

3R - 098

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TETRATECH, INC.

3R098
6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
(505) 237-8440

May 12, 2011

Mr. Glenn von Gonten
State of New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

RE: ConocoPhillips Company, Shepherd & Kelsey No. 1E, Bloomfield, New Mexico, September
2010 Quarterly Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed please find one (1) copy of the above-referenced documents as compiled by Tetra Tech for this
Bloomfield, New Mexico sites.

Please do not hesitate to contact me at (505) 237-8440 if you have any questions or require additional
information.

Sincerely,

Kelly E. Blanchard
Project Manager/Geologist

Enclosures (1)

Cc: Brandon Powell, NMOCD
Terry Lauck, ConocoPhillips RM&R

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**QUARTERLY GROUNDWATER MONITORING REPORT
SEPTEMBER 2010 SAMPLING EVENT**

**CONOCOPHILLIPS COMPANY
SHEPHERD & KELSEY NO.1E
BLOOMFIELD, NEW MEXICO**

OCD # 3RP-98-0
API # - 30-045-24316

Prepared for:



420 South Keeler Avenue
Bartlesville, OK 74004

Prepared by:



TETRA TECH, INC.

6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
Tetra Tech Project No. 9690121.100

January 2011

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QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS COMPANY SHEPHERD & KELSEY NO. 1E BLOOMFIELD, NEW MEXICO

1.0 INTRODUCTION

ConocoPhillips Company (ConocoPhillips) retained Tetra Tech, Inc (Tetra Tech) to perform additional site characterization work and quarterly groundwater monitoring at the Shepherd & Kelsey No. 1E site in Bloomfield, New Mexico (Site). This report presents the results of a quarterly groundwater monitoring event conducted at the Site by Tetra Tech on September 29, 2010. This sampling event represents the eighth consecutive quarter of groundwater monitoring completed by Tetra Tech at the Site to include all four Site monitoring wells.

The Site is located on private land leased by ConocoPhillips near the intersection of New Mexico Highway 64 and County Road 5097 in Bloomfield, NM. The Site consists of a gas production well head with associated equipment and installations and is surrounded by agricultural land. The geographical location coordinates are 36° 42' 6.8"N and 108° 01' 12.2" W; the location and general features of the Site are presented as **Figure 1** and **Figure 2**, respectively.

1.1 Site History

A historical timeline for the Site is presented in **Table 1**, and is discussed in more detail below.

Contaminated soil was discovered at the Site during routine maintenance on June 5, 2007. Envirotech Inc. of Farmington, New Mexico (Envirotech) performed soil excavation (Excavation #1, **Figure 2**) at the Site, during which three soil samples were collected and analyzed for total petroleum hydrocarbons (TPH). The concentration of TPH was found to be below the New Mexico Oil Conservation Division (NMOCD) recommended action level. On June 12, 2007 a separate area of TPH soil contamination was discovered. An excavation of the additional area was performed by Envirotech from June 15 through June 18, 2007 (Excavation #2, **Figure 2**). Soil samples taken during the second excavation were found to be above the NMOCD recommended action level for TPH. Groundwater samples collected from the excavation were found to contain benzene and total xylenes above New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards. Monitor Well MW-1 was installed by Envirotech on September 26, 2007. Soil and groundwater samples collected during drilling were analyzed for TPH and for benzene, toluene, ethylbenzene and total xylenes (BTEX); results were below NMOCD recommended action levels. In November 2007, Envirotech recommended plugging and abandoning MW-1 and a no further action status from NMOCD. However, in April 2008, NMOCD indicated that further investigation was necessary before closure could be granted.

Tetra Tech began quarterly sampling of MW-1 on October 23, 2008. On January 22, 2009, three additional groundwater monitor wells were installed by WDC Exploration and Drilling of Peralta, NM (WDC), under the supervision of Tetra Tech. Monitor Wells MW-2, MW-3, and MW-4 were initially sampled on January 30, 2009 and have since been incorporated into the quarterly monitoring schedule.

with MW-1. Typically, a generalized geologic cross section would have been prepared using soil sampling data collected during drilling activities and added as a figure to this report; however, due to the shallow depth to groundwater, soil samples were not collected, therefore, this could not be compiled.

2.0 METHODOLOGY AND RESULTS

Quarterly groundwater sampling was conducted on September 29, 2010. Groundwater samples were collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4. Prior to sampling, depth to groundwater in each well was recorded using a dual interface probe. Results are summarized in **Table 2**.

The casings for all Site monitor wells were surveyed by Tetra Tech in January 2009, with the wellhead assigned an arbitrary reference elevation of 100 feet above mean sea level (amsl). Using these data, it was determined that the groundwater flow direction at the Site is to the south (**Figure 3**).

2.1 Groundwater Sampling Methodology

Monitor Wells MW-1, MW-2, MW-3, and MW-4 were sampled during the September 29, 2010 groundwater monitoring event. Prior to sampling, all monitor wells were purged of at least 3 casing volumes of groundwater using a dedicated 1.5-inch diameter, polyethylene disposable bailer. Groundwater quality parameters were collected using a YSI 556 multi-parameter sonde during each purge. Results were recorded on a Tetra Tech Water Sampling Field Form (**Appendix A**). Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Southern Petroleum Laboratory (SPL) of Houston, Texas. Samples were analyzed for dissolved manganese by EPA Method 6010B; total dissolved solids (TDS) by EPA Method 2540C; and for BTEX by EPA Method 8260B.

2.2 Groundwater Sampling Analytical Results

The NMWQCC mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). A historical summary of groundwater analytical results is provided in **Table 3**. The laboratory analytical report is included as **Appendix B**.

- **Manganese**

The groundwater quality standard for dissolved manganese is 0.2 milligrams per liter (mg/L). Groundwater collected from Monitor Well MW-2 and Monitor Well MW-4 was found to contain dissolved manganese at a concentration of 0.212 mg/L and 0.571 mg/L, respectively.

