbles were present. The 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. Laboratory results and chain of custody documents are included in Appendix B.

The seven (7) groundwater samples were submitted for chemical analyses for TPH as diesel (TPH-d); Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA method 8015M; and MTBE by EPA method 8260.

## **III Field Results**

Groundwater levels for the current monitoring episode ranged from 327.10 (DW-4) to 327.46 (DW-6) feet above Mean Sea Level (MSL) and decreased an average of 0.75 feet compared with the last monitoring event. The direction of groundwater flow at the time of measurement was towards the west/southwest, which exhibited more of a westerly flow direction for the first time since the start of monitoring activities. The latest estimated groundwater hydraulic gradient was approximately 0.0024 feet/feet. Petroleum odors were observed in wells DW-1 to DW-3 and an sheen was reported by the laboratory in samples collected from DW-2 and DW-3.

Groundwater elevation data is summarized in Table 2. The groundwater elevation contours and the groundwater flow direction are shown in Figure 3.

## **IV Groundwater Quality**

TPH-d was detected in wells DW-1 through DW-5 at concentrations ranging from 340 µg/L (DW-4) to 58,000 µg/L (DW-3). TPH-d was not detected in wells DW-6 and DW-7. BTEX was not detected in any of the wells sampled. MTBE was detected in DW-4 at a concentration of 0.94 µg/L.

A summary of groundwater quality data is presented in Table 3. Groundwater quality data is presented in Figure 4. Laboratory results and chain of custody documents are included in Appendix B.

## **V Summary**

Based on analytical data for this 2<sup>nd</sup> Quarter 2008 monitoring event, concentrations of diesel were generally consistent with previous monitoring episodes. Concentrations of BTEX continue to not be detected above laboratory detection levels in all wells sampled while MTBE continues to be detected in DW-4 at a minor concentration. As noted above, for the first time since the commencement of site monitoring, the flow direction calculated for this monitoring episode exhibited a predominantly westerly component.

A *Corrective Action Pilot Test Workplan*, dated March 19, 2008, for the implementation of a chemical oxidation pilot test, was submitted to the ACHCSA and is currently pending review. In the meantime, the wells will continue to be sampled quarterly with the next quarterly event tentatively scheduled for late June of 2008.

## **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.

AEI, *Corrective Action Pilot Test Workplan*, 6310 Houston Place, Dublin, California, dated March 19, 2008.

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

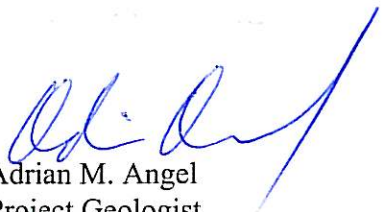
This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen 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.

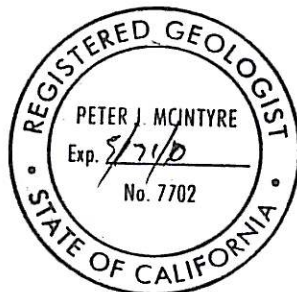
If you have any questions regarding our investigation, please do not hesitate to contact Adrian Angel at (408) 559-7600.

Sincerely,  
**AEI Consultants**

  
Calvin Hee  
Staff Engineer

  
Adrian M. Angel  
Project Geologist

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



**Figures**

*Figure 1: Site Location Map*

*Figure 2: Site Plan*

*Figure 3: Groundwater Elevation – 4/23/08*

*Figure 4: Groundwater Sample Analytical Data – 4/23/08*

**Tables**

*Table 1: Monitoring Well Construction Details*

*Table 2: Groundwater Elevation Data*

*Table 3: 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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1131 Harbor Bay Parkway, #250  
Oakland, CA 94612  
Electronic upload to FTP site

Geotracker (electronic upload)

