GROUNDWATER MONITORING REPORT

JORDAN RANCH
DUBLIN, CALIFORNIA

Submitted to:

Mr. Ravi Nandwana
Mission Valley Homes
5000 Hopyard Road, #170
Pleasanton, CA 94588

Prepared by:
ENGEO Incorporated

September 21, 2010
Project No. 7828.000.001

- Expect Excellence -

Project No.
7828.000.000

September 21, 2010

Paresh C. Khatri
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Subject: Jordan Ranch – Former Leaking Underground Storage Tank
4233 Fallon Road
Dublin, California
ACEH Case No. R00002918

GROUNDWATER MONITORING REPORT

Dear Mr. Khatr:

This letter summarizes results of the August 2010 groundwater monitoring event completed for the Jordan Ranch (Site) located at 4233 Fallon Road in Dublin, California. A Vicinity Map is attached as Figure 1.

GROUNDWATER MONITORING

Groundwater Elevations

ENGEO measured and recorded groundwater depths from the top of well casings (TOC) for wells MW-1 through MW-5 on August 24, 2010. The locations of monitoring wells MW-1 through MW-5 are shown on Figure 3.

The depths to groundwater at the site ranged from 11.75 feet below the TOC in MW-1 to 14.17 feet below the TOC in MW-2. During this sampling event, the direction of groundwater flow appeared to be towards the south-southwest at a gradient of approximately 0.0175 feet per foot (ft/ft). Groundwater elevation contours for this event are depicted on Figure 4. The cumulative groundwater elevation data from this event, along with data collected by former project consultants is summarized in Table 1 (attached).

Well Sampling

After recording groundwater depth measurements, we collected groundwater samples from wells MW-1, MW-2, MW-3, MW-4, and MW-5. Well sampling logs are attached.

ENGEO conducted the following activities during sampling:

- Purged wells MW-1 through MW-5 using a submersible pump.
- Monitored and recorded pH, temperature, and conductivity measurements during purging.

- Obtained groundwater samples using a submersible pump.

- Transferred the groundwater to laboratory provided pre-preserved sample containers, which were labeled to include sample identification, date, and time of collection and requested analyses.

- Stored the groundwater samples on ice during transportation to California Laboratory Services, in Rancho Cordova, California using a chain-of custody record.

- Submitted the samples for the analysis of total petroleum hydrocarbon as gasoline (TPHg) and diesel (TPHd), BTEX, and MTBE.

Groundwater Analytical Results

Concentrations of contaminants detected during the August 24, 2010 monitoring event are tabulated below:

Well Location	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)
MW-1	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5
MW-2	<50	**15,000**	**780**	**93**	**1,200**	**2,600**	**170**
MW-3	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5
MW-4	<50	<50	<0.5	<0.5	<0.5	<1.0	**80**
MW-5	<50	**74,000**	**7,500**	**11,000**	**2,700**	**13,000**	**100**

Cumulative groundwater analytical data, including data collected by former project consultant is summarized in Table 2. A copy of the groundwater laboratory report and chain-of-custody record is attached.

FINDINGS

- Based on the data presented herein, concentrations of MTBE have decreased in wells MW-2, MW-4 and MW-5 since December 2005. MTBE has not been detected in MW-1 or MW-3 in past monitoring events presented in this report.

- Concentrations of TPHg have shown an increasing trend in wells MW-2 and MW-5 since December 2005. Concentrations of TPHg was not detected in the remaining wells during the August 2010 monitoring event.

- TPHd was not detected in the wells during the August 2010 monitoring event.

- Concentrations of BTEX constituents appear to be relatively consistent with past monitoring events.

FUTURE WORK ACTIVITIES

As previously discussed by phone, we are in the process of developing a revised Corrective Action Plan (CAP) for the Site. We anticipate a draft CAP will be provided to Alameda County by October 1, 2010.

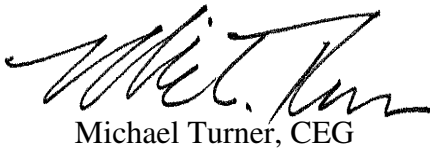
LIMITATIONS

At the time we performed our professional services, they were consistent with those generally accepted environmental engineering principles and practices currently employed in Northern California. ENGEO does not express or imply any other warranty. Findings in this report are valid as of the day of monitoring. However, changes in groundwater conditions can occur with the passage of time, whether due to natural processes or human activity on the Site or on surrounding properties. ENGEO prepared this report for the exclusive use of our client. This report is applicable only for the subject property. We are not responsible for others' interpretations of this report's data. This report does not represent a legal opinion.

If you have any questions or comments regarding this report, please call and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated



Michael Turner, CEG
Senior Geologist

Shawn Munger, CHG
Principal

Attachments: Figure 1: Vicinity Map
Figure 2: Development Plan
Figure 3: Groundwater Elevation Contour Map
Figure 4: Groundwater Contaminant Plume
Figure 5: Concentrations of Contaminants in Groundwater
Table 1: Groundwater Elevations
Table 2: Groundwater Analytical Data
Monitoring Well Sampling Logs
Groundwater Laboratory Analytical Report and Chain-of-Custody Record

CC: Mr. Ravi Nandwana, Mission Valley Homes

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BASE MAP SOURCE: MS STREETS AND TRIPS