- **TDS**

The groundwater quality standard for TDS is 1000 mg/L. Groundwater collected from Monitor Well MW-2 and Monitor Well MW-4 was found at a concentration of 1,090 mg/L and 1,720 mg/L, respectively.

3.0 CONCLUSIONS

In order to move toward Site closure with NMOCD, continued groundwater quality monitoring is recommended for TDS and dissolved manganese to determine if levels are stable and possibly at background.

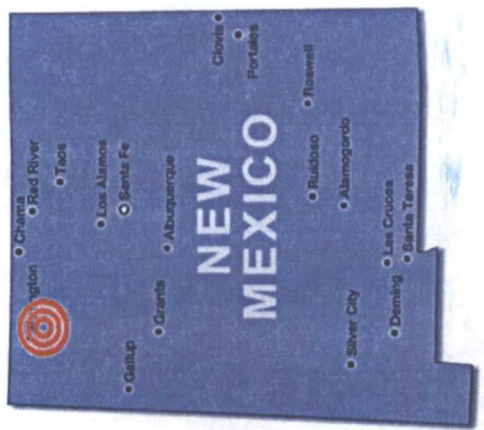
The next groundwater monitoring event is scheduled for December 2010. Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetrattech.com if you have any questions or require additional information.

FIGURES



FIGURE 1.

Site Location Map
ConocoPhillips Company
Shepherd & Kelsey No. 1E
Bloomfield, NM
36° 42' 6.8" N
108° 01' 12.2" W



Approximate
Site location



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	LEGEND WELLHEAD BERM EQUIPMENT
TETRA TECH, INC.	CONDENSATE TANK PRODUCED WATER TANK — A A' — PLAN VIEW OF CROSS-SECTION

FIGURE 2:
SITE DETAIL MAP
 CONOCOPHILLIPS COMPANY
 SHEPHERD & KELSEY No.1E
 Section 29 of T29N, R11W
 Bloomfield, New Mexico



Note: Groundwater elevations are relative to the wellhead, set at an arbitrary 100 feet above mean sea level. Elevations are dashed where inferred.

- LEGEND**
- ⊕ WELLHEAD
 - CONDENSATE TANK
 - PRODUCED WATER TANK
 - GROUNDWATER CONTOUR LINE
 - - INFERRED GROUNDWATER CONTOUR LINE
 - BERM
 - EQUIPMENT

FIGURE 4:
GROUNDWATER CONTOUR MAP
 September 2010
 CONOCOPHILLIPS COMPANY
 SHEPHERD & KELSEY No.1E
 Section 29 of T29N, R11W
 Bloomfield, New Mexico



TETRA TECH, INC.

TABLES

Table 1. Site History Timeline - ConocoPhillips Company Shepherd and Kelsey No. 1E

DATE	ACTIVITY
5-Jun-07	Hydrocarbon-impacted soil discovered during routine maintenance at the Site. Soil excavation was performed at the Site, and three soil samples were obtained. Sample results showed total petroleum hydrocarbon (TPH) concentrations below the NMOCD regulations of 100 parts per million (ppm). Original source of contamination is unknown.
12-Jun-07	A separate area of TPH soil contamination discovered.
June 15-18, 2007	A 50 foot by 20 foot by 4 foot excavation was completed. Soil samples taken from the second excavation show TPH at 992 ppm. Water samples obtained show benzene and total xylenes above State of New Mexico drinking water standards.
26-Sep-07	Ground water monitoring well installed to a depth of ten (10) feet below ground surface (bgs) by Envirotech Inc. of Farmington, NM (Envirotech). Depth to groundwater recorded at four (4) feet bgs. Soil and groundwater samples obtained for TPH, benzene, and benzene, toluene, ethylbenzene and total xylenes (BTEX) were below the respective NMOCD regulations of 100 ppm, 10 ppm and 50 ppm.
Nov-07	Envirotech report recommends plugging and abandonment of the temporary ground water monitoring well and no further action for the Site (Envirotech, 2007).
Apr-08	Oil Conservation Division of NM Energy, Minerals, and Resources Dept. indicates additional investigation and sampling is necessary for closure consideration during a meeting with Glenn von Gonten.
23-Oct-08	1st quarter sampling of MW-1 by Tetra Tech.
Jan-09	Installed additional monitoring wells MW-2, MW-3 and MW-4.
30-Jan-09	2nd quarter sampling of MW-1 by Tetra Tech; initial sampling of MW-2, MW-3, and MW-4.
1-Apr-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
18-Jun-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
21-Sep-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4. Dissolved metals analysis initiated at the Site for metals with elevated total metal concentrations.
14-Dec-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
31-Mar-10	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
7-Jun-10	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
29-Sep-10	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.

Table 2. Groundwater Elevation Data Summary - ConocoPhillips Company Shepherd & Kelsey No. 1E

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	*Elevation (ft) (TOC)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
MW-1	12	2.5-10.0	96.53	10/23/2008	4.02	92.51
				1/30/2009	5.70	90.83
				4/1/2009	5.90	90.63
				6/18/2009	4.01	92.52
				9/21/2009	5.62	90.91
				12/14/2009	5.51	91.02
				3/31/2010	5.72	90.81
				6/7/2010	4.74	91.79
				9/26/2010	5.10	91.43
MW-2	20.30	3.0 - 18.0	98.05	1/30/2009	5.41	92.64
				4/1/2009	5.78	92.27
				6/18/2009	2.50	95.55
				9/21/2009	4.60	93.45
				12/14/2009	4.99	93.06
				3/31/2010	5.53	92.52
				6/7/2010	2.70	95.35
				9/29/2010	3.56	94.49
MW-3	20.10	3.0 - 18.0	95.60	1/30/2009	5.29	90.31
				4/1/2009	5.46	90.14
				6/18/2009	3.64	91.96
				9/21/2009	5.25	90.35
				12/14/2009	5.19	90.41
				3/31/2010	5.30	90.30
				6/7/2010	5.52	90.08
				9/29/2010	4.81	90.79
MW-4	20.70	3.7 - 18.7	96.23	1/30/2009	6.33	89.90
				4/1/2009	6.40	89.83
				6/18/2009	5.51	90.72
				9/21/2009	6.13	90.10
				12/14/2009	5.91	90.32
				3/31/2010	6.10	90.13
				6/7/2010	5.31	90.92
				9/29/2010	5.59	90.64

ft = Feet

TOC = Top of casing

bgs = below ground surface

* Elevation relative to wellhead

Table 3. Groundwater Laboratory Analytical Results - ConocoPhillips Company Shepherd & Kelsey No. 1E

