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ICES 6012

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Subject: Groundwater Monitoring - July 2006  
Jordan Ranch  
4233 Fallon Road  
Dublin, California

Dear Barney:

Enclosed please find our report documenting the second round of groundwater monitoring activities that were conducted at Jordan Ranch located at 4233 Fallon Road in Dublin, California.

If you have any questions or comments concerning this report, please call Derek Wong or me.

Sincerely,

Peng Leong  
Principal Engineer



Enclosure

## **GROUNDWATER MONITORING - JULY 2006**

**JORDAN RANCH  
4233 FALLON ROAD  
DUBLIN, CALIFORNIA**

August 4, 2006

ICES 6012

Prepared for:

Jordan Family Trust  
c/o Mr. Anthony Varni  
650 A Street  
Hayward, California 94541



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August 4, 2006

ICES 6012

## GROUNDWATER MONITORING - JULY 2006

JORDAN RANCH  
4233 FALLON ROAD  
DUBLIN, CALIFORNIA

### 1.0 INTRODUCTION

This report presents the findings of the second round of groundwater monitoring activities that was conducted by Innovative and Creative Environmental Solutions (ICES) at the Jordan Ranch located at 4233 Fallon Road in Dublin, California ("the Site"; Figure 1).

The groundwater sampling activities were performed to monitor groundwater quality at the Site. The Alameda County Health Care Services Agency provided oversight for the groundwater activities.

### 2.0 SITE DESCRIPTION

The Site consists of an approximate 200-acre square-shaped parcel located  $\frac{1}{2}$ -mile north of the El Charro/Fallon Road intersection with U.S. Interstate 580. The Site extends from Fallon Road on the west to approximately 3,000 feet east. The Site generally consists of vacant grazing land, with a ranch house and several barns and equipment sheds located on the southwest of the property.

### 3.0 BACKGROUND

A Phase I Environmental Site Assessment was performed by Berlogar Geotechnical Consultants (BGC) in September 2000. BGC's assessment identified the location of a former underground storage tank (UST) at the southwestern portion of the Site.

BGC conducted a limited site investigation to assess the potential presence of contaminants associated with the former UST in December 2000. Soil samples were collected from two borings (B-1 and B-2) in the vicinity of the former UST. A total of six soil samples were collected from the two borings at depths ranging from approximately 5.5 to 19.5 feet below the existing ground surface (bgs). The soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPHg); TPH as diesel (TPHd); and benzene, toluene, ethylbenzene, and xylenes (BTEX). Laboratory analytical results of the soil samples indicated that TPHg and TPHd were detected in all six of the soil samples with concentrations ranging from 25 to 4,200 mg/kg for TPHg, and 11 to 1,300 mg/kg for TPHd. Benzene was measured in one of the samples at a concentration of 16 mg/kg. Toluene, ethylbenzene, and xylenes were detected in the samples at maximum concentrations of 230, 86, and 420 mg/kg, respectively.

Northgate Environmental Management, Inc. (NEM) performed a Phase II soil and groundwater quality investigation in November 2005. The investigation consisted of analyzing soil and groundwater samples collected from five borings advanced in the vicinity of the former UST. Soil samples collected immediately adjacent to the former UST and adjacent fuel pump contained TPHg at maximum concentrations of 1,100 mg/kg. TPHd was reported at concentrations of up to 340 mg/kg. BTEX was detected in the soil samples at maximum concentrations of 1.8, 41, 15, and 77 mg/kg, respectively. Methyl tertiary-butyl ether (MTBE) was detected up to 0.96 mg/kg. Grab groundwater samples collected from the borings contained non-detectable concentrations of TPHd and elevated concentrations of TPHg, BTEX, MTBE, and volatile organic compounds (VOCs).

In December 2005, NEM conducted an additional soil and groundwater investigation at the Site. Five groundwater monitoring wells (MW-1 through MW-5) were installed and developed in the vicinity of the former UST. Two grab groundwater samples were collected from two borings (NG-8 and NG-9) located approximately 250 feet downgradient of the former UST (at the southwestern portion of the Site). Additionally, soil gas samples were collected from nine locations (in the vicinity of the former UST. Results of the soil gas samples indicated that samples contained non-detectable to low concentrations of TPHg, BTEX, MTBE, VOCs, with the exception of the measured concentration of benzene detected in samples SV-2 and SV-3. The detectable benzene contained in SV-2 and SV-3 exceeded the

California Human Health Screening Level for residential landuse of 0.0362 ug/L. Groundwater samples collected from the five monitoring wells indicated high concentrations of TPHg, BTEX, MTBE, and VOCs in the groundwater within the immediate vicinity of the former UST. Non-detectable concentrations of TPHg, TPHd, BTEX, MTBE, and VOCs were recorded for the grab groundwater samples collected from borings NG-8 and NG-9.

ICES conducted a supplementary site investigation in March 2006. The purpose of the investigation was to delineate the horizontal extent of petroleum constituents that were encountered at the southwestern portion of the Site. Soil and groundwater samples were collected from three test pit locations (TP-1 through TP-3). Laboratory analytical results indicated that the soil samples which were collected at a depth of approximately 19.5 feet bgs contained non-detectable concentrations of TPHg, BTEX, and MTBE. Results of the groundwater samples indicated non-detectable concentrations of TPHg, BTEX, and MTBE; and low to non-detectable concentrations of VOCs. The residual levels of t-Butyl alcohol in samples TG-1W, TG-2W, and TG-3W were below the Regional Water Quality Control Board's Environmental Screening Level (ESL) of 12 ug/L.

#### **4.0 SITE GEOLOGY AND HYDROGEOLOGY**

The lithologic logs of the borings that were previously drilled at the Site reported that sediments underlying the Site were primarily silty sandy clay.

Previous depth-to-groundwater measurements conducted at the Site indicated that groundwater was approximately 16 to 18 feet bgs. Mapping and analysis of the groundwater elevation data suggested that the local groundwater gradient flows in a southerly direction.

#### **5.0 GROUNDWATER SAMPLING**

Groundwater samples were collected from wells MW-1 through MW-5 on July 26, 2006. The approximate well locations are shown in Figure 2. Depth-to-groundwater was measured using an electric water level meter prior to groundwater sampling activities. Groundwater sampling involved bailing approximately three to five well casing volumes of water out of each well prior to sampling. The above parameters were measured during purging. Once the

temperature, pH, and conductivity had stabilized and the well had recharged to a minimum of 90% of its original volume, a water sample was collected.

Groundwater samples were collected manually (hand-bailed) using a Teflon bailer. The samples were transferred into 40-mL VOA vials and amber glass bottles.

The filled VOA vials and amber glass jars were immediately capped, sealed, labeled, and placed in a chilled cooler containing crushed ice for transportation to the laboratory. Proper documentation and field chain-of-custody procedures were followed.

All equipment used during this investigation which might have come into contact with contaminated materials was thoroughly decontaminated before and after each use. This was accomplished by washing with Alconox (a laboratory-grade detergent) and rinsing with deionized or distilled water.

## **6.0 GROUNDWATER ELEVATION AND FLOW**

The elevation of the groundwater surface (potentiometric surface) was measured for each well to evaluate the direction of groundwater flow at the Site. Groundwater level measurements were recorded using an electronic water-level probe attached to an engineer's measuring tape graduated to 0.01-foot intervals.

Measurements were recorded from the top of the groundwater surface to the top of the well casing. The difference between the top of the groundwater surface is a measurement of the potentiometric surface of the groundwater table.