## **FIGURES**



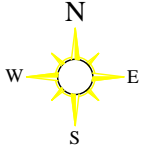


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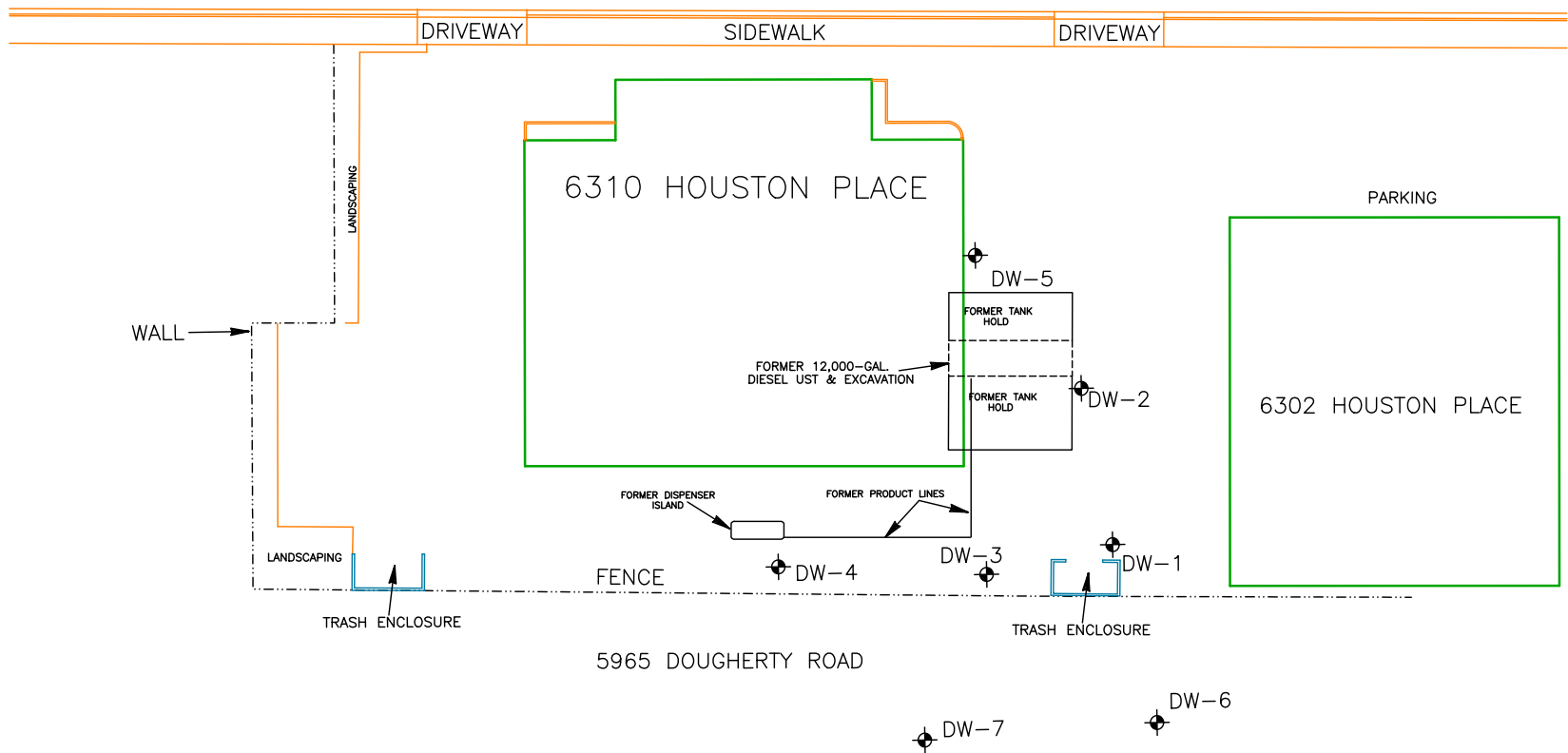
Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)

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

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



# HOUSTON PLACE



## LEGEND

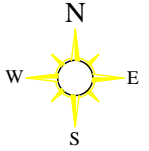
- ⊕ GROUNDWATER MONITORING WELL
- SUBJECT PROPERTY LINE
- EXCAVATION BOUNDARY (12,000-GAL. DIESEL UST)