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Sulfate (mg/L)	Aluminum (mg/L)	Iron (mg/L)	Manganese (mg/L)	Total Dissolved Solids (mg/L)
MW-1	9/26/2007	0.4	0.4	0.5	1.1	NA	NA	NA	NA	NA
	10/23/2008	<5	<5	<5	<5	438	NA	2.59*	0.417*	NA
	1/30/2009	<5	<5	<5	<5	303	0.658*	1.45*	0.276*	692
	4/1/2009	<5	<5	<5	<5	258	1.19*	1.9*	0.416*	1,340
	6/18/2009	<5	<5	<5	<5	NA	0.187*	0.209*	NA**	NA
	9/21/2009	<1	<1	<1	<2	324	<0.1	0.0458	0.0356	700
	12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.0539	661
	3/31/2010	<1	<1	<1	<1	NA	NA	NA	0.0662	697
	6/7/2010	<1	<1	<1	<1	NA	NA	NA	0.0599	778
	9/29/2010	<1	<1	<1	<1	NA	NA	NA	0.117	853
MW-2	1/30/2009	<5	<5	<5	<5	706	11.3*	22.4*	2.06*	1,130
	4/1/2009	<5	<5	<5	<5	613	4.39*	11.3*	0.964*	1,420
	6/18/2009	<5	<5	<5	<5	NA	2.38*	4.01*	NA**	NA
	9/21/2009	<1	<1	<1	<2	421	<0.1	<0.02	0.158	740
	12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.106	764
	3/31/2010	<1	<1	<1	<1	NA	NA	NA	0.144	804
	6/7/2010	<1	<1	<1	<1	NA	NA	NA	0.152	826
	9/29/2010	<1	<1	<1	<1	NA	NA	NA	0.212	1090
	1/30/2009	<5	<5	<5	<5	427	4.34*	5.77*	0.675*	918
	4/1/2009	<5	<5	<5	<5	416	1.45*	3.0*	0.615*	1,010
MW-3	6/18/2009	<5	<5	<5	<5	NA	0.67*	1.57*	NA**	NA
	9/21/2009	<1	<1	<1	<2	359	<0.1	<0.02	0.115	733
	12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.154	712
	3/31/2010	<1	<1	<1	<1	NA	NA	NA	0.219	898
	6/7/2010	<1	<1	<1	<1	NA	NA	NA	0.132	841
	9/29/2010	<1	<1	<1	<1	NA	NA	NA	0.147	849
	1/30/2009	<5	<5	<5	<5	539	7.29*	19.4*	16.7*	1,000
	4/1/2009	<5	<5	<5	<5	512	11.4*	23.4*	3.36*	1,010
	6/18/2009	<5	<5	<5	<5	NA	0.344*	0.362*	NA**	NA
	9/21/2009	<1	<1	<1	<2	472	<0.1	0.0376	0.286	963
MW-4	12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.283	861
	3/31/2010	<1	<1	<1	<1	NA	NA	NA	0.336	1000
	6/7/2010	<1	<1	<1	<1	NA	NA	NA	0.373	1300
	9/29/2010	<1	<1	<1	<1	NA	NA	NA	0.571	1720
	MMWQCC Groundwater Quality Standard	10 (µg/L)	750 (µg/L)	750 (µg/L)	620 (µg/L)	600 (mg/L)	5 (mg/L)	1 (mg/L)	0.2 (mg/L)	1000 (mg/L)

Notes:

MW = monitor well

MMWQCC = New Mexico Water Quality Control Commission

Constituents in **BOLD** exceed MMWQCC Groundwater Quality Standards

VOCs = volatile organic compounds

mg/L = milligrams per liter

µg/L = micrograms per liter

NA** = not analyzed due to lab error

NE = not analyzed

NA = not established

TDS = total dissolved solids

Total Xylenes = the sum of m,p-xylene and o-xylene

* = Results reported for total metals analysis, results can not be compared to MMWQCC Standards for dissolved metals

Analytical results for 9/26/2007 are presented as reported by Envirotech Inc.

APPENDIX A



WATER SAMPLING FIELD FORM

Project Name Shepherd & Kelsey 1EPage 1 of 4

Project No. _____

Site Location Bloomfield, NMSite/Well No. MW-1Coded/
Replicate No. Dup@1215Date 9-29-10Weather Sunny with 70°Time Sampling
Began 1205Time Sampling
Completed 1220

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 11.98 2 Water-Level Elevation _____Held _____ Depth to Water Below MP 5.10 Diameter of Casing 2"Wet _____ Water Column in Well 6.82 Gallons Pumped/Bailed Prior to Sampling 3.5Gallons per Foot 0.16Gallons in Well 1.09 x 3.27 = 3.57 Sampling Pump Intake Setting (feet below land surface) _____Purging Equipment Purge pump/Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
<u>1213</u>	<u>17.28</u>	<u>7.36</u>	<u>1093</u>	<u>0.710</u>	<u>2.74</u>	<u>28.5</u>	<u>33.6</u>	<u>3.0</u>
<u>1214</u>	<u>17.32</u>	<u>7.33</u>	<u>1093</u>	<u>0.710</u>	<u>2.00</u>	<u>26.8</u>	<u>33.2</u>	<u>3.25</u>
<u>1215</u>	<u>17.32</u>	<u>7.32</u>	<u>1090</u>	<u>0.709</u>	<u>1.93</u>	<u>20.2</u>	<u>31.4</u>	<u>3.5</u>