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VICINITY MAP

JORDAN RANCH

DUBLIN, CALIFORNIA

PROJECT NO.:	7828.000.001
DATE:	SEPTEMBER 2010
DRAWN BY: SRP	CHECKED BY: SM

FIGURE NO. 1

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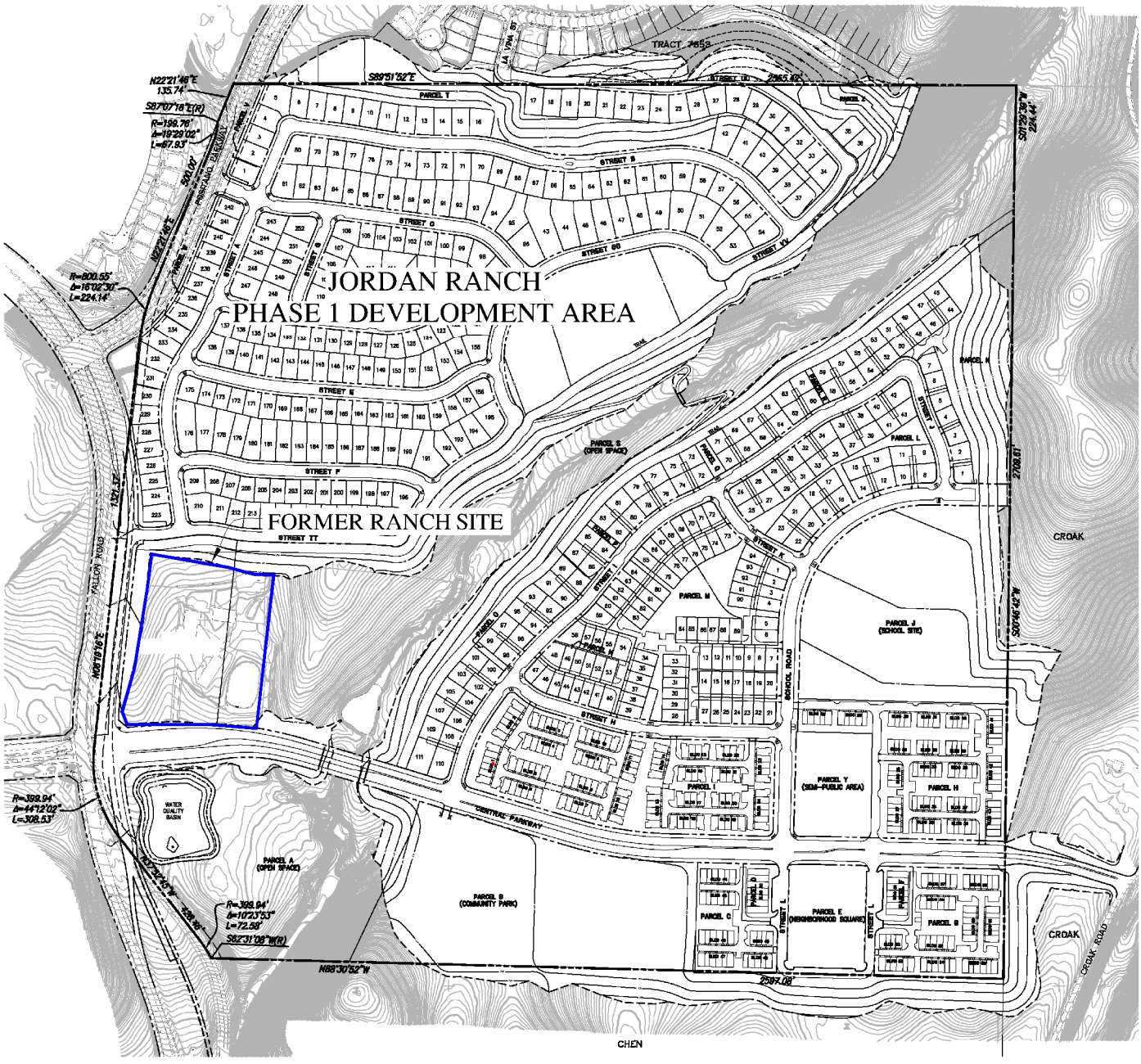
ORIGINAL FIGURE PRINTED IN COLOR



BASE MAP SOURCE: RJA, 2010

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DEVELOPMENT PLAN JORDAN RANCH DUBLIN, CALIFORNIA	PROJECT NO.: 7828.000.001		FIGURE NO. 2
	DATE: SEPTEMBER 2010		
	DRAWN BY: SRP	CHECKED BY: SM	

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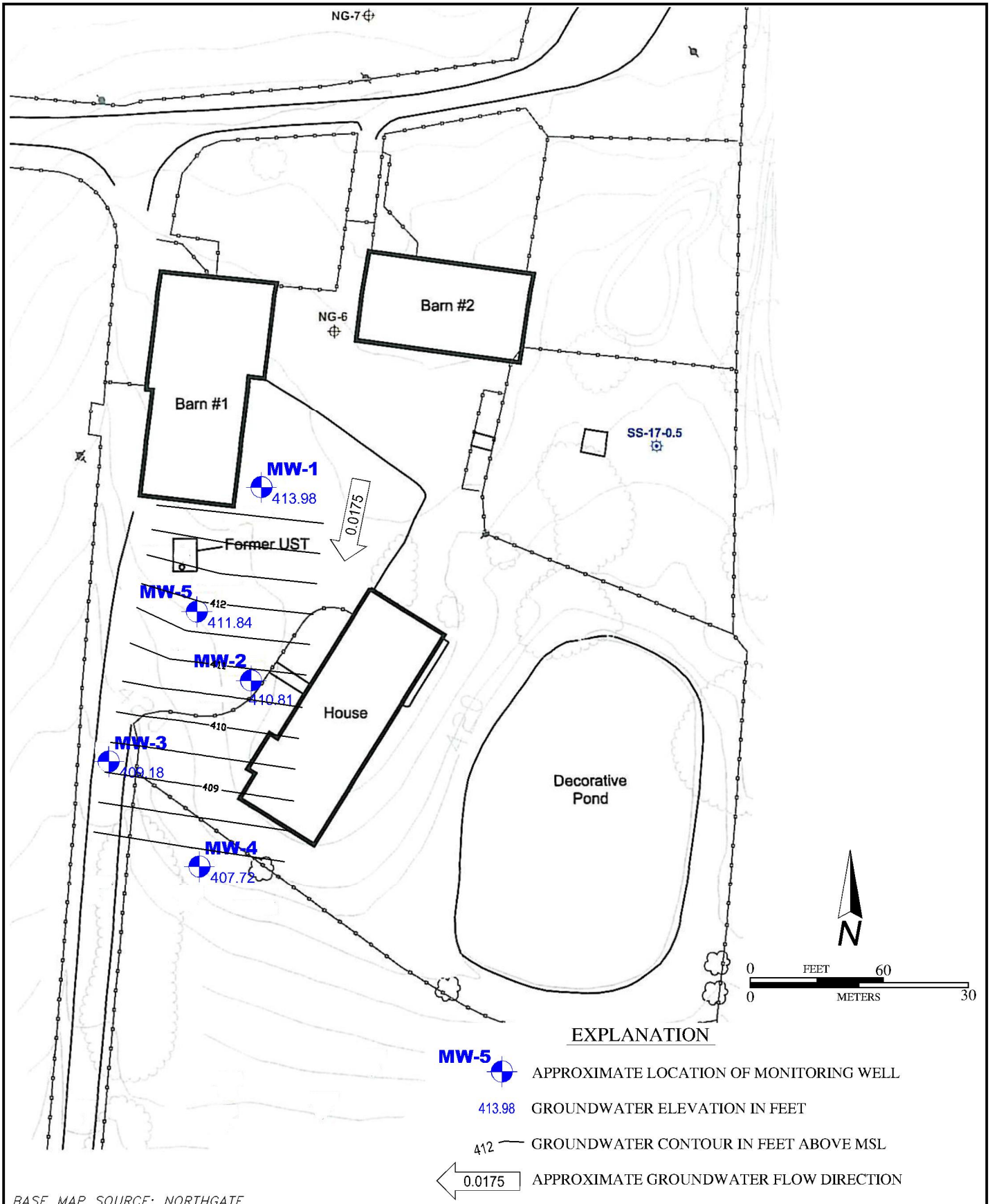

BASE MAP SOURCE: NORTHGATE

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GROUNDWATER ELEVATION CONTOUR MAP

JORDAN RANCH

DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001	FIGURE NO. 3
DATE: SEPTEMBER 2010	
DRAWN BY: SRP	CHECKED BY: SM