**AEI CONSULTANTS**  
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

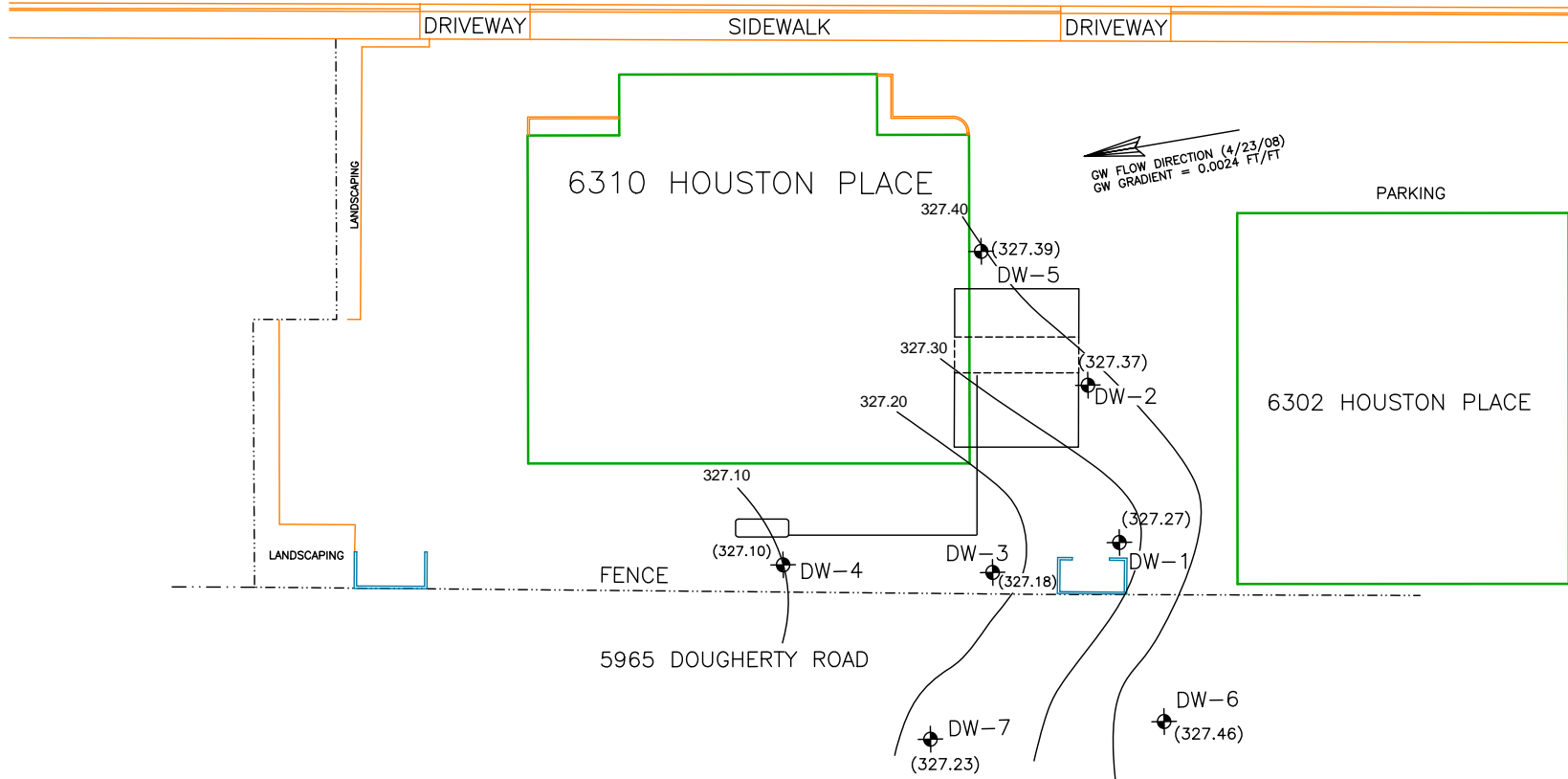
## SITE PLAN

6310 HOUSTON PLACE  
DUBLIN, CALIFORNIA

**FIGURE 2**  
PROJECT NO. 261639



# HOUSTON PLACE



◆ GROUNDWATER MONITORING WELL  
EVENT PERFORMED 4/23/08

(326.51) = GROUNDWATER ELEVATION  
ABOVE MEAN SEA LEVEL

326.4 = CONTOUR ELEVATION

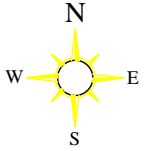
CONTOUR INTERVAL = 0.1 FT.