Measured depth to groundwater levels at the Site ranged from 405.85 feet (MW-4) to 411.81 feet (MW-1) above mean sea level. Mapping and analysis of the groundwater elevation data suggest that the local groundwater gradient flows in a southerly direction. Figure 3 shows the water-level data collected and interpreted contour lines.

## **7.0 LABORATORY ANALYSIS**

The groundwater samples were sent to McCampbell Analytical, Inc. of Concord, California, a state-certified laboratory, and analyzed

for:

- TPHg and TPHd using EPA Method 8015C;
- BTEX and MTBE using EPA Method 8021B; and
- VOCs using EPA Method 8260B.

The samples were analyzed on a normal 5-day turnaround basis.

### **7.1 Laboratory Analytical Results**

The laboratory analytical results are summarized in Table 1. Laboratory certificates are attached in Appendix A. The results are as follows:

Analysis of the groundwater samples indicated that:

#### Petroleum Hydrocarbons

- TPHg concentrations ranged from less than 50.0 ug/L (not detected) to 15,000 ug/L.
- TPHd concentrations ranged from less than 50.0 ug/L (not detected) to 560 ug/L.
- Benzene concentrations ranged from less than 0.5 ug/L (not detected) to 4,100 ug/L.
- Toluene concentrations ranged from less than 0.5 ug/L (not detected) to 580 ug/L.
- Ethylbenzene concentrations ranged from less than 0.5 ug/L (not detected) to 200 ug/L.
- Xylenes concentrations ranged from less than 0.5 ug/L (not detected) to 870 ug/L.
- MTBE concentrations ranged from less than 0.5 ug/L to 5.0 ug/L (not detected) to 2,200 ug/L.

#### Volatile Organic Compounds

- 1,2-Dichlorobenzene (1,2-DCA) concentrations ranged from less than 0.5 ug/L to 50.0 ug/L (not detected) to 14 ug/L.

- Naphthalene concentrations ranged from less than 0.5 ug/L (not detected) to 130 ug/L.
- 1,2,4-Trimethylbenzene concentrations ranged from less than 0.5 ug/L to 10.0 ug/L (not detected) to 320 ug/L.
- 1,3,5-Trimethylbenzene concentrations ranged from less than 0.5 ug/L to 10.0 ug/L (not detected) to 70 ug/L.
- The remaining volatile organic compounds analyzed using EPA Method 8260B were below their respective detection limits.

## **8.0 DISCUSSION**

Laboratory analytical results indicated that the groundwater samples collected from wells MW-1, MW-3, and MW-4 contained non-detectable concentrations of TPHg, TPHd, BTEX, MTBE, and VOCs. Detectable concentrations of TPHg, TPHd, benzene, toluene, xylenes, MTBE, 1,2-DCA, and naphthalene were recorded for the groundwater sample collected from well MW-2. The groundwater sample collected from well MW-5 contained elevated concentrations of TPHg, TPHd, BTEX, MTBE, naphthalene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene.

Based on the laboratory analytical results of this and the previous sampling events, it appears that groundwater containing elevated concentrations of petroleum constituents and VOCs which exceed their respective ESLs is limited to the immediate vicinity of the former UST.

## **9.0 EXCLUSIONS**

ICES assumes no responsibility or liability for the reliance hereon or use hereof of information contained in this report by anyone other than the party to whom it is addressed.

The evaluations and recommendations presented in this report are based on the limited site investigation results available at this time and could be revised if new information necessitating further review of the Site becomes available.

TABLE 1

**WELL MONITORING AND ANALYTICAL DATA**  
**Jordan Ranch**  
**4233 Fallon Road**  
**Dublin, California**

Well ID	Date Sampled	OTW (feet)	TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	1,2-DCA	Isopropylbenzene	Naphthalene	n-Butyl benzene	tert-Butyl benzene	sec-Butyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	VOCs
		(feet)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
MW-1	12/6/2005	17.08	64	NA	2.4/2.0	1.7<0.5	<0.5<0.5	<0.5<0.5	NA<0.5	<0.5	0.52	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5-10.0
	7/26/2006	13.92	<50.0	<50.0	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5-10.0
MW-2	12/6/2005	18.00	3,100	NA	740/470	14<25.0	9456	180/130	NA/800	57	<25.0	50	<25.0	<25.0	425.0	82	94	<25.0-500.0
	7/26/2006	15.44	650	150	100/130	4.8<10.0	<0.5<10.0	<0.5<10.0	440/510	14	<10.0	15	<10.0	<10.0	410.0	<10.0	<10.0	<10.0-200.0
MW-3	12/6/2005	17.35	<50.0	NA	40.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	NA<0.5	40.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5-10.0
	7/26/2006	14.20	<50.0	<50.0	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	40.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5-10.0
MW-4	12/6/2005	18.58	70	NA	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	NA<0.5	<0.5	<0.5	<0.5	0.03	2.4	7.7	<0.5	<0.5	<0.5-10.0
	7/26/2006	15.75	<50.0	<50.0	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5-10.0
MW-5	12/6/2005	16.40	53,000	NA	14,000/13,000	1,400/1,200	1,200/900	5,000/5,000	NA/7,000	200	<250.0	500	<250.0	<250.0	<250.0	1,500	400	<250.0-5,000.0
	7/26/2006	13.89	15,000	860	3,000/3,100	440/580	180/200	720/610	1,000/2,200	<50.0	<50.0	120	<50.0	<50.0	<50.0	320	70	<50.0-1,000.0
ESU/PRG			100.0	100.0	1.0	90.0	90.0	20.0	5.0	0.5	660.0*	17.0	---	240.0*	240.0*	12.0*	12.0*	---

Notes:

NA: Not Analyzed

ESL: RWQCB Environmental Screening Level, where groundwater is a current or potential source of drinking water.