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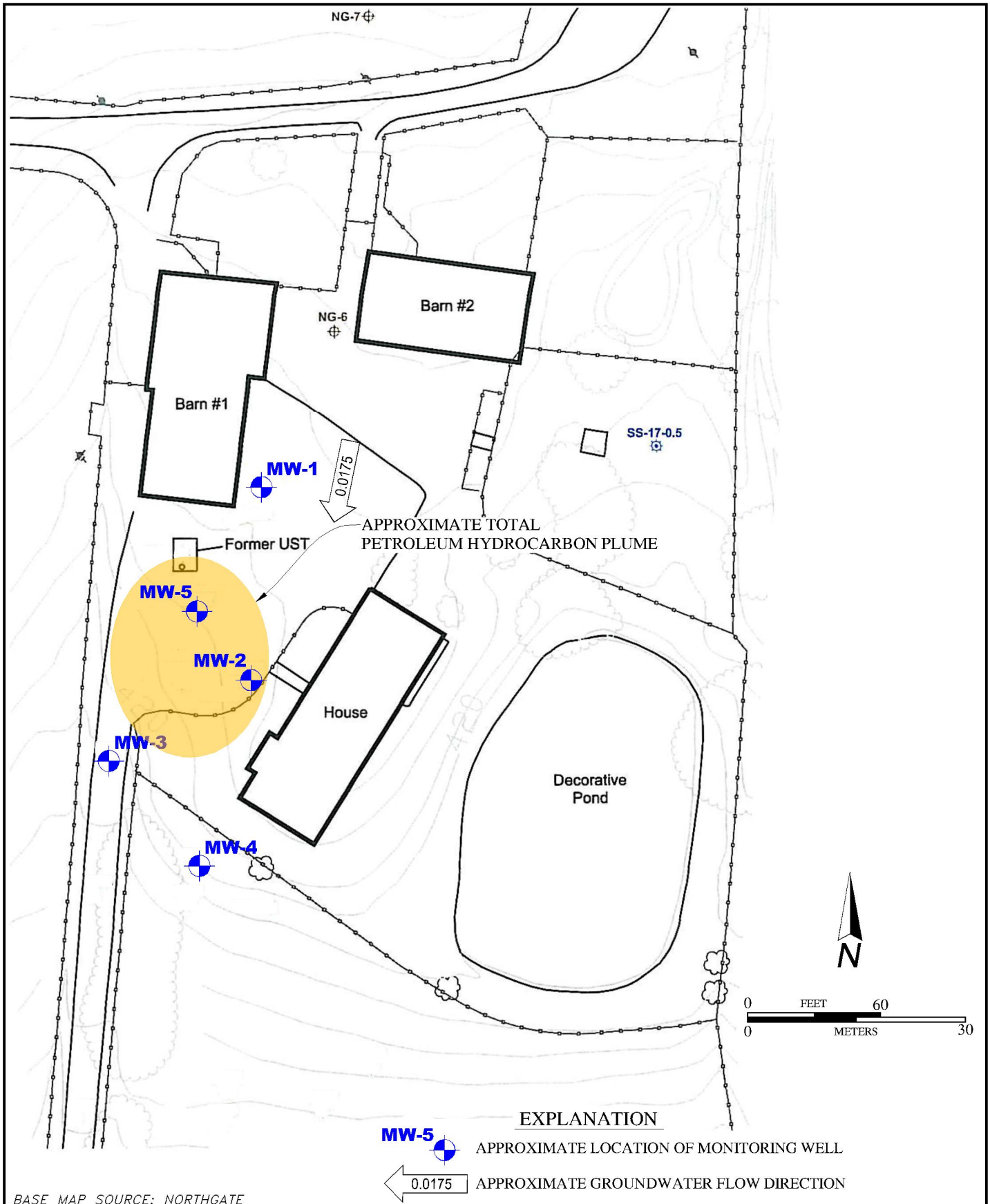
ORIGINAL FIGURE PRINTED IN COLOR



BASE MAP SOURCE: NORTHGATE

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GROUNDWATER CONTAMINANT PLUME

JORDAN RANCH

DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001		FIGURE NO. 4
DATE: SEPTEMBER 2010		
DRAWN BY: SRP	CHECKED BY: SM	

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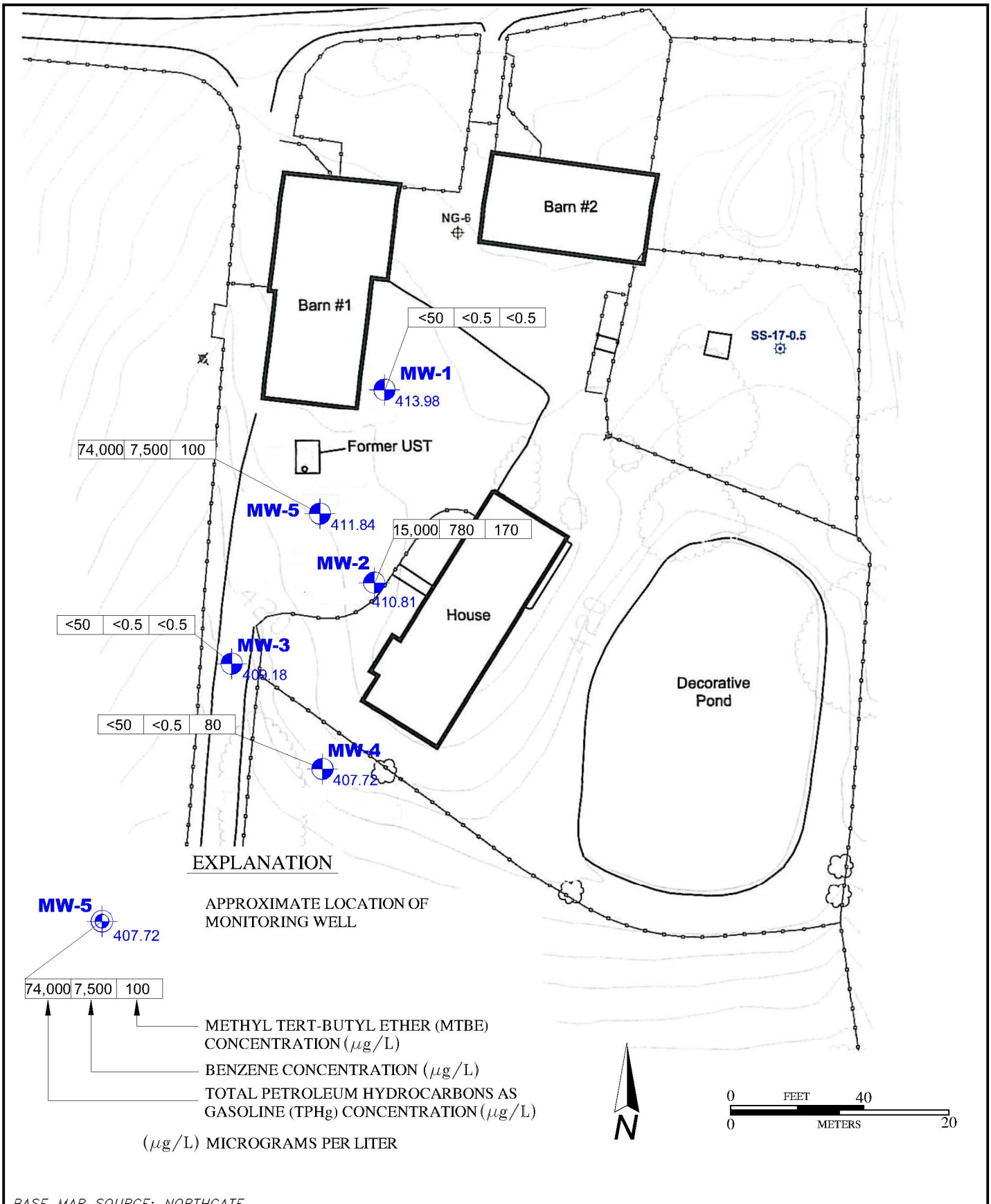