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Mn	16 oz Plastic	None
TDS	16 oz Plastic	None

Remarks H₂O is clear to light brown, no odor or greenSampling Personnel Carson Brown & Christine Matthews Observed

Well Casing Volumes

Gal./ft.	1 1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.10	2 1/2" = 0.24	3 1/2" = 0.50	6" = 1.46



WATER SAMPLING FIELD FORM

Project Name Shepherd & Kelsey 1EPage 2 of 4

Object No. _____

Site Location Bloomfield, NMSite/Well No. MW-2Coded/
Replicate No. _____Date 9-29-10Weather SunnyTime Sampling
Began 11:25Time Sampling
Completed 11:50warm 70°

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 202 20.08 Water-Level Elevation _____Held _____ Depth to Water Below MP 3.50 Diameter of Casing 2"Wet _____ Water Column in Well 14.52 Gallons Pumped/Bailed Prior to Sampling 8.0Gallons per Foot 0.16Gallons in Well 21.64 x 3 = 7.9Sampling Pump Intake Setting
(feet below land surface) _____Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
<u>1143</u>	<u>15.36</u>	<u>7.35</u>	<u>1460</u>	<u>0.949</u>	<u>13.36</u>	<u>60.0</u>	<u>-11.3</u>	<u>7.25</u>
<u>1145</u>	<u>15.36</u>	<u>7.37</u>	<u>1447</u>	<u>0.941</u>	<u>3.71</u>	<u>35.8</u>	<u>-14.3</u>	<u>7.5</u>
<u>1146</u>	<u>15.41</u>	<u>7.35</u>	<u>1433</u>	<u>0.931</u>	<u>2.84</u>	<u>28.3</u>	<u>-14.3</u>	<u>8.0</u>

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX 3 40mL VOA's HClDissolved Mn 16 oz Plastic NoneTDS 16 oz Plastic NoneRemarks H₂O is clear to light brown no odor or greenSampling Personnel Casper Brown & Christine Matthews Observed

Well Casing Volumes

Gal./ft.	1 1/4" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 1/2" = 0.10	2 1/2" = 0.24	3 1/2" = 0.50	6" = 1.46



TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Shepherd & Kelsey 1EPage 3 of 4

Project No. _____

Site Location Bloomfield, NMSite/Well No. MW-3 Coded/
Replicate No. _____Date 9-28-10Weather Sunny, warm
70° Time Sampling
Began 1150Time Sampling
Completed ~~1209~~ 1210

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP 20.1 Water-Level Elevation _____Held _____ Depth to Water Below MP 4.21 Diameter of Casing 2"Wet _____ Water Column in Well 15.29 Gallons Pumped/Bailed
Prior to Sampling 7.5Gallons per Foot 0.16Gallons in Well 2.44 x 3 =Sampling Pump Intake Setting
(feet below land surface) _____Purging Equipment Purge pump / Bailer 7.3

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
<u>1206</u>	<u>17.15</u>	<u>7.33</u>	<u>1090</u>	<u>.708</u>	<u>5.25</u>	<u>53.0</u>	<u>18.2</u>	<u>6.5</u>
<u>1207</u>	<u>17.16</u>	<u>7.33</u>	<u>1087</u>	<u>.706</u>	<u>3.88</u>	<u>39.7</u>	<u>19.8</u>	<u>7.0</u>
<u>1209</u>	<u>17.16</u>	<u>7.34</u>	<u>1086</u>	<u>.706</u>	<u>3.01</u>	<u>31.2</u>	<u>18.9</u>	<u>7.5</u>

Sampling Equipment Purge Pump/Bailer

Constituents Sampled _____ Container Description _____ Preservative _____

BTEX _____ 3 40mL VOA's _____ HCl _____

Dissolved Mn _____ 16 oz Plastic _____ None _____

TDS _____ 16 oz Plastic _____ None _____

Remarks H₂O is light brown. no odor or sheen observedSampling Personnel Cass Brown & Christine Matthews

Well Casing Volumes

Gal./ft.	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3 ½" = 0.50	6" = 1.46



WATER SAMPLING FIELD FORM

Project Name Shepherd & Kelsey 1EPage 4 of 4

Project No. _____

Site Location Bloomfield, NMSite/Well No. MW-4Coded/
Replicate No. _____Date 9/29/10Weather Bunny,Time Sampling
Began 1120Time Sampling
Completed ~~9:29:10~~ 1135Warm 70°

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP ~~20.37~~ 20.45 Water-Level Elevation _____Held _____ Depth to Water Below MP 5.59 Diameter of Casing 2"Wet _____ Water Column in Well 14.86 Gallons Pumped/Bailed Prior to Sampling 7.25Gallons per Foot 0.16Gallons in Well 2.37 x 3 = Sampling Pump Intake Setting
(feet below land surface) _____Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1130	15.70	7.14	1929	1.254	4.59	44.5	34.8	6.25
1133	15.73	7.20	1927	1.253	3.93	39.4	28.1	6.75
1135	15.76	7.23	1927	1.253	3.26	32.8	22.1	7.25

Sampling Equipment Purge Pump/Bailer

Constituents Sampled

Container Description

Preservative

BTEX _____ 3 40mL VOA's _____ HCl _____

Dissolved Mn _____ 16 oz Plastic _____ None _____

TDS _____ 16 oz Plastic _____ None _____

Remarks H₂O is clear to light brown, no odor or sheen observeSampling Personnel Cass Brown & Christine Matthews

Well Casing Volumes

Gal./ft.	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3 ½" = 0.50	6" = 1.46

APPENDIX B



SPL Inc.
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Certificate of Analysis

October 15, 2010

Workorder: H10100004

Cassandra Brown
Tetra Tech, Inc.
6121 Indian School Road NE
Suite 200
Albuquerque, NM 87110

Project: Shephard Kelsey#1E
Project Number: Shephard Kelsey#1E
Site: Shephard Kelsey#1E
PO Number: 4510672256
NELAC Cert. No.: T104704205-09-3

This Report Contains A Total Of 23 Pages

Excluding Any Attachments



Certificate of Analysis

October 15, 2010

Workorder: H10100004

Cassandra Brown
Tetra Tech, Inc.
6121 Indian School Road NE
Suite 200
Albuquerque, NM 87110

Project: Shephard Kelsey#1E
Project Number: Shephard Kelsey#1E
Site: Shephard Kelsey#1E
PO Number: 4510672256
NELAC Cert. No.: T104704205-09-3

I. SAMPLE RECEIPT:

All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II: ANALYSES AND EXCEPTIONS:

Per the Conoco Phillips TSM Revision 0, a copy of the internal chain of custody is to be included in final data package. However, due to LIMS limitations, this cannot be provided at this time.