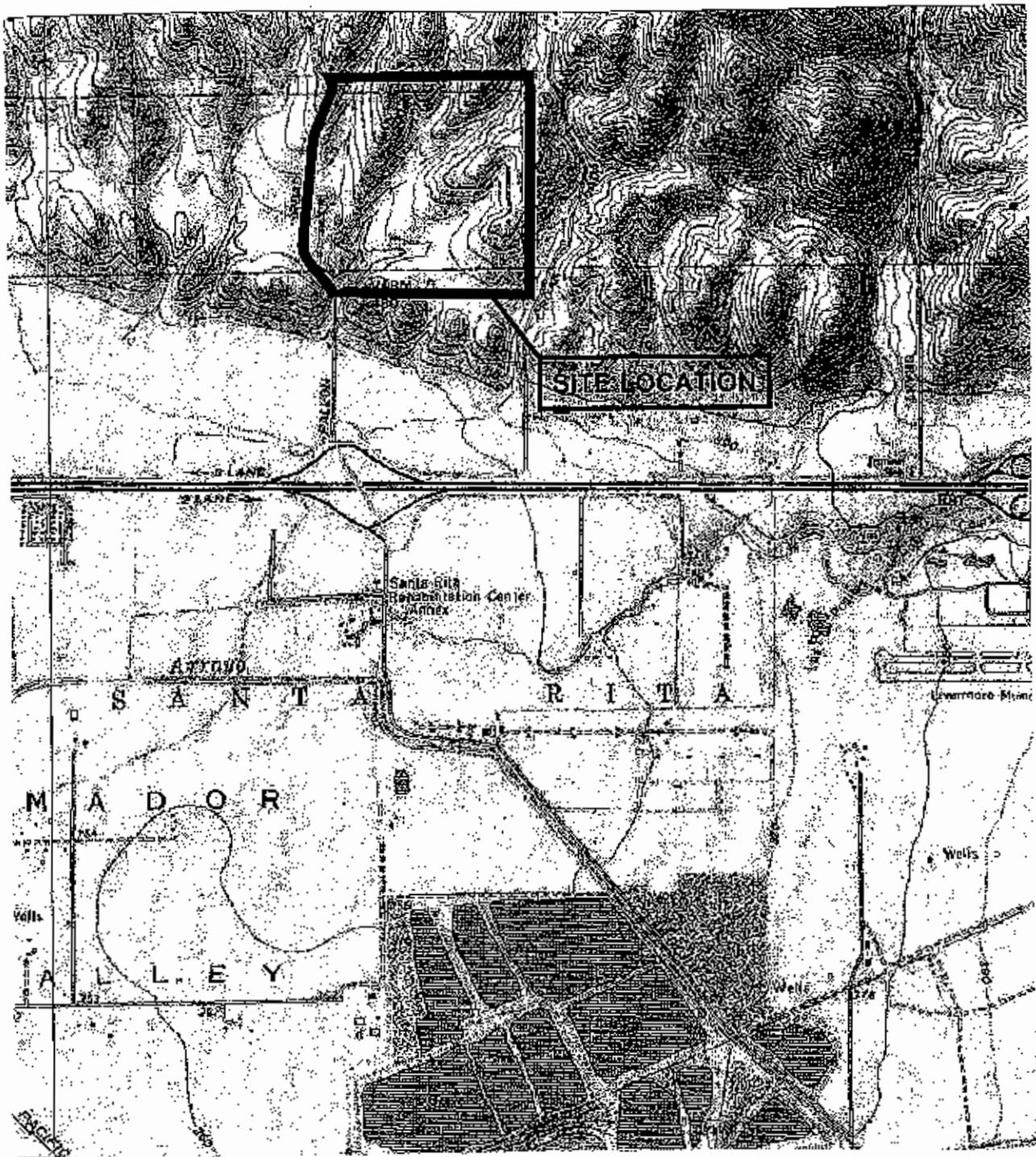
PRG: US EPA Preliminary Remediation Goal for tap water. PRG values denoted with \*.

TABLE 2

## GROUNDWATER ELEVATIONS

Jordan Ranch  
4233 Fallon Road  
Dublin, California

Well ID	Date Sampled	Top of Casing Elevation (feet)	Depth To Groundwater (feet)	Groundwater Elevation (feet)
MW-1	12/6/2005	425.73	17.08	408.65
	7/26/2006	425.73	13.92	411.81
MW-2	12/6/2005	424.98	18.01	406.97
	7/26/2006	424.98	15.44	409.54
MW-3	12/6/2005	421.47	17.35	404.12
	7/26/2006	421.47	14.20	407.27
MW-4	12/6/2005	421.60	18.58	403.02
	7/26/2006	421.60	15.75	405.85
MW-5	12/6/2005	424.04	16.40	407.64
	7/26/2006	424.04	13.89	410.15



MAP SOURCE:  
CSAA

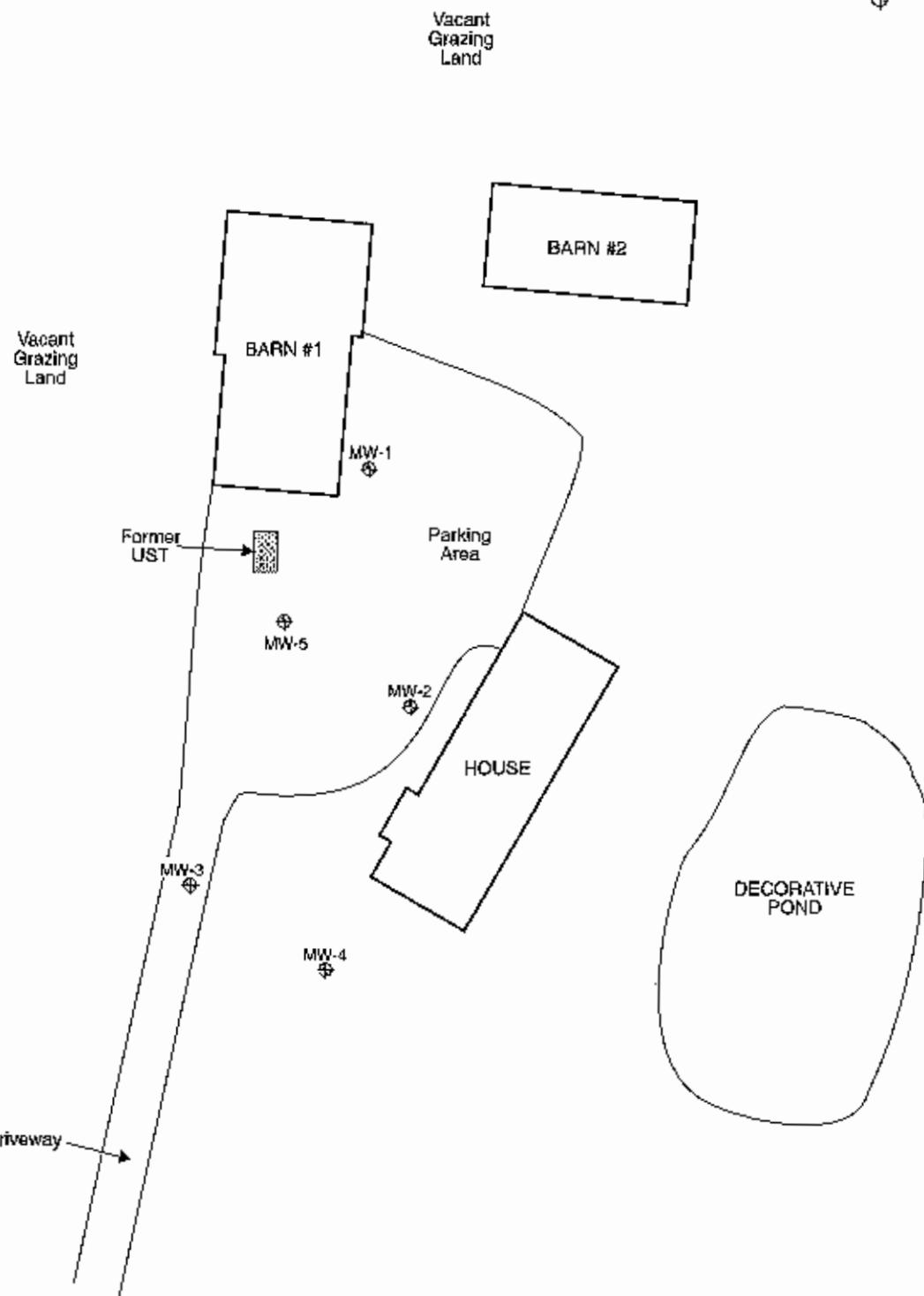
Scale: 1" : ± 2000'	August 2006
<b>KCE</b> Innovative & Creative Environmental Solutions	

**SITE LOCATION**  
Jordan Ranch  
4233 Fallon Road  
Dublin, California

Figure 1  
Project 6012

EXPLANATION:

MW-1 Groundwater  
Monitoring Well



Scale: 1" : ± 60'