**AEI CONSULTANTS**  
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

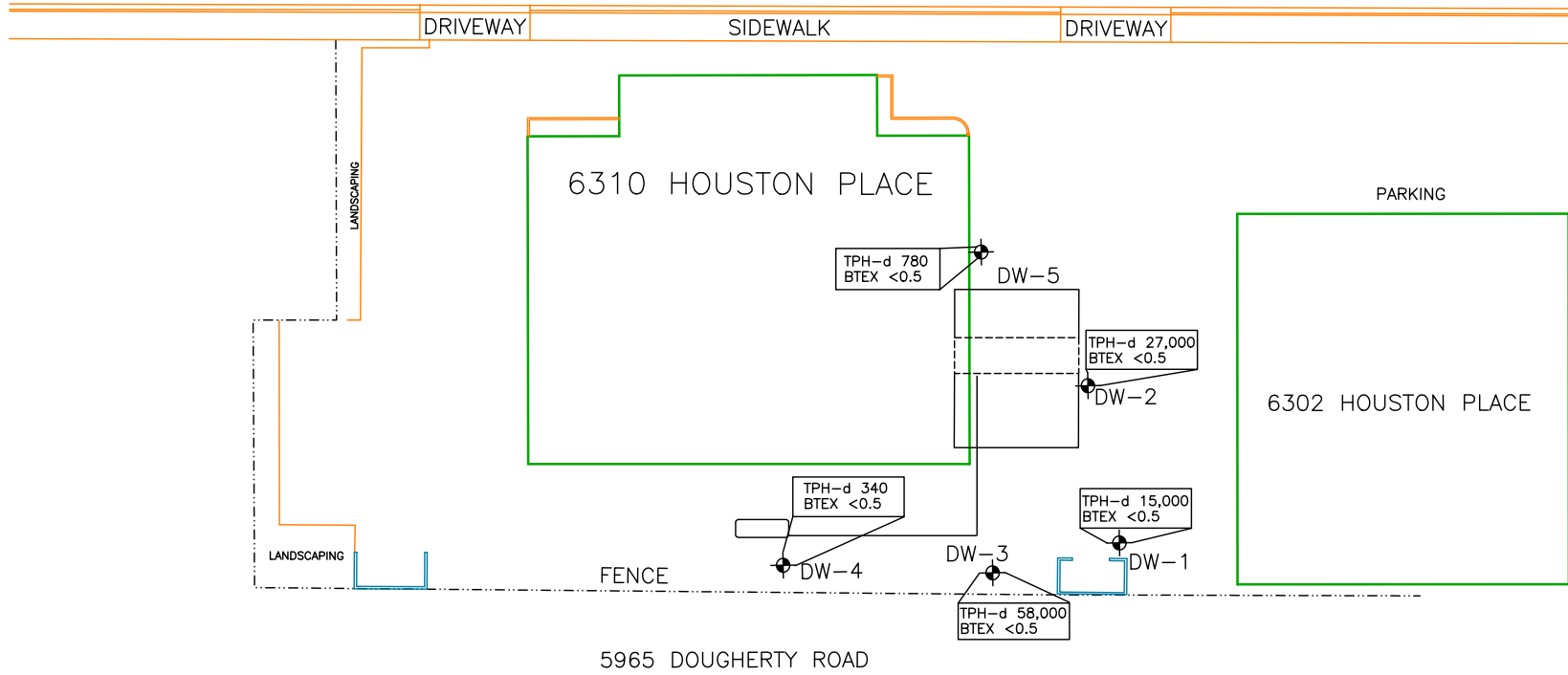
**WATER TABLE ELEVATIONS**  
(4/23/08)

6310 HOUSTON PLACE  
DUBLIN, CALIFORNIA

**FIGURE 3**  
PROJECT NO. 261639



# HOUSTON PLACE



⊕ GROUNDWATER MONITORING WELL

EVENT PERFORMED 4/23/08

TPH-D-TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
BTEX - BENZENE, TOLUENE, ETHYLBENZENE, TOTAL XYLENES  
SAMPLE CONCENTRATIONS IN MICROGRAMS PER LITER (uG/L)

**AEI CONSULTANTS**  
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**GROUNDWATER ANALYTICAL DATA**  
(4/23/08)

6310 HOUSTON PLACE  
DUBLIN, CALIFORNIA

**FIGURE 4**  
PROJECT NO. 261639

## **TABLES**

**Table 1: 6310 Houston Place, Dublin CA  
Monitoring Well Construction Details**

Well ID	Date Drilled	Top of Casing Elevation (ft amsl)	Well Box Rim Elevation (ft amsl)	Well Depth (ft)	Slotted Casing (ft)	Slot Size (in)	Blank Casing (ft)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
DW-1	03/14/07	334.23	334.44	17.00	7-17	0.010	0.2-5	4-17	# 2/12	3-4	0.75-2
DW-2	03/14/07	334.00	334.48	17.00	7-17	0.010	0.5-5	4-17	# 2/12	3-4	0.75-2
DW-3	03/14/07	334.56	334.99	17.00	7-17	0.010	0.4-5	4-17	# 2/12	3-4	0.75-2
DW-4	03/14/07	334.49	334.95	17.00	7-17	0.010	0.5-5	4-17	# 2/12	3-4	0.75-2
DW-5	03/15/07	333.91	334.5	17.00	7-17	0.010	0.6-5	4-17	# 2/12	3-4	0.75-2
DW-6	03/15/07	334.99	335.44	17.00	7-17	0.010	0.5-5	4-17	# 2/12	3-4	0.75-2
DW-7	03/15/07	335.18	335.62	17.00	7-17	0.010	0.4-5	4-17	# 2/12	3-4	0.75-2