There were no exceptions noted.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg/kg-dry " or " ug/kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.



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Certificate of Analysis

October 15, 2010

Workorder: H10100004

Cassandra Brown
Tetra Tech, Inc.
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Project: Shephard Kelsey#1E
Project Number: Shephard Kelsey#1E
Site: Shephard Kelsey#1E
PO Number: 4510672256
NELAC Cert. No.: T104704205-09-3

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by his designee, as verified by the following signature.

Erica Cardenas, Senior Project Manager

Enclosures



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SAMPLE SUMMARY

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10100004001	MW-1	Water		9/29/2010 12:20	10/1/2010 09:30
H10100004002	MW-2	Water		9/29/2010 11:50	10/1/2010 09:30
H10100004003	MW-3	Water		9/29/2010 12:10	10/1/2010 09:30
H10100004004	MW-4	Water		9/29/2010 11:35	10/1/2010 09:30
H10100004005	DUPLICATE	Water		9/29/2010 12:15	10/1/2010 09:30
H10100004006	TRIP BLANK	Water		9/30/2010 09:25	10/1/2010 09:30



ANALYTICAL RESULTS

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID: H10100004001

Date/Time Received: 10/1/2010 09:30

Matrix: Water

Sample ID: MW-1

Date/Time Collected: 9/29/2010 12:20

VOLATILES

Analysis Desc: SW-846 8260B (GCVMS Analysis)

SW-846 5030 Analytical Batches:

Batch: 1604 SW-846 8260B (GCVMS Analysis) on 10/13/2010 15:29 by DGR

Parameters	Results					Batch Information		
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Benzene	ND		1.0	0.17	1			1604
Ethylbenzene	ND		1.0	0.097	1			1604
Toluene	ND		1.0	0.12	1			1604
m,p-Xylene	ND		1.0	0.30	1			1604
o-Xylene	ND		1.0	0.11	1			1604
Xylenes, Total	ND		1.0	0.11	1			1604
4-Bromofluorobenzene (S)	98.8 %		70-130		1			1604
1,2-Dichloroethane-d4 (S)	101 %		71-140		1			1604
Toluene-d8 (S)	98.9 %		61-121		1			1604
Preservation pH	<2				1			1604

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R_V

Analytical Batches:

Batch: 1654 SW-846 6010B on 10/07/2010 15:02 by EBG

Parameters	Results					Batch Information		
	mg/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Manganese	0.117		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1834 SM 2540 C on 10/01/2010 15:00 by MMAL

Parameters	Results					Batch Information		
	mg/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Residue, Filterable (TDS)	853		10.0	3.94	1			1834



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ANALYTICAL RESULTS

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID: H10100004002

Date/Time Received: 10/1/2010 09:30

Matrix: Water

Sample ID: MW-2

Date/Time Collected: 9/29/2010 11:50

VOLATILES

Analysis Desc: SW-846 8260B (GC/MS Analysis)

SW-846 5030 Analytical Batches:

Batch: 1600 SW-846 8260B (GC/MS Analysis) on 10/13/2010 07:20 by DGR

Parameters	Results		Report Limit	MDL	DF	RegLmt	Batch Information	
	ug/l	Qual					Prep	Analysis
Benzene	ND		1.0	0.17	1			1600
Ethylbenzene	ND		1.0	0.097	1			1600
Toluene	ND		1.0	0.12	1			1600
m,p-Xylene	ND		1.0	0.30	1			1600
o-Xylene	ND		1.0	0.11	1			1600
Xylenes, Total	ND		1.0	0.11	1			1600
4-Bromofluorobenzene (S)	107 %		70-130		1			1600
1,2-Dichloroethane-d4 (S)	89.2 %		71-140		1			1600
Toluene-d8 (S)	103 %		61-121		1			1600
Preservation pH	<2				1			1600

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R V

Analytical Batches:

Batch: 1654 SW-846 6010B on 10/10/2010 19:14 by EBG

Parameters	Results		Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l	Qual					Prep	Analysis
Manganese	0.212		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1834 SM 2540 C on 10/01/2010 15:00 by MMAL

Parameters	Results		Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l	Qual					Prep	Analysis
Residue, Filterable (TDS)	1090		10.0	3.94	1			1834



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ANALYTICAL RESULTS

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID: H10100004003

Date/Time Received: 10/1/2010 09:30

Matrix: Water

Sample ID: MW-3

Date/Time Collected: 9/29/2010 12:10

VOLATILES

Analysis Desc: SW-846 8260B (GCVMS Analysis)

SW-846 5030 Analytical Batches:

Batch: 1600 SW-846 8260B (GCVMS Analysis) on 10/13/2010 07:42 by DGR

Parameters	Results					Batch Information		
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Benzene	ND		1.0	0.17	1			1600
Ethylbenzene	ND		1.0	0.097	1			1600
Toluene	ND		1.0	0.12	1			1600
m,p-Xylene	ND		1.0	0.30	1			1600
o-Xylene	ND		1.0	0.11	1			1600
Xylenes, Total	ND		1.0	0.11	1			1600
4-Bromofluorobenzene (S)	105 %		70-130		1			1600
1,2-Dichloroethane-d4 (S)	93.3 %		71-140		1			1600
Toluene-d8 (S)	102 %		61-121		1			1600
Preservation pH	<2				1			1600