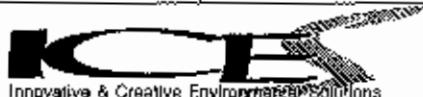
August 2006

## MONITORING WELL LOCATIONS

Jordan Ranch  
4233 Fallon Road  
Dublin, California

Figure 2

Project 6012



Innovative & Creative Environmental Solutions

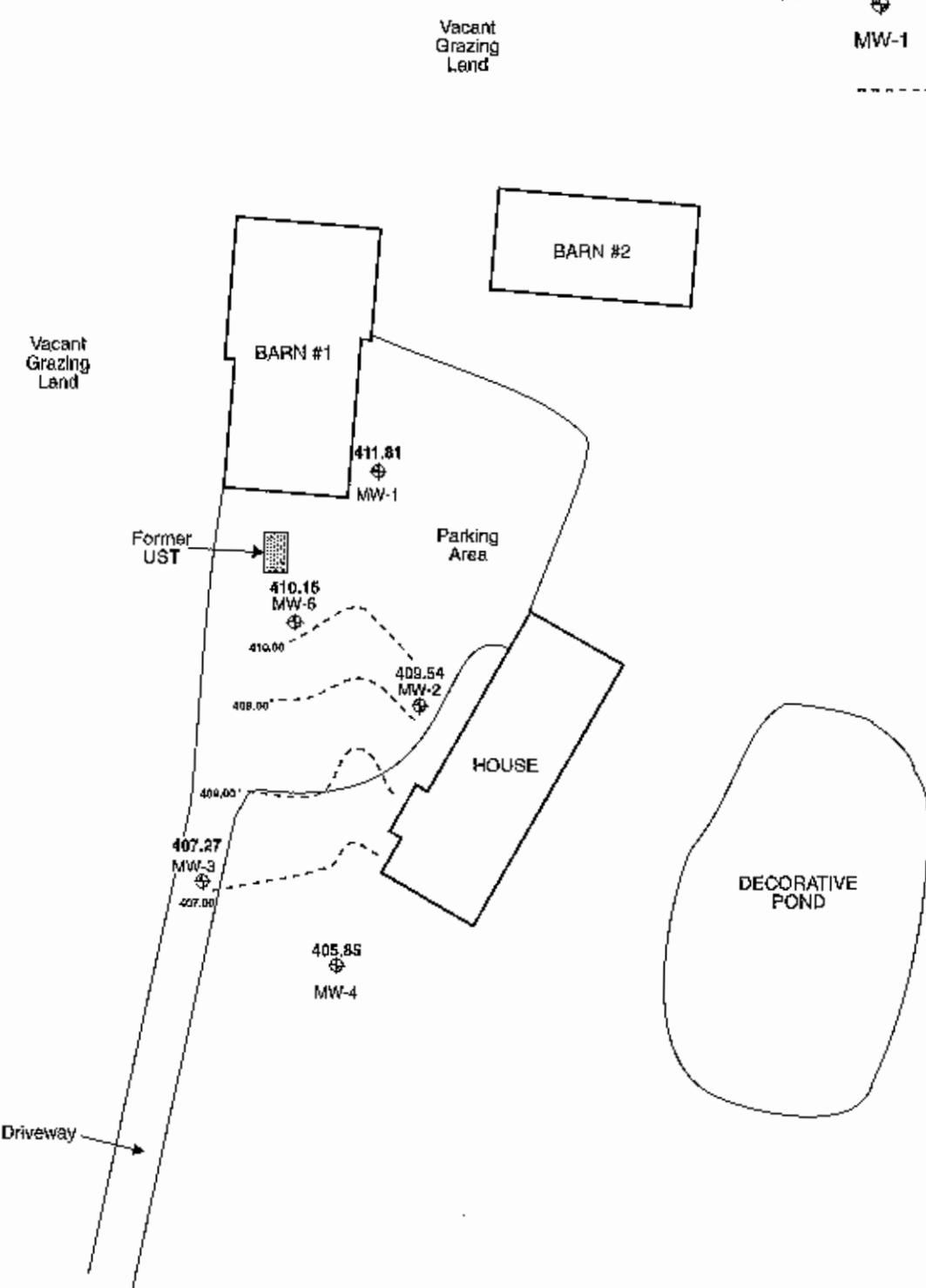
EXPLANATION:

Groundwater Elevation (ft) → 411.81

MW-1

Groundwater Monitoring Well

— - - - - Groundwater Contour



Scale: 1" : ± 60'

August 2006



## GROUNDWATER ELEVATIONS

Jordan Ranch  
4233 Fallon Road  
Dublin, California

Figure 3

Project 6012



**APPENDIX A**

**LABORATORY CERTIFICATES**



## McCampbell Analytical, Inc.

'When Quality Counts'

1534 Willow Pass Road, Petaluma, CA 94563-1701  
Web: [www.mocampbell.com](http://www.mocampbell.com) E-mail: [mmin@mocampbell.com](mailto:mmin@mocampbell.com)  
Telephone: 877-252-9262 Fax: 975-252-9269

ICES P.O. Box 99288 Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
		Date Received: 07/26/06
	Client Contact: Peng Leong	Date Extracted: 07/28/06-07/29/06
	Client P.O.:	Date Analyzed 07/28/06-07/29/06

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

Extraction method: SW5030B

#### Analytical methods: SW8021B/8015Cm

Work Order: 0602423

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/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

<sup>a</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant (aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / 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.



## McCampbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1711  
Web: [www.mccampbell.com](http://www.mccampbell.com) E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)  
Telephone: 877-252-9262 Fax: 925-252-9269

ICES P.O. Box 99288 Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
		Date Received: 07/26/06
	Client Contact: Peng Leong	Date Extracted: 07/27/06
	Client P.O.:	Date Analyzed 07/27/06-07/28/06

### Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel<sup>a</sup>

Extraction method: SWISS-IC

### Analytical methods SW8015C

Work Order: 060747

Reporting Limit for DF =1; ND means not detected at or about the reporting limit.	W	50	$\mu\text{g/L}$
	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 DISTH/C/STL/C/SPOL/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 McCampbell 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) standard solvent/mineral spirit.



# McCormick Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1791  
Web: www.mccormick.com E-mail: main@mccormick.com  
Telephone: 877-252-9262 Fax: 925-252-9269

JCES P.O. Box 99288 Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
		Date Received: 07/26/06
	Client Contact: Peng Leong	Date Extracted: 07/28/06
	Client P.O.:	Date Analyzed: 07/28/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SWR260B

Work Order: 0607473

Lab ID	0607473-001C					
Client ID	MW-1					
Matrix	Water					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0
Acrylonitrile	ND	1.0	2.0	tert-Amyl methyl ether (TAME)	ND	1.0
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0
Bromo(chloromethane)	ND	1.0	0.5	Bromodichloromethane	ND	1.0
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0
Dibromo(chloromethane)	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromoethane	ND	1.0
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethylene	ND	1.0	0.5	cis-1,2-Dichloroethylene	ND	1.0
trans-1,2-Dichloroethylene	ND	1.0	0.5	1,2-Dichloropropene	ND	1.0
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (BTBE)	ND	1.0
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0
Isopropylbenzene	ND	1.0	0.5	4-(Isopropyl)toluene	ND	1.0
Methyl- <i>t</i> -butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0
4-Methyl-2-pentanone (MTPK)	ND	1.0	0.5	Naphthalene	ND	1.0
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethylene	ND	1.0
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Triethylpropane	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Triethylbenzene	ND	1.0
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0

### Surrogate Recoveries (%)

%SS1:	109	%SS2:	108
%SS3:	97		

### Comments:

\* water and vapor samples are reported in  $\mu\text{g}/\text{L}$ , soil/sludge/solid samples in  $\text{mg}/\text{kg}$ , product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in  $\text{mg}/\text{L}$ , wipe samples in  $\mu\text{g}/\text{wipe}$ .