BASE MAP SOURCE: NORTHGATE

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CONCENTRATIONS OF CONTAMINANTS IN GROUNDWATER
JORDAN RANCH
DUBLIN, CALIFORNIA

PROJECT NO.: 7828.000.001
DATE: SEPTEMBER 2010
DRAWN BY: SRP
CHECKED BY: SM

FIGURE NO. 5

G:\Drafting\DRAFTING2_Dwg\7828\000\7828000001-5-ConcentrationsInGroundwater-0910-2010.dwg 9-21-10 09:37:21 AM spatters

ORIGINAL FIGURE PRINTED IN COLOR

TABLE 1
Groundwater Elevations
Jordan Ranch
4233 Fallon Road
Dublin, California

Well Number	Date	Depth to Groundwater [(1)] (feet bgs)	Top of Casing Elevation [(2)] (feet)	Groundwater Elevation (feet msl)
MW-1	12/6/2005	17.08	425.73	408.65
	7/26/2006	13.92	425.73	411.81
	4/10/2008	11.64	425.73	414.09
	8/24/2010*	11.75	425.73	413.98
MW-2	12/6/2005	18.01	424.98	406.97
	7/26/2006	15.44	424.98	409.54
	4/10/2008	14.02	424.98	410.96
	8/24/2010*	14.17	424.98	410.81
MW-3	12/6/2005	17.35	421.47	404.12
	7/26/2006	14.20	421.47	407.27
	4/10/2008	12.31	421.47	409.16
	8/24/2010*	12.29	421.47	409.18
MW-4	12/6/2005	18.58	421.60	403.02
	7/26/2006	15.75	421.60	405.85
	4/10/2008	13.89	421.60	407.71
	8/24/2010*	13.88	421.60	407.72
MW-5	12/6/2005	16.40	424.04	407.64
	7/26/2006	13.89	424.04	410.15
	4/10/2008	12.24	424.04	411.80
	8/24/2010*	12.20	424.04	411.84

NOTES:
bgs = Below ground surface
msl = Mean sea level
(1) Depth to groundwater measured from top of well casing.
(2) Well casing elevations surveyed by Quite River Services, Inc. January 16, 2007.
* Depth to water measurement collected by ENGEO

TABLE 2
Groundwater Analytical Data
Jordan Ranch
4233 Fallon Road
Dublin, California

Well ID	Date	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	TBA (mg/L)	MTBE (ug/L)	DIPE (mg/L)	ETBE (mg/L)	TAME (mg/L)	1,2-DCA (mg/L)
MW-1	12/6/2005	NA	**64**	**2**	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5
	4/10/2008	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<50	<1.0	<0.5	<0.5	<0.5
	8/24/2010*	<50	<50	<0.5	<0.5	<0.5	<1.0	NA	<0.5	NA	NA	NA	NA
MW-2	12/6/2005	NA	**3,400**	**470**	<25	**55**	**120**	<250	**800**	<25	<25	<25	**57**
	7/26/2006	**150**	**650**	**130**	<0.5	<0.5	<0.5	<5.0	**510**	<0.5	<0.5	<0.5	**14**
	4/10/2008	NA	**8,700**	**1,600**	**350**	**370**	**790**	**110**	**810**	<10	<5.0	**5.8**	**15**
	8/24/2010*	<50	**15,000**	**780**	**93**	**1,200**	**2,600**	NA	**170**	NA	NA	NA	NA
MW-3	12/6/2005	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5
	4/10/2008	NA	**430**	**45**	**34**	**22**	**90**	<5.0	<0.5	<1.0	<0.5	<0.5	<0.5
	8/24/2010*	<50	<50	<0.5	<0.5	<0.5	<1.0	NA	<0.5	NA	NA	NA	NA
MW-4	12/6/2005	NA	**70**	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
	4/10/2008	NA	**830**	**29**	**19**	**16**	**54**	<50	**1,200**	<10	<5.0	<5.0	**26**
	8/24/2010*	<50	<50	<0.5	<0.5	<0.5	<1.0	NA	**80**	NA	NA	NA	NA
MW-5	12/6/2005	NA	**53,000**	**13,000**	**1,300**	**930**	**4,400**	<2,500	**7,000**	<250	<250	<250	**290**
	7/26/2006	**560**	**15,000**	**4,100**	**580**	**200**	**870**	<5.0	**2,200**	<0.5	<0.5	<0.5	<0.5
	4/10/2008	NA	**66,000**	**24,000**	**7,600**	**2,200**	**9,200**	<1,300	<130	<250	<130	<130	<130
	8/24/2010*	<50	**74,000**	**7,500**	**11,000**	**2,700**	**13,000**	NA	**100**	NA	NA	NA	NA

NOTES:

TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel
TBA = Tert-butyl alcohol
MTBE = Methyl tert-butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl Tert-butyl ether
TAME = tert-Amyl methyl ether
(ug/L) = micrograms per liter or parts per billion

2005 Northgate Env. Mgt., Volatile organics by SW8260B; MTBE, BTEX, TPHg by SW8021B/8015Cm
2006 ICES, Volatile organics by SW8260B; MTBE, BTEX, TPHg by SW8021B/8015Cm; TPHd by SW8015C
2008 ATC, Volatile organics by 8260B; MTBE, BTEX, TPHg by 8260B
2010 ENGEO, Volatile organics by 8260B; MTBE, BTEX, TPHg by 8015M 5030; TPHd by 8015M
(mg/L) = milligrams per liter or parts per million
(ug/L) = micrograms per liter
<50 = Less than laboratory reporting limits
* = Indicates the sample was collected by ENGEO
NA = Not analyzed

ENGEO INCORPORATED

WELL DEVELOPMENT/SAMPLING LOG

Engeo Incorporated

Project:	Jordan Ranch
Project No.	1828.000.000
Location:	MW-1
Technician:	M. Turner
Activity:	☐ Quarterly Sampling ☐ Semiannual Sampling

Well No. MW-1

WELL SECURITY — Date: 8/24/10

			Comments
Well Box Set in Concrete?	(Yes)	No	
Box Cover Equipped With Bolts and Gasket?	Yes	(No)	Nokd buried in dirt
Well Casing Equipped With Well Seal and Lock?	(Yes)	No	but Cap in Place, No lock.

WELL CONSTRUCTION AND WATER LEVEL DETAILS — Date:

Well Type: ☑ Monitoring ☐ Extraction Well with Pump ☐ Other

Well Diameter	2"	Free Product Well?	
DTW (fbtoc)	11.75		
BOC (fbtoc)	29.68	DTFP (fbtoc)	
WC (f)	17.93		
WCV (gal)	3.04	DTW (fbtoc)	
3 X WCV (Purge Vol)	9.11		
		FPT (ft)	

WCV Factors	
2" =	0.17
4" =	0.66
6" =	1.50

PURGING, SAMPLING AND DECON EQUIPMENT — Date: 8/24/10

				Comments
Purging:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	
Sampling:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	

Decon: Was purge pump decontaminated before and after this use? ☑ Yes ☐ No

Decon Product: ☑ TSP/Alconox Decon Rinse: Tap Tap

PURGE WATER STORAGE/DISPOSAL (For Last Well Sampled Only) — Date: 8/24/10

Drums Onsite Arrival	0	Drums All Labeled?	(Yes)	No (Attach Inventory)	
Drums Used This Event	1	Drums Leaking?	Yes	(No)	Gallons
Total Drums Onsite Now	1	Purge Water Processed Through GWTS?		Yes (No)	

PHYSICAL PARAMETERS — Date: 8/24/10

Time	Volume Purged	Temp (C or F)	pH	EC	Odor	Sheen	DTW	80% Recovery
10:55	5gal	21.0	8.66	1039	—	—		
11:00	10 gal	24.5	8.24	1060	—	—		

☐ Sample collected through groundwater treatment system using active extraction pump; no purging required.