Notes:  
ft amsl = feet above mean sea level

**Table 2: 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)
<b>DW-1</b> (7 - 17)	4/10/2007	334.23	7.44	326.79
	7/12/2007	334.23	7.72	326.51
	10/11/2007	334.23	7.88	326.35
	1/25/2008	334.23	6.16	328.07
	<b>4/23/2008</b>	<b>334.23</b>	<b>6.96</b>	<b>327.27</b>
<b>DW-2</b> (7 - 17)	4/10/2007	334.00	7.09	326.91
	7/12/2007	334.00	7.40	326.60
	10/11/2007	334.00	7.55	326.45
	1/25/2008	334.00	5.89	328.11
	<b>4/23/2008</b>	<b>334.00</b>	<b>6.63</b>	<b>327.37</b>
<b>DW-3</b> (7 - 17)	4/10/2007	334.56	7.90	326.66
	7/12/2007	334.56	8.19	326.37
	10/11/2007	334.56	8.29	326.27
	1/25/2008	334.56	6.63	327.93
	<b>4/23/2008</b>	<b>334.56</b>	<b>7.38</b>	<b>327.18</b>
<b>DW-4</b> (7 - 17)	4/10/2007	334.49	7.99	326.50
	7/12/2007	334.49	8.22	326.27
	10/11/2007	334.49	8.33	326.16
	1/25/2008	334.49	6.62	327.87
	<b>4/25/2008</b>	<b>334.49</b>	<b>7.39</b>	<b>327.10</b>
<b>DW-5</b> (7 - 17)	4/10/2007	333.91	7.00	326.91
	7/12/2007	333.91	7.36	326.55
	10/11/2007	333.91	7.52	326.39
	1/25/2008	333.91	5.93	327.98
	<b>4/23/2008</b>	<b>333.91</b>	<b>6.52</b>	<b>327.39</b>
<b>DW-6</b> (7 - 17)	4/10/2007	334.99	8.62	326.37
	7/12/2007	334.99	8.81	326.18
	10/11/2007	334.99	8.53	326.46
	1/25/2008	334.99	7.16	327.83
	<b>4/23/2008</b>	<b>334.99</b>	<b>7.53</b>	<b>327.46</b>
<b>DW-7</b> (7 - 17)	4/10/2007	335.18	8.11	327.07
	7/12/2007	335.18	8.34	326.84
	10/11/2007	335.18	8.96	326.22
	1/25/2008	335.18	6.75	328.43
	<b>4/23/2008</b>	<b>335.18</b>	<b>7.95</b>	<b>327.23</b>

**Table 2: 6310 Houston Place, Dublin, CA  
Groundwater Elevation Data**

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-SW (0.005)
2	7/12/2006	326.41	-0.33	S-SW (0.0036)
3	10/11/2007	326.33	-0.08	SW (0.0028)
4	1/25/2008	328.03	1.70	SW (0.0011)
<b>5</b>	<b>4/23/2008</b>	<b>327.29</b>	<b>-0.75</b>	<b>W-SW (0.0024)</b>

ft amsl = feet above mean sea level

All water level depths are measured from the top of casing



**Table 3: 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
<b>DW-1</b>	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	-	-	-	-	-	-
	10/11/2007	<50	18,000	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	1/25/2008	-	13,000	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>15,000</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-	-	-	-	-	-
<b>DW-2</b>	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	-	-	-	-	-	-
	10/11/2007	<50	14,000	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	1/25/2008	-	17,000	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>27,000</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-	-	-	-	-	-
<b>DW-3</b>	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	-	-	-	-	-	-
	10/11/2007	18,000	71,000	-	<25	<25	<25	<25	<0.5	-	-	-	-	-	-
	1/25/2008	-	66,000	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>58,000</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-	-	-	-	-	-
<b>DW-4</b>	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	-	-	-	-	-	-
	10/11/2007	<50	640	-	<0.5	<0.5	<0.5	<0.5	0.80	-	-	-	-	-	-
	1/25/2008	-	240	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>340</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>0.94</b>	-	-	-	-	-	-
<b>DW-5</b>	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	-	-	-	-	-	-
	10/11/2007	<50	880	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	1/25/2008	-	730	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>780</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-	-	-	-	-	-
<b>DW-6</b>	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	-	-	-	-	-	-
	10/11/2007	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	1/25/2008	-	<50	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>&lt;50</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-	-	-	-	-	-

*Continued*

**Table 3: 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-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	-	-	-	-	-	-
	10/11/2007	<50	<50	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
	1/25/2008	-	<50	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
	<b>4/23/2008</b>	-	<b>&lt;50</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-	-	-	-	-	-

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**

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

**Monitoring Well Number: DW-1**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	6.96		
Water Elevation (feet above msl)	327.27		
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)	<b>4.8</b>		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Initially dark grey, clears quickly		
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
	1	16.53	6.81	4690	2.37	-70.4	Clear
	2	16.43	6.81	4689	2.21	-72.3	Clear
	3	16.46	6.82	4697	2.10	-73.2	Clear
	4	16.55	6.80	4715	2.01	-73.6	Clear
	5	16.57	6.80	4720	2.00	-74.0	Clear