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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

ICBS  P.O. Box 99288  Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
		Date Received: 07/26/06
	Client Contact: Peng Leong	Date Extracted: 07/28/06
	Client P.O.:	Date Analyzed 07/28/06

## Volatile Organics by P&amp;T and GC/MS (Basic Target List)\*

Extraction Method: SW8030B

Analytical Method: SW8260B

Work Order: 0607473

Lab ID	0607473-002C
Client ID	MW-2
Matrix	Water

Compound	Concentration *	DF	Reporting Unit	Compound	Concentration *	DF	Reporting Unit
Acetone	ND<100	20	5.0	Acrolein (Propenal)	ND<100	20	5.0
Acrylonitrile	ND<40	20	2.0	(tert-Amyl methyl ether (TAME))	ND<10	20	0.5
Benzene	130	20	0.5	Bromobenzene	ND<10	20	0.5
Bromo-chloromethane	ND<10	20	0.5	Bromodichloromethane	ND<10	20	0.5
Bromoform	ND<10	20	0.5	Bromoethane	ND<10	20	0.5
2-Butanone (MEK)	ND<40	20	2.0	t-Butyl alcohol (TBA)	ND<100	20	5.0
n-Butyl benzene	ND<10	20	0.5	sec-Butyl benzene	ND<10	20	0.5
tert-Butyl benzene	ND<10	20	0.5	Carbon Disulfide	ND<10	20	0.5
Carboxy Tetrachloride	ND<10	20	0.5	Chlorobenzene	ND<10	20	0.5
Chloroethane	ND<10	20	0.5	2-Chloroethyl Vinyl Ether	ND<20	20	1.0
Chloroform	ND<10	20	0.5	Chloromethane	ND<10	20	0.5
2-Chlorotoluene	ND<10	20	0.5	4-Chlorotoluene	ND<10	20	0.5
Dibromo-chloromethane	ND<10	20	0.5	1,2-Dibromo-3-chloropropane	ND<10	20	0.5
1,2-Dibromoethane (EDB)	ND<10	20	0.5	Dibromoethane	ND<10	20	0.5
1,2-Dichlorobenzene	ND<10	20	0.5	1,3-Dichlorobenzene	ND<10	20	0.5
1,4-Dichlorobenzene	ND<10	20	0.5	Dichlorodifluoromethane	ND<10	20	0.5
1,1-Dichloroethane	ND<10	20	0.5	1,2-Dichloroethane (1,2-DCA)	14	20	0.5
1,1-Dichloroethene	ND<10	20	0.5	cis-1,2-Dichloroethene	ND<10	20	0.5
trans-1,2-Dichloroethene	ND<10	20	0.5	1,2-Dichloropropene	ND<10	20	0.5
1,3-Dichloropropane	ND<10	20	0.5	2,2-Dichloropropane	ND<10	20	0.5
1,1-Dichloropropene	ND<10	20	0.5	cis-1,3-Dichloropropene	ND<10	20	0.5
trans-1,3-Dichloropropene	ND<10	20	0.5	Diisopropyl ether (DIPE)	ND<10	20	0.5
Ethylbenzene	ND<10	20	0.5	Ethyl tert-butyl ether (ETBE)	ND<10	20	0.5
Freon 113	ND<200	20	10	Hexachlorobutadiene	ND<10	20	0.5
Hexachloroethane	ND<10	20	0.5	2-Hexanone	ND<10	20	0.5
Isononylbenzene	ND<10	20	0.5	4-Isopropyl tolue	ND<10	20	0.5
Methyl-t-butyl ether (MTBE)	510	20	0.5	Methylene chloride	ND<10	20	0.5
4-Methyl-1-pentanone (MIBK)	ND<10	20	0.5	Naphthalene	15	20	0.5
Nitrobenzene	ND<200	20	10	n-Propyl benzene	ND<10	20	0.5
Styrene	ND<10	20	0.5	1,1,2,2-Tetrachloroethane	ND<10	20	0.5
1,1,2,2-Tetrachloroethane	ND<10	20	0.5	Tetrachloroethene	ND<10	20	0.5
Toluene	ND<10	20	0.5	1,2,3-Trichlorobenzene	ND<10	20	0.5
1,2,4-Trichlorobenzene	ND<10	20	0.5	1,1,1-Trichloroethane	ND<10	20	0.5
1,1,2-Trichloroethane	ND<10	20	0.5	Trichloroethene	ND<10	20	0.5
Trichlorofluoromethane	ND<10	20	0.5	1,2,3-Trichloropropane	ND<10	20	0.5
1,2,4-Trimethylbenzene	ND<10	20	0.5	1,3,5-Trimethylbenzene	ND<10	20	0.5
Vinyl Chloride	ND<10	20	0.5	Xylenes	ND<10	20	0.5

## Surrogate Recoveries (%)

%SS1:	95	%SS2:	95
%SS3:	97		

## Comments:

\* 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 coelutes with another peak; &) low surrogate due to matrix interference.

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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Web: www.mccormick.com E-mail: mail@mccormick.com  
Telephone: 877-252-9262 Fax: 925-252-9269

ICES P.O. Box 99288 Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
		Date Received: 07/26/06
	Client Contact: Peng Leong	Date Extracted: 07/28/06
	Client P.O.:	Date Analyzed: 07/28/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0607473

Lab ID	0607473-003C						
Client ID	MW-3						
Matrix	Water						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0	5.0
Acrylonitrile	ND	1.0	2.0	tert-Butyl methyl ether (TAME)	ND	1.0	0.5
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0	0.5
Bromo(chloromethane)	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0	5.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0	0.5
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0	0.5
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0	1.0
Chloroform	ND	1.0	0.5	Chloroethane	ND	1.0	0.5
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0	0.5
Dibromo(chloromethane)	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0	0.5
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropene	ND	1.0	0.5
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropene	ND	1.0	0.5
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0	0.5
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.5
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0	0.5
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0	0.5
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl tolulene	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.5	Naphthalene	ND	1.0	0.5
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0	0.5
Styrene	ND	1.0	0.5	1,1,1,2-Tetrachloroethane	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethylene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0	0.5
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0	0.5
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0	0.5
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropronane	ND	1.0	0.5
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0	0.5
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0	0.5

### Surrogate Recoveries (%)

%SS1:	95	%SS2:	96
%SS3:	97		

### Comments:

\* 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 coelutes with another peak; &) low surrogate due to matrix interference.

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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 Web: www.mccormick.com E-mail: main@mccormick.com  
 Telephone: 877-252-9262 Fax: 925-252-9269

ICES P.O. Box 99288 Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
		Date Received: 07/26/06
	Client Contact: Peng Loong	Date Extracted: 07/28/06
	Client P.O.:	Date Analyzed: 07/28/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW3030B