LABORATORY ANALYSIS

Number/Type Containers	3	VOA's	1	1-liter Ambers	0	500ml Plastic
Preservative:	HCl(VOA's); HNO3(Plastic)			250 mL	
Analysis:	See COC				
Laboratory/TAT:	Excelchem Analytical/Std.				

DTW = Depth to Water
BOC = Bottom of Well Casing
DTFP = Depth to Free Product
fbtoc = feet below top of casing
WC = Water Column Height
WCV = Water Column Volume (gallons) = WC X WCV Factor

WELL DEVELOPMENT/SAMPLING LOG

Engeo Incorporated

Project:	Jordan Ranch
Project No.	7828.000.000
Location:	MW-2
Technician:	M. Turner

Well No. MW-2

Activity: ☐ Quarterly Sampling ☐ Semiannual Sampling

WELL SECURITY — Date: 8/24/10

			Comments
Well Box Set in Concrete?	(Yes)	No	
Box Cover Equipped With Bolts and Gasket?	(Yes)	No	
Well Casing Equipped With Well Seal ~~and Lock~~?	Yes	(No)	→ No lock

WELL CONSTRUCTION AND WATER LEVEL DETAILS — Date:

Well Type: ☐ Monitoring ☐ Extraction Well with Pump ☐ Other

Well Diameter	2"	Free Product Well?	
DTW (fbtoc)	14.17		
BOC (fbtoc)	29.01	DTFP (fbtoc)	
WC (f)	14.84		
WCV (gal)	2.54	DTW (fbtoc)	
3 X WCV (Purge Vol)	7.62		
		FPT (ft)	

WCV Factors	
2" =	0.17
4" =	0.66
6" =	1.50

PURGING, SAMPLING AND DECON EQUIPMENT — Date: 8/24/10

Purging:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	Comments
Sampling:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	

Decon: Was purge pump decontaminated before and after this use? ☑ Yes ☐ No

Decon Product: ☑ ~~TSP~~/Alconox Decon Rinse: Yes Twice

PURGE WATER STORAGE/DISPOSAL (For Last Well Sampled Only) — Date: 8/24/10

Drums Onsite Arrival	0	Drums All Labeled?	(Yes) No	(Attach Inventory)
Drums Used This Event	1	Drums Leaking?	Yes (No)	Gallons
Total Drums Onsite Now	1	Purge Water Processed Through GWTS?	Yes (No)	

PHYSICAL PARAMETERS — Date: 8/24/10

Time	Volume Purged	Temp (C or F)	pH	EC	Odor	Sheen	DTW	80% Recovery
12:13	4.99	21.1	7.04	1245	Yes	Yes		
12:17	8.99	22.7	7.35	1250	Yes	Yes		

☐ Sample collected through groundwater treatment system using active extraction pump; no purging required.

LABORATORY ANALYSIS

Number/Type Containers	3	VOA's	1	~~1-liter~~ Ambers	0	500ml Plastic
Preservative:	HCl(VOA's); HNO3(Plastic)			250mL	
Analysis:	See COC				
Laboratory/TAT:	Excelchem Analytical/Std.				

DTW = Depth to Water
BOC = Bottom of Well Casing
DTFP = Depth to Free Product
fbtoc = feet below top of casing
WC = Water Column Height
WCV = Water Column Volume (gallons) = WC X WCV Factor

WELL DEVELOPMENT/SAMPLING LOG

Engeo Incorporated

Project:	Jordan Ranch
Project No.	7828.000.00
Location:	MW-3
Technician:	M-Turner
Activity:	☐ Quarterly Sampling ☐ Semiannual Sampling

Well No. MW-3

WELL SECURITY — Date: 2/24/10

			Comments
Well Box Set in Concrete?	(Yes)	No	
Box Cover Equipped With Bolts and Gasket?	Yes	No	
Well Casing Equipped With Well Seal and Lock?	Yes	(No) → No lock	

WELL CONSTRUCTION AND WATER LEVEL DETAILS — Date: 2/24/10

Well Type: ☐ Monitoring ☐ Extraction Well with Pump ☐ Other

Well Diameter	2"	Free Product Well?	
DTW (fbtoc)	12.29		
BOC (fbtoc)	29.83	DTFP (fbtoc)	
WC (f)	17.54		
WCV (gal)	2.98	DTW (fbtoc)	
3 X WCV (Purge Vol)	8.95		
		FPT (ft)	

WCV Factors	
2" =	0.17
4" =	0.66
6" =	1.50

PURGING, SAMPLING AND DECON EQUIPMENT — Date: 2/24/10

				Comments
Purging:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	
Sampling:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	

Decon: Was purge pump decontaminated before and after this use? ☑ Yes ☐ No

Decon Product: ☑ TSP/Alconox Decon Rinse: Tap Water

PURGE WATER STORAGE/DISPOSAL (For Last Well Sampled Only) — Date: 2/24/10

Drums Onsite Arrival	0	Drums All Labeled?	Yes	No (Attach Inventory)	
Drums Used This Event	1	Drums Leaking?	Yes	(No)	Gallons
Total Drums Onsite Now	1	Purge Water Processed Through GWTS?		Yes (No)	

PHYSICAL PARAMETERS — Date: 2/24/10

Time	Volume Purged	Temp (C or F)	pH	EC	Odor	Sheen	DTW	80% Recovery
11:22	5991	22.0	7.30	985	—	—		
11:26	9991	22.0	7.97	1061	—	—		

☐ Sample collected through groundwater treatment system using active extraction pump; no purging required.

LABORATORY ANALYSIS

Number/Type Containers	3	VOA's	1	~~1 liter~~ Ambers	0	500ml Plastic
Preservative:	HCl(VOA's); HNO3(Plastic)			250mL	
Analysis:	See COC				
Laboratory/TAT:	Excelchem Analytical/Std.				

DTW = Depth to Water
BOC = Bottom of Well Casing
DTFP = Depth to Free Product
fbtoc = feet below top of casing
WC = Water Column Height
WCV = Water Column Volume (gallons) = WC X WCV Factor

WELL DEVELOPMENT/SAMPLING LOG

Engeo Incorporated

Project:	Jordan Ranch
Project No.	9828.000.000
Location:	MW-4
Technician:	M-Turner
Activity:	☐ Quarterly Sampling ☐ Semiannual Sampling

Well No. MW-4

WELL SECURITY — Date: 8/24/10

			Comments
Well Box Set in Concrete?	(Yes)	No	
Box Cover Equipped With Bolts and Gasket?	(Yes)	No	No Bolts.
Well Casing Equipped With Well Seal and ~~Lock~~?	(Yes)	(No)	No Lock

WELL CONSTRUCTION AND WATER LEVEL DETAILS — Date: 8/24/10

Well Type: ☐ Monitoring ☐ Extraction Well with Pump ☐ Other

Well Diameter	2	Free Product Well?	
DTW (fbtoc)	13.98		
BOC (fbtoc)	29.77	DTFP (fbtoc)	
WC (f)	15.89		
WCV (gal)	2.70	DTW (fbtoc)	
3 X WCV (Purge Vol)	8.10		
		FPT (ft)	