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

Petroleum odors noted

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

**Monitoring Well Number: DW-2**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	6.63		
Water Elevation (feet above msl)	327.37		
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)	<b>5.3</b>		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Dark brown, clears after about 1 gallon		
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
	1	18.98	7.10	2380	2.01	-98.6	Clear
	2	19.10	7.09	2367	1.87	-99.7	Clear
	3	19.03	7.08	2398	1.76	-103.8	Clear
	4	19.00	7.10	2387	1.71	-105.8	Clear
	5	18.99	7.12	2312	1.68	-106.3	Clear

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

Slight petroleum odors noted

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

**Monitoring Well Number: DW-3**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	7.38		
Water Elevation (feet above msl)	327.18		
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)	<b>4.9</b>		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Clear		
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
	1	17.06	6.91	3195	2.15	-85.9	Clear
	2	16.93	6.91	3147	2.04	-87.7	Clear
	3	16.98	6.92	3179	1.93	-90.3	Clear
	4	17.08	6.88	3230	1.89	-90.4	Clear
	5	17.17	6.86	3285	1.86	-88.7	Clear

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

Petroleum odors noted

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

**Monitoring Well Number: DW-4**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	7.39		
Water Elevation (feet above msl)	327.10		
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)	<b>4.6</b>		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Light gray, clears after 0.5 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
	1	17.72	6.81	3372	4.58	39.6	Clear
	2	17.64	6.78	3377	4.28	42.4	Clear
	3	17.66	6.75	3406	3.81	46.2	Clear
	4	17.75	6.71	3449	3.48	48.0	Clear
	5	17.83	6.68	3500	3.19	48.5	Clear

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

No petroleum odors noted

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

**Monitoring Well Number: DW-5**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	6.52		
Water Elevation (feet above msl)	327.39		
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)	<b>5.3</b>		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Light brown, clears quickly		
Free Product Present?	YES	Thickness (ft):	Sheen

**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
	1	18.56	6.62	3998	2.31	77.8	Clear
	2	18.45	6.63	3982	2.27	89.5	Clear
	3	18.44	6.65	3976	2.11	52.1	Clear
	4	18.46	6.67	3981	2.05	19.2	Clear
	5	18.51	6.69	3997	2.00	2.3	Clear

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

No petroleum odors noted



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

**Monitoring Well Number: DW-6**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	7.53		
Water Elevation (feet above msl)	327.46		
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)	4.7		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Light brown, clears quickly		
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
	1	17.47	6.78	4775	2.79	292.9	Light Brown
	2	17.35	6.71	4723	2.67	366.8	Clear
	3	17.47	6.69	4642	2.52	382.7	Clear
	4	17.52	6.70	4583	2.48	376.0	Clear
	5	17.55	6.71	4526	2.37	359.2	Clear

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

No petroleum odors noted

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

**Monitoring Well Number: DW-7**

Project Name:	G&G International Holding	Date of Sampling:	4/23/2008
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)	7.95		
Water Elevation (feet above msl)	327.23		
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)	<b>4.9</b>		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	Brown, clears quickly		
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
	1	17.49	6.55	4402	5.87	122.0	Brown
	2	17.51	6.58	4394	4.33	113.2	Clear
	3	17.60	6.62	4326	3.74	101.0	Clear
	4	17.72	6.64	4254	3.50	95.1	Clear
	5	17.81	6.65	4247	3.33	90.5	Clear
	6	17.83	6.66	4270	3.16	85.2	Clear

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

No petroleum odors noted

## **APPENDIX B**



**McC Campbell Analytical, Inc.**

"When Quality Counts"

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

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #261639; G&G International, Houston place, Dublin	Date Sampled: 04/23/08
	Client Contact: Adrian Angel	Date Received: 04/25/08
	Client P.O.:	Date Reported: 05/01/08
		Date Completed: 05/01/08

**WorkOrder: 0804666**

May 01, 2008

Dear Adrian:

Enclosed within are:

- 1) The results of the 7 analyzed samples from your project: **#261639; G&G International, Houston**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice 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 or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

0804646

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

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

Report To: Adrian Angel Bill To: Same  
 Company: AEI Consultants  
 2500 Camino Diablo, Suite 200  
 Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com  
 Tel: (925) 944-2899, extension 132 Fax: (925) 944-2895  
 Project #: 261639 Project Name: G&G International  
 Project Location: Houston Place, Dublin ca  
 Sampler Signature: *[Signature]*