Analytical Method: SW8260B

Work Order: 0607473

Lab ID	0607473-004C					
Client ID	MW-4					
Matrix	Water					
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF
Acetone	ND	1.0	5.0	Acrolein (Propenal)	ND	1.0
Acrylonitrile	ND	1.0	2.0	tert-Butyl methyl ether (TAME)	ND	1.0
Benzene	ND	1.0	0.5	Bromobenzene	ND	1.0
Bromoform	ND	1.0	0.5	Bromodichloromethane	ND	1.0
2-Butanone (MEK)	ND	1.0	2.0	t-Butyl alcohol (TBA)	ND	1.0
n-Butyl benzene	ND	1.0	0.5	sec-Butyl benzene	ND	1.0
tert-Butyl benzene	ND	1.0	0.5	Carbon Disulfide	ND	1.0
Carbon Tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0
Chloromethano	ND	1.0	0.5	2-Chloroethyl Vinyl Ether	ND	1.0
Chloroform	ND	1.0	0.5	Chloromethane	ND	1.0
2-Chlorotoluene	ND	1.0	0.5	4-Chlorotoluene	ND	1.0
Dibromochloromethane	ND	1.0	0.5	1,2-Dibromo-3-chloropropane	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0	0.5	Dibromomethane	ND	1.0
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0
1,3-Dichloropropane	ND	1.0	0.5	2,2-Dichloropropane	ND	1.0
1,1-Dichloropropene	ND	1.0	0.5	cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0	0.5	Diisopropyl ether (DIPE)	ND	1.0
Ethylbenzene	ND	1.0	0.5	Ethyl tert-butyl ether (ETBE)	ND	1.0
Freon 113	ND	1.0	10	Hexachlorobutadiene	ND	1.0
Hexachloroethane	ND	1.0	0.5	2-Hexanone	ND	1.0
Isopropylbenzene	ND	1.0	0.5	4-Isopropyl tolune	ND	1.0
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0
4-Methyl-2-pentanone (MTBK)	ND	1.0	0.5	Naphthalene	ND	1.0
Nitrobenzene	ND	1.0	10	n-Propyl benzene	ND	1.0
Styrene	ND	1.0	0.5	1,1,2-Tetrachloroethane	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethane	ND	1.0
Toluene	ND	1.0	0.5	1,2,3-Trichlorobenzene	ND	1.0
1,2,4-Trichlorobenzene	ND	1.0	0.5	1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0	0.5	Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0	0.5	1,2,3-Trichloropropane	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0	0.5	1,3,5-Trimethylbenzene	ND	1.0
Vinyl Chloride	ND	1.0	0.5	Xylenes	ND	1.0

### Surrogate Recoveries (%)

%SS1:	96	%SS2:	95
%SS3:	96		

### Comments:

\* water and vapor samples are reported in  $\mu\text{g}/\text{L}$ , soil/sludge/solid samples in  $\text{mg}/\text{kg}$ , product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in  $\text{mg}/\text{L}$ , wipe samples in  $\mu\text{g}/\text{wipe}$ .

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b) 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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ICES P.O. Box 99288 Emeryville, CA 94662	Client Project ID: #6012; Jordan Ranch	Date Sampled: 07/26/06
	Client Contact: Peng Leong	Date Received: 07/26/06
	Client P.O.:	Date Extracted: 07/28/06
		Date Analyzed: 07/28/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0607473

Lab ID	0607473-005C						
Client ID	MW-5						
Matrix	Water						
Compound	Concentration *	DP	Reporting Limit	Compound	Concentration *	DP	Reporting Limit
Acetone	ND<500	100	5.0	Acrolein (Propenal)	ND<500	100	5.0
Acrylonitrile	ND<200	100	2.0	tert-Amyl methyl ether (TAME)	ND<50	100	0.5
Benzene	4100	100	0.5	Bromobenzene	ND<50	100	0.5
Bromoform	ND<50	100	0.5	Bromodichloromethane	ND<50	100	0.5
2-Butanone (MEK)	ND<200	100	2.0	t-Butyl alcohol (TBA)	ND<500	100	5.0
n-Butyl benzene	ND<50	100	0.5	sec-Butyl benzene	ND<50	100	0.5
tert-Butyl benzene	ND<50	100	0.5	Carbon Disulfide	ND<50	100	0.5
Carbon Tetrachloride	ND<50	100	0.5	Chlorobenzene	ND<50	100	0.5
Chloroethane	ND<50	100	0.5	2-Chloroethyl Vinyl Ether	ND<100	100	1.0
Chloroform	ND<50	100	0.5	Chloromethane	ND<50	100	0.5
2-Chlorotoluene	ND<50	100	0.5	4-Chlorotoluene	ND<50	100	0.5
Dibromochloromethane	ND<50	100	0.5	1,2-Dibromo-3-chloropropane	ND<50	100	0.5
1,2-Dibromoethane (BDB)	ND<50	100	0.5	Dibromomethane	ND<50	100	0.5
1,2-Dichlorobenzene	ND<50	100	0.5	1,3-Dichlorobenzene	ND<50	100	0.5
1,4-Dichlorobenzene	ND<50	100	0.5	Dichlorodifluoromethane	ND<50	100	0.5
1,1-Dichloroethane	ND<50	100	0.5	1,2-Dichloroethane (1,2-DCA)	ND<50	100	0.5
cis-1,2-Dichloroethene	ND<50	100	0.5	cis-1,2-Dichloroethene	ND<50	100	0.5
trans-1,2-Dichloroethene	ND<50	100	0.5	1,2-Dichloropropane	ND<50	100	0.5
1,3-Dichloropropene	ND<50	100	0.5	2,2-Dichloropropene	ND<50	100	0.5
1,1-Dichloropropene	ND<50	100	0.5	cis-1,3-Dichloropropene	ND<50	100	0.5
trans-1,3-Dichloropropene	ND<50	100	0.5	Diisopropyl ether (DIPB)	ND<50	100	0.5
Ethylbenzene	200	100	0.5	Ethyl tert-butyl ether (ETBE)	ND<50	100	0.5
Freon 113	ND<1000	100	10	Hexachlorobutadiene	ND<50	100	0.5
Hexachloroethane	ND<50	100	0.5	2-Hexanone	ND<50	100	0.5
Isopropylbenzene	ND<50	100	0.5	4-Isopropyl tolune	ND<50	100	0.5
Methyl-t-butyl ether (MTBE)	2200	100	0.5	Methylene chloride	ND<50	100	0.5
4-Methyl-2-pentanone (MTPK)	ND<50	100	0.5	Naphthalene	130	100	0.5
Nitrobenzene	ND<1000	100	10	n-Propyl benzene	ND<50	100	0.5
Styrene	ND<50	100	0.5	1,1,1,2-Tetrachloroethane	ND<50	100	0.5
1,1,2,2-Tetrachloroethane	ND<50	100	0.5	Tetrachloroethene	ND<50	100	0.5
Toluene	580	100	0.5	1,2,3-Trichlorobenzene	ND<50	100	0.5
1,2,4-Trichlorobenzene	ND<50	100	0.5	1,1,1-Trichloroethane	ND<50	100	0.5
1,1,2-Trichloroethane	ND<50	100	0.5	Trichloroethylene	ND<50	100	0.5
Trichlorofluoromethane	ND<50	100	0.5	1,2,3-Trichloropropene	ND<50	100	0.5
1,2,4-Trimethylbenzene	320	100	0.5	1,3,5-Trimethylbenzene	70	100	0.5
Vinyl Chloride	ND<50	100	0.5	Xylenes	870	100	0.5

### Surrogate Recoveries (%)

%SS1:	97	%SS2:	107
%SS3:	98		

### Comments:

\* water and vapor samples are reported in  $\mu\text{g/L}$ , soil/sludge/solid samples in  $\text{mg/kg}$ , product/oil/non-aqueous liquid samples and all TCI/P & SPLP extracts are reported in  $\text{mg/L}$ , wipe samples in  $\mu\text{g/wipe}$ .

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

(b) 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.