WCV Factors	
2" =	0.17
4" =	0.66
6" =	1.50

PURGING, SAMPLING AND DECON EQUIPMENT — Date: 8/24/10

				Comments
Purging:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	
Sampling:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	

Decon: Was purge pump decontaminated before and after this use? ☑ Yes ☐ No

Decon Product: ☑ TSP/Alconox Decon Rinse: Tap Water

PURGE WATER STORAGE/DISPOSAL (For Last Well Sampled Only) — Date: 8/24/10

Drums Onsite Arrival	0	Drums All Labeled?	(Yes)	No (Attach Inventory)	
Drums Used This Event	1	Drums Leaking?	Yes	(No)	Gallons
Total Drums Onsite Now	1	Purge Water Processed Through GWTS?		Yes (No)	

PHYSICAL PARAMETERS — Date: 8/24/10

Time	Volume Purged	Temp (C or F)	pH	EC	Odor	Sheen	DTW	80% Recovery
11:49	~~5~~ gal	22.2	7.72	1322	—	—		
11:53	8 gal	21.2	7.63	1490	—	-		

☐ Sample collected through groundwater treatment system using active extraction pump; no purging required.

LABORATORY ANALYSIS

Number/Type Containers	3	VOA's	1	1-liter Ambers	0 500ml Plastic
Preservative:	HCl(VOA's); HNO3(Plastic)			250 mL	
Analysis:	See COC				
Laboratory/TAT:	Excelchem Analytical/Std.				

DTW = Depth to Water
BOC = Bottom of Well Casing
DTFP = Depth to Free Product
fbtoc = feet below top of casing
WC = Water Column Height
WCV = Water Column Volume (gallons) = WC X WCV Factor

WELL DEVELOPMENT/SAMPLING LOG

Engeo Incorporated

Project:	Jordan Ranch
Project No.	7828.000.000
Location:	MW-5
Technician:	M. Turner
Activity:	☐ Quarterly Sampling ☐ Semiannual Sampling

Well No. MW-5

WELL SECURITY — Date: 8/24/10

			Comments
Well Box Set in Concrete?	Yes	No	
Box Cover Equipped With Bolts and Gasket?	Yes	No	
Well Casing Equipped With Well Seal and Lock?	Yes	No	

WELL CONSTRUCTION AND WATER LEVEL DETAILS — Date: 8/24/10

Well Type: ☐ Monitoring ☐ Extraction Well with Pump ☐ Other

Well Diameter	2"	Free Product Well?	
DTW (fbtoc)	12.20		
BOC (fbtoc)	29.73	DTFP (fbtoc)	
WC (f)	17.53		
WCV (gal)	2.98	DTW (fbtoc)	
3 X WCV (Purge Vol)	8.94		
		FPT (ft)	

WCV Factors	
2" =	0.17
4" =	0.66
6" =	1.50

PURGING, SAMPLING AND DECON EQUIPMENT — Date: 8/24/10

				Comments
Purging:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	
Sampling:	☐ Disposable Bailer	☑ 12-V Pump	☐ Subm. Pump	

Decon: Was purge pump decontaminated before and after this use? ☑ Yes ☐ No

Decon Product: ☑ TSP/Alconox Decon Rinse: Tap Water

PURGE WATER STORAGE/DISPOSAL (For Last Well Sampled Only) — Date: 8/24/10

Drums Onsite Arrival	0	Drums All Labeled?	(Yes) No	(Attach Inventory)
Drums Used This Event	1	Drums Leaking?	Yes (No)	Gallons
Total Drums Onsite Now	1	Purge Water Processed Through GWTS?	Yes (No)	

PHYSICAL PARAMETERS — Date: 8/24/10

Time	Volume Purged	Temp (C or F)	pH	EC	Odor	Sheen	DTW	80% Recovery
12:37	5 gal	23.9	8.05	1126	Yes	Yes		
12:42	9 gal	21.6	8.16	1166				

☐ Sample collected through groundwater treatment system using active extraction pump; no purging required.

LABORATORY ANALYSIS

Number/Type Containers	3	VOA's	1	1-liter Ambers	0 500ml Plastic
Preservative:	HCl(VOA's); HNO3(Plastic)	250mL			
Analysis:	See COC				
Laboratory/TAT:	Excelchem Analytical/Std.				

DTW = Depth to Water
BOC = Bottom of Well Casing
DTFP = Depth to Free Product
fbtoc = feet below top of casing
WC = Water Column Height
WCV = Water Column Volume (gallons) = WC X WCV Factor

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

August 27, 2010

CLS Work Order #: CTH0945
COC #:

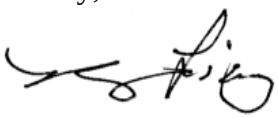
Shawn Munger
ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project Name: Jordan Ranch

Enclosed are the results of analyses for samples received by the laboratory on 08/24/10 15:33. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