Analysis Request										Other		Comments
BTEX & MTBE & TPH as Gas (602/8021+ 8015)										MTBE (8240)		OFF Hold 4-25-08
TPH mutrange + Monocrot: per to plian can't Analyze										TPH DIESEL		
Total Petroleum Oil & Grease (5520 E&F/B&F)												
Total Petroleum Hydrocarbons (418.1)												
HVOCs EPA 8260 (8010 list)												
BTEX ONLY (EPA 602 / 8020)												
Pesticides EPA 608 / 8080												
PCBs EPA 608 / 8080												
VOCs EPA 624 / 8260												
EPA 625 / 8270												
PAH's / PNA's by EPA 625 / 8270 / 8310												
CAM-17 Metals												
LUFT 5 Metals												
Lead (7240/7421/239.2/6010)												
RCI												
TPH-d and TPH mo (w/ siliga gel) by 8015												

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other			
+ DW- 1		4/23/08		4	ML	X					X	X	X	X	X	X	X
+ DW- 2						X					X	X	X	X	X	X	X
+ DW- 3						X					X	X	X	X	X	X	X
+ DW- 4						X					X	X	X	X	X	X	X
+ DW- 5						X					X	X	X	X	X	X	X
+ DW- 6						X					X	X	X	X	X	X	X
+ DW- 7						X					X	X	X	X	X	X	X

Relinquished By: *[Signature]* Date: 4/23/08 Time: 7:15 Received By: *[Signature]*  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/t° 60A PRESERVATION VOAS O&G METALS OTHER  
 GOOD CONDITION  APPROPRIATE  
 HEAD SPACE ABSENT  CONTAINERS  
 DECHLORINATED IN LAB \_\_\_\_\_ PERSERVED IN LAB \_\_\_\_\_

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

**WorkOrder: 0804666**

**ClientCode: AEL**

WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

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

Email: aangel@aeiconsultants.com  
TEL: (408) 559-7600    FAX: (408) 559-7601  
PO:  
ProjectNo: #261639; G&G International, Houston  
place, Dublin

**Bill to:**

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

**Requested TAT: 5 days**

**Date Received: 04/25/2008**

**Date Printed: 04/25/2008**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0804666-001	DW-1	Water	4/23/2008	<input type="checkbox"/>	A	B	C									
0804666-002	DW-2	Water	4/23/2008	<input type="checkbox"/>	A	B	C									
0804666-003	DW-3	Water	4/23/2008	<input type="checkbox"/>	A	B	C									
0804666-004	DW-4	Water	4/23/2008	<input type="checkbox"/>	A	B	C									
0804666-005	DW-5	Water	4/23/2008	<input type="checkbox"/>	A	B	C									
0804666-006	DW-6	Water	4/23/2008	<input type="checkbox"/>	A	B	C									
0804666-007	DW-7	Water	4/23/2008	<input type="checkbox"/>	A	B	C									

**Test Legend:**

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

**Prepared by: Ana Venegas**

**Comments:** Off Hold 4/25/08

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



**Sample Receipt Checklist**

Client Name: **AEI Consultants** Date and Time Received: **04/25/08 7:35:13 PM**  
Project Name: **#261639; G&G International, Houston place, Dublin** Checklist completed and reviewed by: **Ana Venegas**  
WorkOrder N°: **0804666** 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: 6.4°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:



# 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: #261639; G&G International, Houston place, Dublin	Date Sampled: 04/23/08
	Client Contact: Adrian Angel	Date Received: 04/25/08
	Client P.O.:	Date Extracted: 04/28/08-04/29/08
		Date Analyzed: 04/28/08-04/29/08

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0804666

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	DW-1	W	---	ND	ND	ND	ND	ND	1	99
002A	DW-2	W	---	ND	ND	ND	ND	ND	1	96
003A	DW-3	W	---	ND	ND	ND	ND	ND	1	95
004A	DW-4	W	---	ND	ND	ND	ND	ND	1	96
005A	DW-5	W	---	ND	ND	ND	ND	ND	1	101
006A	DW-6	W	---	ND	ND	ND	ND	ND	1	97
007A	DW-7	W	---	ND	ND	ND	ND	ND	1	97

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	0.5	1	µg/L
	S	NA	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.





# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #261639; G&G International, Houston place, Dublin	Date Sampled: 04/23/08
	Client Contact: Adrian Angel	Date Received: 04/25/08
	Client P.O.:	Date Analyzed: 04/28/08
		Date Extracted: 04/28/08

### Methyl tert-Butyl Ether\*

Extraction method SW5030B

Analytical methods SW8260B

Work Order: 0804666

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
001B	DW-1	W	ND	1	120
002B	DW-2	W	ND,h	1	110
003B	DW-3	W	ND,h	1	106
004B	DW-4	W	0.94	1	106
005B	DW-5	W	ND	1	107
006B	DW-6	W	ND	1	109
007B	DW-7	W	ND	1	112

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.