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R_V

Analytical Batches:

Batch: 1654 SW-846 6010B on 10/10/2010 19:20 by EBG

Parameters	Results					Batch Information		
	mg/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Manganese	0.147		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1834 SM 2540 C on 10/01/2010 15:00 by MMAL

Parameters	Results					Batch Information		
	mg/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Residue, Filterable (TDS)	849		10.0	3.94	1			1834



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ANALYTICAL RESULTS

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID: H10100004004

Date/Time Received: 10/1/2010 09:30

Matrix: Water

Sample ID: MW-4

Date/Time Collected: 9/29/2010 11:35

VOLATILES

Analysis Desc: SW-846 8260B (GC/MS Analysis)

SW-846 5030 Analytical Batches:

Batch: 1600 SW-846 8260B (GC/MS Analysis) on 10/13/2010 08:03 by DGR

Parameters	Results		Report Limit	MDL	DF	RegLmt	Batch Information	
	ug/l	Qual					Prep	Analysis
Benzene	ND		1.0	0.17	1			1600
Ethylbenzene	ND		1.0	0.097	1			1600
Toluene	ND		1.0	0.12	1			1600
m,p-Xylene	ND		1.0	0.30	1			1600
o-Xylene	ND		1.0	0.11	1			1600
Xylenes, Total	ND		1.0	0.11	1			1600
4-Bromofluorobenzene (S)	105 %		70-130		1			1600
1,2-Dichloroethane-d4 (S)	94.2 %		71-140		1			1600
Toluene-d8 (S)	102 %		61-121		1			1600
Preservation pH	<2				1			1600

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R.V.

Analytical Batches:

Batch: 1654 SW-846 6010B on 10/10/2010 19:26 by EBG

Parameters	Results		Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l	Qual					Prep	Analysis
Manganese	0.571		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1834 SM 2540 C on 10/01/2010 15:00 by MMAL

Parameters	Results		Report Limit	MDL	DF	RegLmt	Batch Information	
	mg/l	Qual					Prep	Analysis
Residue, Filterable (TDS)	1720		10.0	3.94	1			1834



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ANALYTICAL RESULTS

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID: **H10100004005**

Date/Time Received: 10/1/2010 09:30

Matrix: Water

Sample ID: **DUPLICATE**

Date/Time Collected: 9/29/2010 12:15

VOLATILES

Analysis Desc: SW-846 8260B (GC/MS Analysis)

SW-846 5030 Analytical Batches:

Batch: 1602 SW-846 8260B (GC/MS Analysis) on 10/13/2010 12:03 by DGR

Parameters	Results				Batch Information		
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep Analysis
Benzene	ND		1.0	0.17	1		1602
Ethylbenzene	ND		1.0	0.097	1		1602
Toluene	ND		1.0	0.12	1		1602
m,p-Xylene	ND		1.0	0.30	1		1602
o-Xylene	ND		1.0	0.11	1		1602
Xylenes, Total	ND		1.0	0.11	1		1602
4-Bromofluorobenzene (S)	103 %		70-130		1		1602
1,2-Dichloroethane-d4 (S)	101 %		71-140		1		1602
Toluene-d8 (S)	99.8 %		61-121		1		1602
Preservation pH	<2				1		1602



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ANALYTICAL RESULTS

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID: H10100004006

Date/Time Received: 10/1/2010 09:30

Matrix: Water

Sample ID: TRIP BLANK

Date/Time Collected: 9/30/2010 09:25

VOLATILES

Analysis Desc: SW-846 8260B (GC/MS Analysis)

SW-846 5030 Analytical Batches:

Batch: 1602 SW-846 8260B (GC/MS Analysis) on 10/13/2010 12:25 by DGR

Parameters	Results				DF	RegLmt	Batch Information	
	ug/l	Qual	Report Limit	MDL			Prep	Analysis
Benzene	ND		1.0	0.17	1			1602
Ethylbenzene	ND		1.0	0.097	1			1602
Toluene	ND		1.0	0.12	1			1602
m,p-Xylene	ND		1.0	0.30	1			1602
o-Xylene	ND		1.0	0.11	1			1602
Xylenes, Total	ND		1.0	0.11	1			1602
4-Bromofluorobenzene (S)	107 %		70-130		1			1602
1,2-Dichloroethane-d4 (S)	94.3 %		71-140		1			1602
Toluene-d8 (S)	103 %		61-121		1			1602
Preservation pH	<2				1			1602



QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

QC Batch: GVMS/1599 Analysis Method: SW-846 8260B (GCVMS Analysis)
QC Batch Method: SW-846 5030 Preparation: 10/12/2010 00:00 by DGR
Associated Lab Samples: H10100004002 H10100004003 H10100004004

METHOD BLANK: 75467

Analysis Date/Time Analyst: 10/12/2010 23:23 DGR

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Benzene	ug/l	ND		1.0
Ethylbenzene	ug/l	ND		1.0
Toluene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
o-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	107		70-130
1,2-Dichloroethane-d4 (S)	%	95.1		71-140
Toluene-d8 (S)	%	102		61-121

LABORATORY CONTROL SAMPLE: 75468

Analysis Date/Time Analyst: 10/12/2010 22:18 DGR

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	20.5	102	70-130
Ethylbenzene	ug/l	20	22.1	110	70-130
Toluene	ug/l	20	20.8	104	73-130
m,p-Xylene	ug/l	40	44.0	110	70-130
o-Xylene	ug/l	20	22.2	111	70-130
Xylenes, Total	ug/l	60	66.21	110	70-130
4-Bromofluorobenzene (S)	%			99.8	70-130
1,2-Dichloroethane-d4 (S)	%			102	71-140
Toluene-d8 (S)	%			101	61-121