**McCampbell Analytical, Inc.**

\*When Quality Counts\*

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
 Web: [www.mccampbell.com](http://www.mccampbell.com) E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: 877-252-9262 Fax: 925-252-9269

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0607473

EPA Method SW8021B/8015Cm		Extraction SW5030B		BatchID: 22865		Spiked Sample ID 0607463-001A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) <sup>f</sup>	ND	60	111	117	5.61	98.6	103	4.23	70 - 130	70 - 130
MTBE	ND	10	78.4	78.5	0.0546	89.7	98.8	9.67	70 - 130	70 - 130
Benzene	ND	10	108	103	4.84	84.9	91	6.95	70 - 130	70 - 130
Toluene	ND	10	112	105	6.46	86.2	89.8	4.04	70 - 130	70 - 130
Ethylbenzene	ND	10	111	107	3.27	91.3	97.5	6.32	70 - 130	70 - 130
Xylenes	ND	30	110	113	2.99	85.3	90.3	5.69	70 - 130	70 - 130
%SS:	99	10	106	100	5.34	97	98	1.59	70 - 130	70 - 130

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

### BATCH 22865 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0607473-001A	7/26/06	7/28/06	7/28/06 7:53 PM	0607473-002A	7/26/06	7/28/06	7/28/06 8:53 PM
0607473-002A	7/26/06	7/29/06	7/29/06 5:47 PM	0607473-003A	7/26/06	7/28/06	7/28/06 8:55 PM
0607473-004A	7/26/06	7/28/06	7/28/06 8:23 PM	0607473-005A	7/26/06	7/28/06	7/28/06 11:52 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.

<sup>f</sup> TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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



**McCampbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
 Web: [www.mccampbell.com](http://www.mccampbell.com) E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: 877-252-9262 Fax: 925-252-9269

## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0607473

EPA Method SW8015C		Extraction SW3510C			BatchID: 22825			Spiked Sample ID N/A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LC5-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	118	117	0.613	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	103	109	6.36	N/A	70 - 130

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

### BATCH 22825 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0607473-001B	7/26/06	7/27/06	7/27/06 11:33 PM	0607473-002B		7/26/06	7/27/06 7/28/06 12:39 AM

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

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

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.

DHS ELAP Certification N° 1644

 QA/QC Officer



**McCampbell Analytical, Inc.**

"When Quality Counts"

1524 Willow Pass Road, Pittsburg, CA 94565-1701  
 Web: [www.mccampbell.com](http://www.mccampbell.com) E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: 877-252-9262 Fax: 925-252-9269

## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0607473

EPA Method SW8015C		Extraction SW8010C			BatchID: 22872			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	LCS / LCSD
TP1(d)	N/A	1000	N/A	N/A	N/A	103	103	0	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	93	94	0.409	N/A	70 - 130

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

### BATCH 22872 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0607473-003B	7/26/06	7/27/06	7/28/06 1:45 AM	0607473-004B		7/26/06	7/27/06
0607473-005B	7/26/06	7/27/06	7/28/06 3:57 AM				7/28/06 2:51 AM

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

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

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.

DHS ELAP Certification N° 1644

 QA/QC Officer



**McCampbell Analytical, Inc.**

\*When Quality Counts\*

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
 Web: [www.mccampbell.com](http://www.mccampbell.com) E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: 877-252-9262 Fax: 925-252-9269

## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0607473

EPA Method SW8260B		Extraction SW5030B			BatchID: 22850			Spiked Sample ID 0607473-004C		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	102	99.4	2.40	99.5	99.9	0.319	70 - 130	70 - 130
Benzene	ND	10	103	101	2.03	100	99.7	0.578	70 - 130	70 - 130
1-Butyl alcohol (TBA)	ND	50	97.3	94.8	2.62	92.9	94.8	2.12	70 - 130	70 - 130
Chlorobenzene	ND	10	104	103	1.28	107	104	2.54	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	95.2	94.1	1.25	98	93.8	4.40	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	114	111	2.98	109	110	0.745	70 - 130	70 - 130
1,1-Dichloroethene	ND	10	97.4	112	13.6	110	109	1.64	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	117	117	0	115	113	1.87	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	107	106	1.19	104	103	1.04	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	104	102	1.93	100	99.6	0.554	70 - 130	70 - 130
Toluene	ND	10	90.4	90.4	0	93.7	86.7	7.84	70 - 130	70 - 130
Trichloroethene	ND	10	82.2	81.4	0.966	82.9	80.2	3.27	70 - 130	70 - 130
%SS1:	103	10	93	91	2.44	96	95	1.33	70 - 130	70 - 130
%SS2:	108	10	97	97	0	99	94	5.38	70 - 130	70 - 130
%SS3:	95	10	96	98	1.85	98	97	0.831	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method R3, with the following exceptions:  
NONE

### BATCH 22850 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0607473-001C	7/26/06	7/28/06	7/28/06 10:32 AM	0607473-002C		7/26/06	7/28/06 11:36 PM
0607473-003C	7/26/06	7/28/06	7/28/06 4:01 PM	0607473-004C		7/26/06	7/28/06 4:46 PM
0607473-005C	7/26/06	7/28/06	7/28/06 6:52 AM				

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

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

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

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

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

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

DHS ELAP Certification N° 1644

 QA/QC Officer

060744-2

McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-3622

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required?  Yes  No

Report To: Deng Leoti

BEST OF 2009

Company: ABC

卷之三  
卷之三

E-Mail: [druck@cs.uni-saarland.de](mailto:druck@cs.uni-saarland.de)

Tel: (33) 5510-1453 3322

East 6th St. 570-1417

Printed #: 10-0005

Project Name: KES 1000  
Project Location: 1005 4th Street, Suite 100

Project Location:

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX	METHOD PRESERVED	TEST & UNIT TESTED				
		Date	Time						Water	Soil	Air	Sludge
MW-1	MW-1	7-20-00	4:00P	4	1 JAR ✓				✓			EPA 608 / 8030
MW-1	MW-1			1	JAR ✓				✓			EPA 608 as Diesel (801S)
MW-2	MW-2			4	1 JAR ✓				✓	✓		Total Petroleum Oil & G
MW-2	MW-2			1	JAR ✓				✓	✓		Total Petroleum Hydrocar
MW-3	MW-3			4	1 JAR ✓				✓	✓		EPA 623 / 8030
MW-3	MW-3			1	JAR ✓				✓	✓		EPA 623 ONLY (EPA 602)
MW-4	MW-4			4	1 JAR ✓				✓	✓		EPA 608 / 8030
MW-4	MW-4			1	JAR ✓				✓	✓		EPA 608 / 8030 PC D's C
MW-5	MW-5			4	1 JAR ✓				✓	✓		EPA 624 / 8246 / 8260
MW-5	MW-5			1	JAR ✓				✓	✓		EPA 625 / E270
Relinquished By:		Date:	Time:	Received By:								PAHs / PCBs by EPA
<i>KMF</i>		<i>7-20-00</i>		<i>JKL</i>								CAM-17 Metals
Relinquished By:		Date:	Time:	Received By:								L11715 Metals
<i>KMF</i>		<i>7-26-00</i>		<i>JKL</i>								Lead / 7246773123036
Relinquished By:		Date:	Time:	Received By:								RCI
												pH
												TSS
												Specific Conductivity

ICE/✓  
GOOD CONDITION  
HEAD SPACE ABSENT  
DECHLORINATED IN LAB

VOCS    O&G    METALS    OTHER

PRESERVATION APPROPRIATE CONTAINERS  
PERMANENTLY PRESERVED IN LAB

**McCAMPBELL ANALYTICAL, INC.**

1554 Willow Pass Rd  
Pillsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

WorkOrder: 0607473

ClientID: ICES

EDF: NO

Report to:

Peng Leong  
ICES  
P.O. Box 99288  
Emeryville, CA 94662

Email:

TEL: (510) 282-3525 FAX: (510) 652-3555  
ProjectNo: #8012; Jordan Ranch  
PO:

Bill to:

Requested TAT: 5 days

Date Received: 07/26/2006

Date Printed: 07/27/2006

Sample ID	ClientSamplD	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0607473-001	MW-1	Water	7/26/06	<input type="checkbox"/>	C	A	B										
0607473-002	MW-2	Water	7/26/06	<input type="checkbox"/>	C	A	B										
0607473-003	MW-3	Water	7/26/06	<input checked="" type="checkbox"/>	C	A	B										
0607473-004	MW-4	Water	7/26/06	<input type="checkbox"/>	C	A	B										
0607473-005	MW-5	Water	7/26/06	<input type="checkbox"/>	C	A	B										

Test Legend:

1	8260B_W
6	
11	

2	G-MBTEX_W
7	
12	

3	TPH(D)_W
B	

4	
9	

5	
10	

Prepared by: Maria Venegas

**Comments:**

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



## **APPENDIX B**

### **SAMPLING DATA**

# WATER-QUALITY SAMPLING INFORMATION

Project Name Voklan Ranch Date 7-26-06

ICES Project Number ICES 6012 Sample Number MW-1

Sampling Team Member(s) Peng Leong, Derek Wong

Sampling Location MW-1

Sampling Method Hand-bailed

Analyses Requested Tph-g, Tph-d, BTEX, MTBE, VOCs

Number of Container(s) 5 Type of Container(s) (4) 40-mL VONS  
(1) AMBER JAR

Well Number MW-1 Well Diameter (in.) 2"

Top-of-Casing Elevation (ft.) 425.73 Water in Well Box No

Depth to Water, Static (ft.) 13.92' Height of Water Column in Well (ft.) 15.76'

Well Depth (ft.) 29.69'

Water Volume in Well 2.5214 gallons

2-inch casing = 0.16gal./ft.

4-inch casing = 0.65gal./ft.

5-inch casing = 1.02gal./ft.

6-inch casing = 1.47gal./ft.

TIME	VOLUME WITHDRAWN (gallons)	TEMP. (deg. C)	pH (S.U.)	COND. (umhos/cm)	OTHER	REMARKS
8:42	1	18.9	6.71	1,842		clear, No odor/sheen
8:49	2	19.1	6.72	1,819		No odor/sheen; slightly cloudy
8:56	3	19.2	6.71	1,803		
9:04	4	19.1	6.70	1,809		
9:10	5	19.3	6.70	1,813		
9:17	6	19.2	6.70	1,810		

Suggested Method for Purging Well \_\_\_\_\_

# WATER-QUALITY SAMPLING INFORMATION

Project Name Jordan Ranch Date 7-26-06

ICES Project Number ICES 0012 Sample Number MW-2

Sampling Team Member(s) Peng Leang / Derek Wong

Sampling Location MW-2

Sampling Method Hand-bailed

Analyses Requested Tph-g, Tph-d, BTx, MTbe, VOCs

Number of Container(s) 5 Type of Container(s) (4) 40-mL Vials  
(1) Amber Jar

Well Number MW-2 Well Diameter (in.) 2"

Top-of-Casing Elevation (ft.) 424.98 Water in Well Box No

Depth to Water, Static (ft.) 15.44' Height of Water Column in Well (ft.) 14.47'

Well Depth (ft.) 29.91'

Water Volume in Well 2.3152 gallons

2-inch casing = 0.16gal/ft.

4-inch casing = 0.65gal/ft.

5-inch casing = 1.02gal/ft.

6-inch casing = 1.47gal/ft.

TIME	VOLUME WITHDRAWN (gallons)	TEMP. (deg. C)	pH (S.U.)	COND. (umhos/cm)	OTHER	REMARKS
10:15	1	19.7	6.46	2,431		hydrocarbon odor present - slightly cloudy, shear present
10:22	2	19.6	6.42	2,610		
10:30	3	19.5	6.44	2,572		
10:37	4	19.6	6.45	2,593		
10:45	5	19.6	6.43	2,524		
10:52	6	19.5	6.43	2,498		*

Suggested Method for Purging Well \_\_\_\_\_

## **WATER-QUALITY SAMPLING INFORMATION**

Project Name Jordan Ranch Date 7-26-04

ICES Project Number ICCS 6012 Sample Number MW-3

Sampling Team Member(s) Peng Leong, Derek Wong

Sampling Location MW-3

Sampling Method hand-bailed

Analyses Requested TPhg, TPhd, BTx, MTBe, VOCs

Number of Container(s) 5 Type of Container(s) (4) 40-ML VOLS  
(1) AMBER JAR

Well Number MW-3 Well Diameter (in.) 2"

Top-of-Casing Elevation (ft) 421.47' Water in Well Box No

Depth to Water, 14.20' Height of Water Column in Well (ft) 15.63'

Well Depth (ft.) 29.93 2-inch casing = 0.16gal /ft

Water Volume in Well 2,500 gallons 4-inch casing = 0.65 gal./ft.

2-inch casing = 0.16 gal./ft.

4-inch casing = 0.65 gal./ft

5-inch casing = 1.02gal./ft

6-inch casing = 1.47 gal./ft.

Suggested Method for Purging Well \_\_\_\_\_

# WATER-QUALITY SAMPLING INFORMATION

Project Name Jordan Ranch Date 7-26-04

ICES Project Number 10CS 6012 Sample Number MW-4

Sampling Team Member(s) Peng Leong / Derek Wong

Sampling Location MW-4

Sampling Method Hand-bailed

Analyses Requested Tphg, Tph-d, BTek, MTBe, VOCs

Number of Container(s) 5 Type of Container(s) (4) 40-mL VOA's  
(1) Amber Jar

Well Number MW-4 Well Diameter (in.) 2"

Top-of-Casing Elevation (ft.) 421.60' Water in Well Box No

Depth to Water, Static (ft.) 15.75' Height of Water Column in Well (ft.) 14.02'

Well Depth (ft.) 29.77'

Water Volume in Well 2,2432 gallons

2-inch casing = 0.16gal./ft.

4-inch casing = 0.65gal./ft.

5-inch casing = 1.02gal./ft.

6-inch casing = 1.47gal./ft.

TIME	VOLUME WITHDRAWN (gallons)	TEMP. (deg. C)	pH (S.U.)	COND. (umhos/cm)	OTHER	REMARKS
11:56	1	18.1	6.52	961		clear, No sheen/odor
12:03	2	17.9	6.49	1,123		No sheen/odor, slightly cloudy
12:10	3	18.2	6.44	1,184		
12:18	4	18.1	6.48	1,157		
12:26	5	18.1	6.46	1,100		
12:34	6	18.1	6.40	1,109		✓

Suggested Method for Purging Well \_\_\_\_\_

## WATER-QUALITY SAMPLING INFORMATION

Project Name Jordan Ranch Date 1-26-04

ICES Project Number 10es 6012 Sample Number MW-5

Sampling Team Member(s) Peng Leong / Derek Wong

Sampling Location MW-2

Sampling Method hand-bailed

Analyses Requested Tph-g, Tph-d, BTEX, MTBE, VOCs

Number of Container(s) 5 Type of Container(s) 18" Amber Vat

Well Number MW-5 Well Diameter (in.) 4"

Top-of-Casing 414-04 Water-in-Well Box NP

Depth to Water 13 ft 9 in

Depth of Water,  
Static (ft.) 50.7 Height of Water  
Column in Well (ft.) 50.7

Well Depth (ft.) 214 2-inch casing = 0.16 gal./ft.

Water Volume in Well 12.5347 gallons 4-inch casing = 0.65gal./ft.

5-inch casing = 1.02gal./ft.

6-inch casing = 1.47gal./ft.

	VOLUME	TEMP	pH	COND.	TESTS	TESTS
--	--------	------	----	-------	-------	-------

Suggested Method for Purging Well \_\_\_\_\_