# McC Campbell Analytical, Inc.

"When Quality Counts"

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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #261639; G&G International, Houston place, Dublin	Date Sampled: 04/23/08
	Client Contact: Adrian Angel	Date Received: 04/25/08
	Client P.O.:	Date Analyzed 04/26/08-05/01/08
		Date Extracted: 04/25/08

### Total Extractable Petroleum Hydrocarbons\*

Extraction method SW3510C

Analytical methods: SW8015C

Work Order: 0804666

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0804666-001C	DW-1	W	15,000,c	1	118
0804666-002C	DW-2	W	27,000,c,h	1	114
0804666-003C	DW-3	W	58,000,a,h	20	102
0804666-004C	DW-4	W	340,b	1	115
0804666-005C	DW-5	W	780,c	1	114
0804666-006C	DW-6	W	ND	1	115
0804666-007C	DW-7	W	ND	1	117

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 SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0804666

EPA Method SW8015C		Extraction SW3510C			BatchID: 35183			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-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	110	110	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	119	118	0.824	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 35183 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0804666-001C	04/23/08	04/25/08	04/28/08 8:09 PM	0804666-002C	04/23/08	04/25/08	04/26/08 9:48 AM
0804666-003C	04/23/08	04/25/08	05/01/08 2:50 AM	0804666-004C	04/23/08	04/25/08	04/30/08 12:35 AM
0804666-005C	04/23/08	04/25/08	04/30/08 1:44 AM	0804666-006C	04/23/08	04/25/08	04/30/08 2:52 AM
0804666-007C	04/23/08	04/25/08	04/30/08 5:09 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 SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0804666

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 35194			Spiked Sample ID: 0804604-001A			
	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) <sup>£</sup>	ND	60	101	97.8	2.86	112	114	1.80	70 - 130	20	70 - 130	20
MTBE	ND	10	96.5	97.1	0.615	115	113	1.46	70 - 130	20	70 - 130	20
Benzene	ND	10	96.1	88.2	8.60	99.6	99.2	0.391	70 - 130	20	70 - 130	20
Toluene	1.4	10	79.5	72.2	8.19	110	110	0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	93.6	87.2	7.11	108	108	0	70 - 130	20	70 - 130	20
Xylenes	ND	30	86.4	82.7	4.31	118	117	0.864	70 - 130	20	70 - 130	20
%SS:	111	10	104	104	0	93	94	0.725	70 - 130	20	70 - 130	20

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

#### BATCH 35194 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0804666-001A	04/23/08	04/29/08	04/29/08 8:38 AM	0804666-002A	04/23/08	04/29/08	04/29/08 8:25 PM
0804666-003A	04/23/08	04/29/08	04/29/08 8:59 PM	0804666-004A	04/23/08	04/28/08	04/28/08 10:19 PM
0804666-005A	04/23/08	04/29/08	04/29/08 9:32 PM	0804666-006A	04/23/08	04/28/08	04/28/08 11:25 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.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0804666

EPA Method SW8021B/8015Cm	Extraction SW5030B			BatchID: 35221			Spiked Sample ID: 0804660-005A					
	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(btex) <sup>£</sup>	ND	60	100	101	0.630	88.6	94.7	6.69	70 - 130	20	70 - 130	20
MTBE	ND	10	94.9	103	7.81	94.9	108	12.6	70 - 130	20	70 - 130	20
Benzene	ND	10	96.5	98.8	2.33	84.5	97.8	14.6	70 - 130	20	70 - 130	20
Toluene	ND	10	97.4	100	3.10	84	97.6	15.0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	104	105	1.20	86.9	102	16.3	70 - 130	20	70 - 130	20
Xylenes	ND	30	115	114	1.15	96.2	112	15.2	70 - 130	20	70 - 130	20
%SS:	107	10	93	95	2.00	92	95	3.27	70 - 130	20	70 - 130	20

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

#### BATCH 35221 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0804666-007A	04/23/08	04/28/08	04/28/08 11:58 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.

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

NR = matrix interference and/or 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, or inconsistency in sample containers.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0804666

EPA Method SW8260B		Extraction SW5030B			BatchID: 35237			Spiked Sample ID: 0804666-007B				
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	117	117	0	124	125	0.982	70 - 130	30	70 - 130	30
%SS1:	112	10	105	106	0.852	103	103	0	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 35237 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0804666-001B	04/23/08	04/28/08	04/28/08 3:14 PM	0804666-002B	04/23/08	04/28/08	04/28/08 3:58 PM
0804666-003B	04/23/08	04/28/08	04/28/08 5:26 PM	0804666-004B	04/23/08	04/28/08	04/28/08 6:10 PM
0804666-005B	04/23/08	04/28/08	04/28/08 6:54 PM	0804666-006B	04/23/08	04/28/08	04/28/08 9:50 PM
0804666-007B	04/23/08	04/28/08	04/28/08 10:34 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.

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