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75469

75470

Original: H10100275001

MS Analysis Date/Time Analyst: 10/13/2010 00:52 DGR

MSD Analysis Date/Time Analyst: 10/13/2010 01:14 DGR

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	430	100	507	491	NC	NC	67-202	NC	20
Ethylbenzene	ug/l	56	100	163	153	107	97.0	49-165	6.4	20
Toluene	ug/l	20	100	124	118	104	98.5	48-162	4.5	20
m,p-Xylene	ug/l	360	200	564	535	101	86.3	44-167	5.4	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



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QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75469 75470 Original: H10100275001

MS Analysis Date/Time Analyst: 10/13/2010 00:52 DGR

MSD Analysis Date/Time Analyst: 10/13/2010 01:14 DGR

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
o-Xylene	ug/l	120	100	225	218	102	95.0	54-158	3.0	20
Xylenes, Total	ug/l	485	300	789.2	753.1	101	89.2	44-167	4.7	20
4-Bromofluorobenzene (S)	%	ND				102	104	70-130		
1,2-Dichloroethane-d4 (S)	%	ND				86.9	99.2	71-140		
Toluene-d8 (S)	%	ND				102	104	61-121		

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

QC Batch: GVMS/1601

Analysis Method: SW-846 8260B (GCVMS Analysis)

QC Batch Method: SW-846 5030

Preparation: 10/13/2010 00:00 by DGR

Associated Lab Samples:	H10100004005	H10100004006	H10100027001	H10100027002	H10100029004	H10100029005
	H10100029006	H10100029007	H10100029008	H10100029009	H10100029010	H10100029011
	H10100029012	H10100029013	H10100029014	H10100029015	H10100029016	

METHOD BLANK: 75707

Analysis Date/Time Analyst: 10/13/2010 10:36 DGR

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Benzene	ug/l	ND		1.0
Ethylbenzene	ug/l	ND		1.0
Toluene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
o-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	106		70-130
1,2-Dichloroethane-d4 (S)	%	92.4		71-140
Toluene-d8 (S)	%	102		61-121

LABORATORY CONTROL SAMPLE: 75708

Analysis Date/Time Analyst: 10/13/2010 09:30 DGR

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	19.4	97.1	70-130
Ethylbenzene	ug/l	20	23.0	115	70-130
Toluene	ug/l	20	21.6	108	73-130
m,p-Xylene	ug/l	40	46.2	116	70-130
o-Xylene	ug/l	20	23.6	118	70-130
Xylenes, Total	ug/l	60	69.78	116	70-130
4-Bromofluorobenzene (S)	%			105	70-130
1,2-Dichloroethane-d4 (S)	%			89.8	71-140
Toluene-d8 (S)	%			103	61-121

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75709

75710

Original: H10100004005

MS Analysis Date/Time Analyst: 10/13/2010 10:57 DGR

MSD Analysis Date/Time Analyst: 10/13/2010 11:19 DGR

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	ND	20	18.5	17.0	92.4	84.8	67-202	8.7	20
Ethylbenzene	ug/l	ND	20	20.7	18.4	103	91.8	49-165	11.8	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



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QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75709 75710 Original: H10100004005

MS Analysis Date/Time Analyst: 10/13/2010 10:57 DGR

MSD Analysis Date/Time Analyst: 10/13/2010 11:19 DGR

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Toluene	ug/l	ND	20	19.4	18.3	97.2	91.4	48-162	6.2	20
m,p-Xylene	ug/l	ND	40	40.9	37.7	102	93.9	44-167	8.2	20
o-Xylene	ug/l	ND	20	21.3	19.3	106	96.3	54-158	9.9	20
Xylenes, Total	ug/l	ND	60	62.13	56.92	104	94.9	44-167	8.7	20
4-Bromofluorobenzene (S)	%	103				103	100	70-130		
1,2-Dichloroethane-d4 (S)	%	101				88.8	100	71-140		
Toluene-d8 (S)	%	99.8				104	103	61-121		

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

QC Batch: GVMS/1603 Analysis Method: SW-846 8260B (GCVMS Analysis)
QC Batch Method: SW-846 5030 Preparation: 10/13/2010 00:00 by DGR
Associated Lab Samples: H10100004001 H10100027001 H10100027002 H10100029001 H10100029002 H10100029003
H10100029009 H10100029010 H10100029011

METHOD BLANK: 75881

Analysis Date/Time Analyst: 10/13/2010 15:07 DGR

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Benzene	ug/l	ND		1.0
Ethylbenzene	ug/l	ND		1.0
Toluene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
o-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	97.3		70-130
1,2-Dichloroethane-d4 (S)	%	101		71-140
Toluene-d8 (S)	%	97.8		61-121

LABORATORY CONTROL SAMPLE: 75882

Analysis Date/Time Analyst: 10/13/2010 14:00 DGR

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	20.5	103	70-130
Ethylbenzene	ug/l	20	21.3	107	70-130
Toluene	ug/l	20	20.7	104	73-130
m,p-Xylene	ug/l	40	43.1	108	70-130
o-Xylene	ug/l	20	21.7	109	70-130
Xylenes, Total	ug/l	60	64.84	108	70-130
4-Bromofluorobenzene (S)	%			99.2	70-130
1,2-Dichloroethane-d4 (S)	%			99.3	71-140
Toluene-d8 (S)	%			97.7	61-121

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75883

75884

Original: H10100063012

MS Analysis Date/Time Analyst: 10/13/2010 20:52 DGR

MSD Analysis Date/Time Analyst: 10/13/2010 21:14 DGR

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	0.23	20	21.0	19.6	105	98.2	67-202	6.7	20
Ethylbenzene	ug/l	0.29	20	21.3	20.1	106	101	49-165	5.6	20
Toluene	ug/l	ND	20	20.7	19.5	103	97.7	48-162	5.7	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



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QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75883