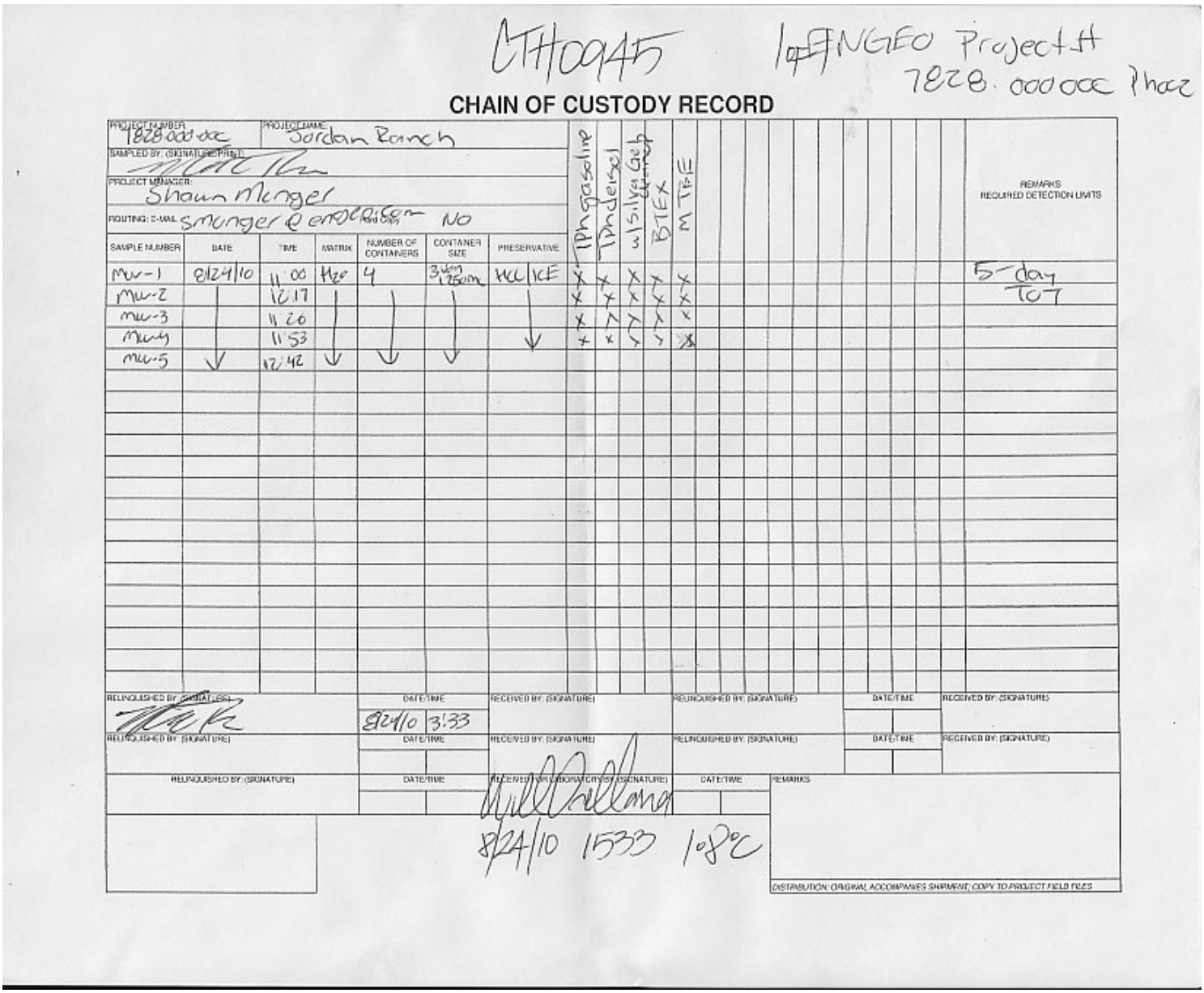


James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

ENGEO	Project: Jordan Ranch	
2213 Plaza Drive	Project Number: 7828.000.000	**CLS Work Order #: CTH0945**
Rocklin, CA 95765	Project Manager: Shawn Munger	COC #:



CTH0945 1 of 1 ENGEO Project #
7828.000.000 Phase

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 7828.000.000 | PROJECT NAME: Jordan Ranch
SAMPLED BY: (SIGNATURE/PRINT):
PROJECT MANAGER: Shawn Munger
ROUTING: E-MAIL: smunger@engeo.com and cory@ NO

SAMPLE NUMBER	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	CONTAINER SIZE	PRESERVATIVE	TPH gasoline	TPH diesel	w/ silica gel cleanup	BTEX	MTBE	REMARKS / REQUIRED DETECTION LIMITS
MW-1	8/24/10	11:00	H2O	4	3 VOA 1 250ml	HCl ICE	X	X	X	X	X	5-day TAT
MW-2		12:17					X	X	X	X	X	
MW-3		11:20					X	X	X	X	X	
MW-4		11:53					X	X	X	X	X	
MW-5		12:42										

RELINQUISHED BY: (SIGNATURE) — DATE/TIME: 8/24/10 3:33 — RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE) — DATE/TIME: — RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE) — DATE/TIME: — RECEIVED FOR LABORATORY BY: (SIGNATURE) — DATE/TIME: — REMARKS

8/24/10 1533 10.8°C

DISTRIBUTION: ORIGINAL ACCOMPANIES SHIPMENT, COPY TO PROJECT FIELD FILES

RELINQUISHED BY: (SIGNATURE) — DATE/TIME: — RECEIVED BY: (SIGNATURE)
RELINQUISHED BY: (SIGNATURE) — DATE/TIME: — RECEIVED BY: (SIGNATURE)

ENGEO	Project: Jordan Ranch	
2213 Plaza Drive	Project Number: 7828.000.000	**CLS Work Order #: CTH0945**
Rocklin, CA 95765	Project Manager: Shawn Munger	COC #:

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (CTH0945-01) Water Sampled: 08/24/10 11:00 Received: 08/24/10 15:33									**EXT-6**
Diesel	ND	0.050	mg/L	1	CT06350	08/26/10	08/27/10	EPA 8015M	
Surrogate: o-Terphenyl		*113 %*		*65-135*	"	"	"	"	
MW-2 (CTH0945-02) Water Sampled: 08/24/10 12:17 Received: 08/24/10 15:33									**EXT-6**
Diesel	ND	0.050	mg/L	1	CT06350	08/26/10	08/27/10	EPA 8015M	A-COM
Surrogate: o-Terphenyl		*218 %*		*65-135*	"	"	"	"	
MW-3 (CTH0945-03) Water Sampled: 08/24/10 11:20 Received: 08/24/10 15:33									**EXT-6**
Diesel	ND	0.050	mg/L	1	CT06350	08/26/10	08/27/10	EPA 8015M	
Surrogate: o-Terphenyl		*118 %*		*65-135*	"	"	"	"	
MW-4 (CTH0945-04) Water Sampled: 08/24/10 11:53 Received: 08/24/10 15:33									**EXT-6**
Diesel	ND	0.050	mg/L	1	CT06350	08/26/10	08/27/10	EPA 8015M	
Surrogate: o-Terphenyl		*134 %*		*65-135*	"	"	"	"	
MW-5 (CTH0945-05) Water Sampled: 08/24/10 12:42 Received: 08/24/10 15:33									**EXT-6**
Diesel	ND	0.050	mg/L	1	CT06350	08/26/10	08/27/10	EPA 8015M	A-COM
Surrogate: o-Terphenyl		*117 %*		*65-135*	"	"	"	"	

ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project: Jordan Ranch
Project Number: 7828.000.000
Project Manager: Shawn Munger

CLS Work Order #: CTH0945
COC #:

TPH-Gasoline by GC FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (CTH0945-01) Water Sampled: 08/24/10 11:00 Received: 08/24/10 15:33									
Gasoline	ND	50	µg/L	1	CT06278	08/25/10	08/26/10	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*71 %*		*65-135*		"	"	"	"
MW-2 (CTH0945-02) Water Sampled: 08/24/10 12:17 Received: 08/24/10 15:33									
Gasoline	**15000**	500	µg/L	10	CT06278	08/25/10	08/26/10	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*82 %*		*65-135*		"	"	"	"
MW-3 (CTH0945-03) Water Sampled: 08/24/10 11:20 Received: 08/24/10 15:33									
Gasoline	ND	50	µg/L	1	CT06278	08/25/10	08/26/10	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*73 %*		*65-135*		"	"	"	"
MW-4 (CTH0945-04) Water Sampled: 08/24/10 11:53 Received: 08/24/10 15:33									
Gasoline	ND	50	µg/L	1	CT06278	08/25/10	08/26/10	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*75 %*		*65-135*		"	"	"	"
MW-5 (CTH0945-05) Water Sampled: 08/24/10 12:42 Received: 08/24/10 15:33									
Gasoline	**74000**	2500	µg/L	50	CT06278	08/25/10	08/26/10	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*82 %*		*65-135*		"	"	"	"