75884

Original: H10100063012

MS Analysis Date/Time Analyst: 10/13/2010 20:52 DGR

MSD Analysis Date/Time Analyst: 10/13/2010 21:14 DGR

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
m,p-Xylene	ug/l	ND	40	43.3	40.4	108	101	44-167	6.9	20
o-Xylene	ug/l	ND	20	21.7	20.5	108	103	54-158	5.5	20
Xylenes, Total	ug/l	ND	60	65.02	60.99	108	102	44-167	6.4	20
4-Bromofluorobenzene (S)	%	ND				99.4	99.6	70-130		
1,2-Dichloroethane-d4 (S)	%	ND				102	101	71-140		
Toluene-d8 (S)	%	ND				98.2	98.1	61-121		

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

QC Batch:	DIGM/2123	Analysis Method:	SW-846 6010B			
QC Batch Method:	SW-846 3010A	Preparation:	10/04/2010 13:30 by R_V			
Associated Lab Samples:	H10100004001	H10100004002	H10100004003	H10100004004	H10100006001	H10100006002
	H10100006003	H10100008001	H10100008002	H10100008003	H10100008004	H10100032001

METHOD BLANK: 73599

Analysis Date/Time Analyst: 10/07/2010 14:50 EBG

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Manganese	mg/l	ND		0.00500

LABORATORY CONTROL SAMPLE: 73600

Analysis Date/Time Analyst: 10/07/2010 14:56 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Manganese	mg/l	0.10	0.1015	102	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 73601 73602 Original: H10100004001

MS Analysis Date/Time Analyst: 10/07/2010 15:08 EBG

MSD Analysis Date/Time Analyst: 10/07/2010 15:14 EBG

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Manganese	mg/l	0.117	0.10	0.2033	0.2071	86.6	90.4	75-125	1.9	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



QUALITY CONTROL DATA

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

QC Batch: WETS/1834

Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples: H10100004001 H10100004002 H10100004003 H10100004004

METHOD BLANK: 73239

Analysis Date/Time Analyst: 10/01/2010 15:00 MMAL

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Residue, Filterable (TDS)	mg/l	ND		10.0

LABORATORY CONTROL SAMPLE & LCSD: 73240 73241

LCS Analysis Date/Time Analyst: 10/01/2010 15:00 MMAL

LCSD Analysis Date/Time 10/01/2010 15:00 MMAL

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Residue, Filterable (TDS)	mg/l	200	200.0	201.0	100	100	95-107	0.5	10

SAMPLE DUPLICATE: 73242

Original: H10100004004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						1
Residue, Filterable (TDS)	mg/l	1720	1720	0.1	10	1

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.



Legend

(S) - Indicates analyte is a surrogate

Qualifier	Qualifier Description
*	Recovery/RPD value outside QC limits
+	DCS Concentration
B	Analyte detected in the Method Blank
C	MTBE results were not confirmed by GCMS
D	Recovery out of range due to dilution
E	Results exceed calibration range
H	Exceeds holding time
I	Estimated value, between MDL and PQL (Florida)
J	Estimated value
JN	The analysis indicates the presence of an analyte
MI	Matrix Interference
N	Recovery outside of control limits
NC	Not Calculable (Sample Duplicate)
NC	Not Calculated - Sample concentration > 4 times the spike
ND	Not Detected at reporting Limits
P	Pesticide dual column results, greater then 25%
Q	Received past holding time
TNTC	Too numerous to count
U	Not Detected at reporting Limits



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10100004 : Shephard Kelsey#1E

Project Number: Shephard Kelsey#1E

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10100004001	MW-1	SM 2540 C	WETS/1834		
H10100004002	MW-2	SM 2540 C	WETS/1834		
H10100004003	MW-3	SM 2540 C	WETS/1834		
H10100004004	MW-4	SM 2540 C	WETS/1834		
H10100004001	MW-1	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100004002	MW-2	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100004003	MW-3	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100004004	MW-4	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100004002	MW-2	SW-846 5030	GVMS/1599	SW-846 8260B (GCVMS Analysis)	GVMS/1600
H10100004003	MW-3	SW-846 5030	GVMS/1599	SW-846 8260B (GCVMS Analysis)	GVMS/1600
H10100004004	MW-4	SW-846 5030	GVMS/1599	SW-846 8260B (GCVMS Analysis)	GVMS/1600
H10100004005	DUPLICATE	SW-846 5030	GVMS/1601	SW-846 8260B (GCVMS Analysis)	GVMS/1602
H10100004006	TRIP BLANK	SW-846 5030	GVMS/1601	SW-846 8260B (GCVMS Analysis)	GVMS/1602
H10100004001	MW-1	SW-846 5030	GVMS/1603	SW-846 8260B (GCVMS Analysis)	GVMS/1604



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Sample Receipt Checklist

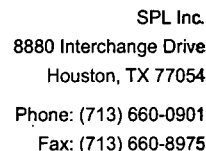
WorkOrder:	H10100004	Received By	LOG
Date and Time	10/01/2010 09:30	Carrier Name:	FEDEXS
Temperature:	3.5°C	Chilled By:	Water Ice

1. Shipping container/cooler in good condition? YES
2. Custody seals intact on shipping container/cooler? YES
3. Custody seals intact on sample bottles? Not Present
4. Chain of custody present? YES
5. Chain of custody signed when relinquished and received? YES
6. Chain of custody agrees with sample labels? YES
7. Samples in proper container/bottle? YES
8. Samples containers intact? YES
9. Sufficient sample volume for indicated test? YES
10. All samples received within holding time? YES
11. Container/Temp Blank temperature in compliance? YES
12. Water - VOA vials have zero headspace? YES
13. Water - Preservation checked upon receipt(except VOA*)? Not Applicable

*VOA Preservation Checked After Sample Analysis

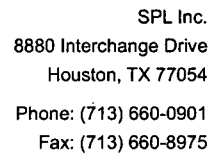
SPL Representative:
Client Name Contacted:
Client Instructions:

Contact Date & Time:



Page 1 of 2

H10100004



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