CALIFORNIA LABORATORY SERVICES

08/27/10 14:14

ENGEO	Project: Jordan Ranch	
2213 Plaza Drive	Project Number: 7828.000.000	**CLS Work Order #: CTH0945**
Rocklin, CA 95765	Project Manager: Shawn Munger	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (CTH0945-01) Water	**Sampled: 08/24/10 11:00**	**Received: 08/24/10 15:33**							
Methyl tert-butyl ether	ND	0.50	µg/L	1	CT06316	08/25/10	08/25/10	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*72-125*		"	"	"	"	
MW-2 (CTH0945-02) Water	**Sampled: 08/24/10 12:17**	**Received: 08/24/10 15:33**							
Methyl tert-butyl ether	**170**	5.0	µg/L	10	CT06316	08/25/10	08/25/10	EPA 8260B	
Benzene	**780**	5.0	"	"	"	"	"	"	
Toluene	**93**	5.0	"	"	"	"	"	"	
Ethylbenzene	**1200**	25	"	50	"	"	"	"	
Xylenes (total)	**2600**	50	"	"	"	"	"	"	
Surrogate: Toluene-d8		*96 %*	*72-125*		"	"	"	"	
MW-3 (CTH0945-03) Water	**Sampled: 08/24/10 11:20**	**Received: 08/24/10 15:33**							
Methyl tert-butyl ether	ND	0.50	µg/L	1	CT06316	08/25/10	08/25/10	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*99 %*	*72-125*		"	"	"	"	
MW-4 (CTH0945-04) Water	**Sampled: 08/24/10 11:53**	**Received: 08/24/10 15:33**							
Methyl tert-butyl ether	**80**	0.50	µg/L	1	CT06316	08/25/10	08/25/10	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	

ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project: Jordan Ranch
Project Number: 7828.000.000
Project Manager: Shawn Munger

CLS Work Order #: CTH0945
COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (CTH0945-04) Water	**Sampled: 08/24/10 11:53**	**Received: 08/24/10 15:33**							
Xylenes (total)	ND	1.0	µg/L	1	CT06316	"	08/25/10	EPA 8260B	
Surrogate: Toluene-d8		*99 %*	*72-125*		"	"	"	"	
MW-5 (CTH0945-05) Water	**Sampled: 08/24/10 12:42**	**Received: 08/24/10 15:33**							
Methyl tert-butyl ether	**100**	5.0	µg/L	10	CT06316	08/25/10	08/25/10	EPA 8260B	
Benzene	**7500**	50	"	100	"	"	"	"	
Toluene	**11000**	50	"	"	"	"	"	"	
Ethylbenzene	**2700**	50	"	"	"	"	"	"	
Xylenes (total)	**13000**	100	"	"	"	"	"	"	
Surrogate: Toluene-d8		*92 %*	*72-125*		"	"	"	"	

ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project: Jordan Ranch
Project Number: 7828.000.000
Project Manager: Shawn Munger

CLS Work Order #: CTH0945
COC #:

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CT06350 - EPA 3510B GCNV										
Blank (CT06350-BLK1)				Prepared: 08/26/10 Analyzed: 08/27/10						
Diesel	ND	0.050	mg/L							
Motor Oil	ND	0.050	"							
Mineral Oil	ND	0.050	"							
JP-5/JP-8	ND	0.050	"							
Surrogate: o-Terphenyl	*0.0263*		*"*	*0.0250*		*105*	*65-135*			
LCS (CT06350-BS1)				Prepared: 08/26/10 Analyzed: 08/27/10						
Diesel	2.32	0.050	mg/L	2.50		93	65-135			
Surrogate: o-Terphenyl	*0.0303*		*"*	*0.0250*		*121*	*65-135*			
LCS Dup (CT06350-BSD1)				Prepared: 08/26/10 Analyzed: 08/27/10						
Diesel	2.26	0.050	mg/L	2.50		91	65-135	2	30	
Surrogate: o-Terphenyl	*0.0314*		*"*	*0.0250*		*126*	*65-135*			
Matrix Spike (CT06350-MS1)		**Source: CTH0904-01**		Prepared: 08/26/10 Analyzed: 08/27/10						
Diesel	2.02	0.050	mg/L	2.50	ND	81	46-137			
Surrogate: o-Terphenyl	*0.0262*		*"*	*0.0250*		*105*	*65-135*			
Matrix Spike Dup (CT06350-MSD1)		**Source: CTH0904-01**		Prepared: 08/26/10 Analyzed: 08/27/10						
Diesel	1.94	0.050	mg/L	2.50	ND	78	46-137	4	30	
Surrogate: o-Terphenyl	*0.0262*		*"*	*0.0250*		*105*	*65-135*			

ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project: Jordan Ranch
Project Number: 7828.000.000
Project Manager: Shawn Munger

CLS Work Order #: CTH0945
COC #:

TPH-Gasoline by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CT06278 - EPA 5030 Water GC										
Blank (CT06278-BLK1)				Prepared: 08/25/10 Analyzed: 08/26/10						
Gasoline	ND	50	µg/L							
Surrogate: o-Chlorotoluene (Gas)	*15.0*		*"*	*20.0*		*75*	*65-135*			
LCS (CT06278-BS1)				Prepared: 08/25/10 Analyzed: 08/26/10						
Gasoline	527	50	µg/L	500		105	65-135			
Surrogate: o-Chlorotoluene (Gas)	*17.0*		*"*	*20.0*		*85*	*65-135*			
LCS Dup (CT06278-BSD1)				Prepared: 08/25/10 Analyzed: 08/26/10						
Gasoline	543	50	µg/L	500		109	65-135	3	30	
Surrogate: o-Chlorotoluene (Gas)	*17.5*		*"*	*20.0*		*87*	*65-135*			
Matrix Spike (CT06278-MS1)		**Source: CTH0904-01**		Prepared: 08/25/10 Analyzed: 08/26/10						
Gasoline	542	50	µg/L	500	12.2	106	68-132			
Surrogate: o-Chlorotoluene (Gas)	*17.6*		*"*	*20.0*		*88*	*65-135*			
Matrix Spike Dup (CT06278-MSD1)		**Source: CTH0904-01**		Prepared: 08/25/10 Analyzed: 08/26/10						
Gasoline	546	50	µg/L	500	12.2	107	68-132	0.8	32	
Surrogate: o-Chlorotoluene (Gas)	*17.4*		*"*	*20.0*		*87*	*65-135*			

ENGEO
2213 Plaza Drive
Rocklin, CA 95765

Project: Jordan Ranch
Project Number: 7828.000.000
Project Manager: Shawn Munger

CLS Work Order #: CTH0945
COC #:

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CT06316 - EPA 5030 Water MS										
Blank (CT06316-BLK1)				Prepared & Analyzed: 08/25/10						
Di-isopropyl ether	ND	0.50	µg/L							
Ethyl tert-butyl ether	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Surrogate: Toluene-d8	*9.81*		*"*	*10.0*		*98*	*72-125*			
LCS (CT06316-BS1)				Prepared & Analyzed: 08/25/10						
Methyl tert-butyl ether	20.1	0.50	µg/L	20.0		100	52-130			
Surrogate: Toluene-d8	*10.1*		*"*	*10.0*		*101*	*72-125*			
LCS Dup (CT06316-BSD1)				Prepared & Analyzed: 08/25/10						
Methyl tert-butyl ether	20.1	0.50	µg/L	20.0		101	52-130	0.3	30	
Surrogate: Toluene-d8	*10.2*		*"*	*10.0*		*102*	*72-125*			

CALIFORNIA LABORATORY SERVICES

08/27/10 14:14

ENGEO	Project: Jordan Ranch	
2213 Plaza Drive	Project Number: 7828.000.000	**CLS Work Order #: CTH0945**
Rocklin, CA 95765	Project Manager: Shawn Munger	COC #:

Notes and Definitions

EXT-6	Silica gel treatment was not performed because the sample is ND.
A-COM	The sample contains kerosene or gasoline.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference