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ConocoPhillips

3R-098

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South Saint Francis DR
Santa Fe, NM 87505

March 27, 2012

Re: ***Shepherd & Kelsey No. 1E Remediation Site Closure Request***
NMOCD No. 3R-098, API No. 30-045-24316

Dear Mr. von Gonten:

ConocoPhillips Company (ConocoPhillips) submits this letter and enclosed final groundwater monitoring report as a formal request for site closure and no further action status for the ConocoPhillips, Shepherd & Kelsey No. 1E Remediation Site (Site).

Benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations at the Site have never exceeded New Mexico Water Quality Control Commission (NMWQCC) standards since the initial groundwater sampling event. The March 2011 sampling event represented the tenth consecutive quarter of BTEX concentrations below NMWQCC standards and laboratory detection limits for all four Site monitor wells. Furthermore, Monitor Wells MW-2 and MW-4, located hydraulically upgradient and side-gradient, respectively, of the subsurface investigation areas, have both exhibited relatively consistent levels of dissolved manganese and total dissolved solids near NMWQCC standards for nine consecutive quarters.

Upon approval of closure by the NMOCD, ConocoPhillips will plug and abandon all monitor wells at the Site. Since the Site is located on private property leased by ConocoPhillips, timeliness of this decision is important. Your prompt response would be greatly appreciated.

Thank you very much for considering this request. Please let me know if you have any questions.

Sincerely,

Terry S. Lauck

Enc

Cc: Kelly E. Blanchard, Conestoga-Rovers & Associates

SEPTEMBER 2011 QUARTERLY GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS SHEPHERD & KELSEY No. 1E
BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO

API# 30-045-24316
NMOCD# 3R-098

Prepared For:

CONOCOPHILLIPS COMPANY

Risk Management and Remediation
420 South Keeler Avenue
Bartlesville, OK, 74004

MARCH 2012
REF. NO. 074930 (3)
This report is printed on recycled paper.

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1.0 INTRODUCTION

This report presents the results of the quarterly groundwater monitoring event conducted by Conestoga-Rovers & Associates (CRA) on September 29, 2011, at the ConocoPhillips Company (ConocoPhillips) Shepherd & Kelsey No. 1E site in Bloomfield, San Juan County, New Mexico (Site). This sampling event represents the 12th consecutive quarter of groundwater monitoring at the Site to include all four Site monitor 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 wellhead with associated equipment and installations and is surrounded by agricultural land. The geographical location coordinates are 36° 42′ 6.8″ North and 108° 01′ 12.2″ West; the location and general features of the Site are presented as **Figure 1** and **Figure 2**, respectively.

1.1 BACKGROUND

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 requested no further action status from NMOCD; however, in April 2008, NMOCD indicated that further investigation was necessary before closure could be granted.

Tetra Tech, Inc. (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. On June 15, 2011, site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM.

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. A summary of the Shepherd & Kelsey No. 1E site history can be seen in **Table 1**.

2.0 GROUNDWATER MONITORING SUMMARY, METHODOLOGY, AND ANALYTICAL RESULTS

2.1 GROUNDWATER MONITORING SUMMARY

Quarterly groundwater sampling was conducted on September 29, 2011. This monitoring event represents the second quarter of groundwater monitoring with BTEX analysis discontinued. 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 an oil/water interface probe. Groundwater elevation measurements are summarized in **Table 2.**

The top of casing for each Site monitor well as surveyed by Tetra Tech in January 2009, with elevations based on 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**).

2.2 GROUNDWATER MONITORING METHODOLOGY

Monitor Wells MW-1, MW-2, MW-3, and MW-4 were sampled during the September 29, 2011 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 CRA Well Sampling Field Information Forms (**Appendix A**). The groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain-of-custody documentation to Pace Analytical Services of Lenexa, Kansas. Samples were analyzed for dissolved manganese by EPA Method 6010; and total dissolved solids (TDS) by SM 2540C.

2.3 GROUNDWATER MONITORING 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**.

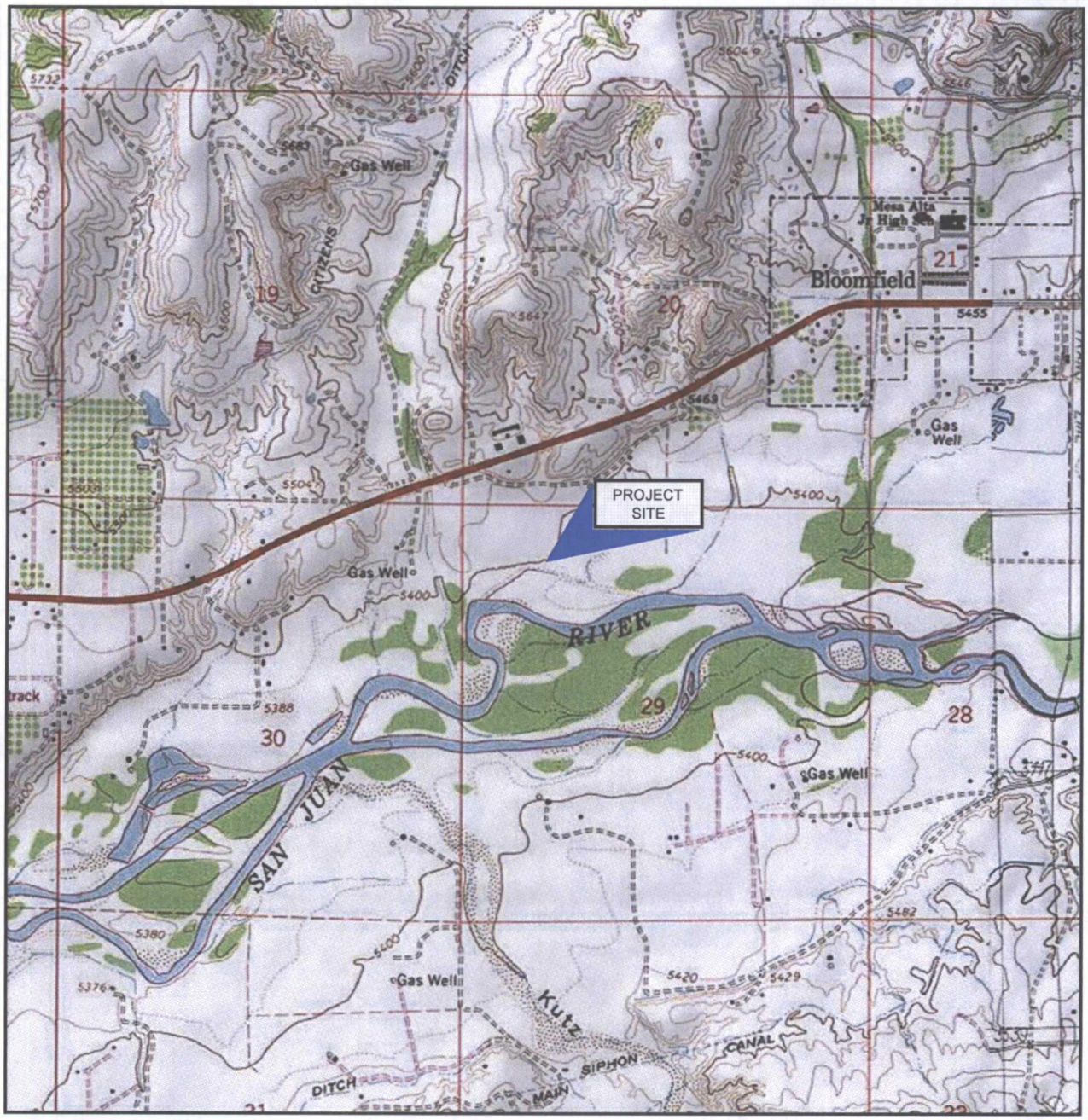
- **Dissolved Manganese**
    - The groundwater quality standard for dissolved manganese is 0.2 milligrams per liter (mg/L). Groundwater samples collected on September 29, 2011 from Monitor Well MW-2 and MW-4 were found to contain dissolved manganese at concentrations of 0.218 mg/L and 0.439 mg/L, respectively. MW-2 is located upgradient of the release area and MW-4 is side-gradient.
- **TDS**
    - The groundwater quality standard for TDS is 1000 mg/L. Groundwater samples collected on September 29, 2011 from Monitor Wells MW-2 and MW-4 were found to have TDS concentrations of 1,020 mg/L and 1,370 mg/L, respectively. MW-2 is located upgradient of the release area and MW-4 is side-gradient.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The September 2011 monitoring event represents the second quarter of groundwater monitoring with BTEX analysis discontinued for all four Site monitor wells. During this latest monitoring period, two wells, MW-2 and MW-4, revealed dissolved manganese and TDS concentrations above the NMWQCC standards. MW-2, located upgradient of known impacts, and MW-4, located side-gradient of known impacts, have both exhibited relatively consistent levels of dissolved manganese and TDS that are very close to NMWQCC standards for nine consecutive quarters.

CRA recommends remediation Site closure and no further action status due to the relatively stable levels of dissolved manganese and TDS found only in the background/upgradient well and the well located side-gradient of the known impact areas.

FIGURES



SOURCE: USGS 7.5 MINUTE QUAD
"HORN CANYON AND BLOOMFIELD, NEW MEXICO"

N

0 1000 2000ft

Figure 1

SITE LOCATION MAP
SHEPHERD AND KELSEY No. 1E NATURAL GAS SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

CRA

074930-95(003)GN-DL003 DEC 6/2011

ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN
SHEPHERD AND KELSEY NO. 1E NATURAL GAS WELL SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

074930-95(003)GN-DL001 DEC 6/2011

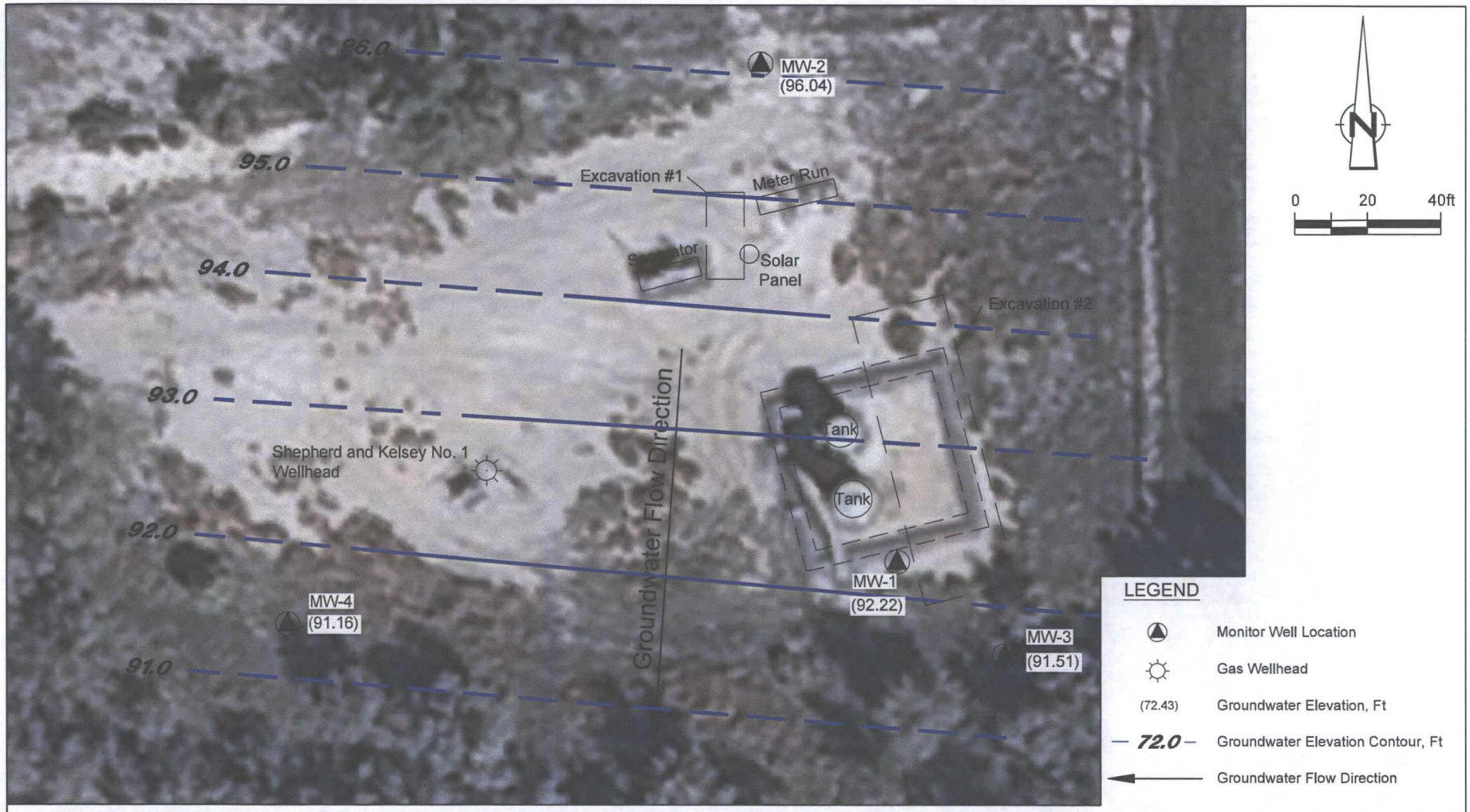


Figure 3

SEPTEMBER 2011 GROUNDWATER POTENTIOMETRIC SURFACE MAP
SHEPHERD AND KELSEY NO. 1E NATURAL GAS WELL SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

074930-95(003)GN-DL002 DEC 6/2011

TABLES

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS
SHEPHERD & KELSEY NO. 1E

Date/Time Period	*Event/Action*	*Description/Comments*
June 5, 2007	Initial Site Assessment	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 was unknown.
June 12, 2007	Investigation	A separate area of TPH soil contamination discovered.
June 15-18, 2007	Secondary Site Assessment	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.
September 26, 2007	Groundwater monitor well installation and groundwater monitoring	Ground water monitor 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.
November 1, 2007	Recommendations	Envirotech report recommends plugging and abandonment of the temporary ground water monitor well and no further action for the Site (Envirotech, 2007).
April 8, 2008	Additional Monitoring Requested by OCD	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.
October 23, 2008	Groundwater monitoring	1st quarter sampling of MW-1 conducted by Tetra Tech.
January 9, 2009	Groundwater monitor well installation	Installed additional Monitor Wells MW-2, MW-3 and MW-4.
January 30, 2009	Groundwater monitoring	2nd quarter sampling of MW-1 by Tetra Tech; initial sampling of MW-2, MW-3, and MW-4.
April 1, 2009	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4.
June 18, 2009	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4.
September 21, 2009	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4. Dissolved metals analysis initated at the Site for metals with elevated total metal concentrations.
December 14, 2009	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4.
March 31, 2010	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4.
June 7, 2010	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4.
September 29, 2010	Groundwater monitoring	Quarterly sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4.
December 14, 2010	Groundwater monitoring	Tetra Tech conducted the ninth quarterly groundwater monitoring event at the Site (sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4).
March 14, 2011	Groundwater monitoring	Tetra Tech conducted the tenth quarterly groundwater monitoring event at the Site (sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4). Tetra Tech recommended that sampling for BTEX be discontinued in the quarterly groundwater monitoring report following the March 2011 groundwater sampling event.
June 15, 2011	Transfer of site consulting responsibilities	On June 15, 2011, site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to CRA of Albuquerque, NM.
June 23, 2011	Groundwater monitoring	CRA conducted the 11th quarterly groundwater monitoring event at the Site (sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4). This was the first quarterly groundwater monitoring event with BTEX analysis discontinued.
September 29, 2011	Groundwater monitoring	CRA conducted the 12th quarterly groundwater monitoring event at the Site (sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4). This was the second quarterly groundwater monitoring event with BTEX analysis discontinued.

TABLE 2

MONITOR WELL SPECIFICATIONS & GROUNDWATER ELEVATIONS
OCTOBER 2008 - SEPTEMBER 2011
CONOCOPHILLIPS
SHEPHERD & KELSEY No. 1E

Well ID	*Total Depth (ft below TOC)*	*Elevation **	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level*
MW-1	12	96.53	2.5 - 10	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
				12/14/2010	4.76	91.77
				3/14/2011	5.42	91.11
				6/23/2011	4.69	91.84
				9/29/2011	4.31	92.22
MW-2	20.3	98.05	3.0 - 18.0	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
				12/14/2010	4.23	93.82
				3/14/2011	5.07	92.98
				6/23/2011	2.75	95.30
				9/29/2011	2.01	96.04
MW-3	20.1	95.6	3.0 - 18.0	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
				12/14/2010	5.13	90.47
				3/14/2011	5.05	90.55
				6/23/2011	4.45	91.15
				9/29/2011	4.09	91.51
MW-4	20.7	96.23	3.7 - 18.7	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
				12/14/2010	5.57	90.66
				3/14/2011	5.78	90.45
				6/23/2011	5.18	91.05
				9/29/2011	5.07	91.16

Notes:

1. ft = Feet
2. TOC = Top of casing
3. bgs = below ground surface
4. * Elevation relative to an arbitrary reference elevation of 100 ft.

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
SEPTEMBER 2007 - SEPTEMBER 2011
CONOCOPHILLIPS COMPANY
SHEPHERD & KELSEY No. 1E

Well ID	Sample ID	Date	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Iron (dissolved) (mg/L)*	*Manganese (dissolved) (mg/L)*	*Sulfate (mg/L)*	*Total dissolved solids (TDS) (mg/L)*
MW-1	MW-1	9/26/2007	0.0004	0.0004	0.0005	0.0011	--	--	--	--
	MW-1	10/23/2008	< 0.005	< 0.005	< 0.005	< 0.005	--	--	438	--
	MW-1	1/30/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	303	692
	MW-1	4/1/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	258	**1340**
	MW-1	6/18/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	--	--
	MW-1	9/21/2009	< 0.001	< 0.001	< 0.001	< 0.002	0.0458	0.0356	324	700
	MW-1	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0539	--	661
	MW-1	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0662	--	697
	MW-1	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0599	--	778
	MW-1	9/29/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.117	--	853
	MW-1	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.102	--	770
	MW-1	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	0.117	--	782
	GW-74930-062311-PG-02	6/23/2011	--	--	--	--	--	0.0963	--	828
	GW-074930-092911-CB-009	9/29/2011	--	--	--	--	--	0.102	--	724
MW-2	MW-2	1/30/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	**706**	**1130**
	MW-2	4/1/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	**613**	**1420**
	MW-2	6/18/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	--	--
	MW-2	9/21/2009	< 0.001	< 0.001	< 0.001	< 0.002	< 0.02	0.158	421	740
	MW-2	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	0.106	--	764
	MW-2	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.144	--	804
	MW-2	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.152	--	826
	MW-2	9/29/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.212**	--	**1090**
	MW-2	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.194	--	**1120**
	MW-2	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.242**	--	1000
	GW-74930-062311-PG-01	6/23/2011	--	--	--	--	--	**0.25**	--	**1150**
	GW-074930-092911-CB-006	9/29/2011	--	--	--	--	--	**0.218**	--	**1020**
MW-3	MW-3	1/30/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	427	918
	MW-3	4/1/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	416	**1010**
	MW-3	6/18/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	--	--
	MW-3	9/21/2009	< 0.001	< 0.001	< 0.001	< 0.002	< 0.02	0.115	359	733
	MW-3	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	0.154	--	712
	MW-3	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.219**	--	898
	MW-3	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.132	--	841
	MW-3	9/29/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.147	--	849
	MW-3	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	0.161	--	835
	MW-3	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	0.156	--	882
	GW-74930-062311-PG-03	6/23/2011	--	--	--	--	--	0.168	--	869
	GW-074930-092911-CB-008	9/29/2011	--	--	--	--	--	0.137	--	868

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
SEPTEMBER 2007 - SEPTEMBER 2011
CONOCOPHILLIPS COMPANY
SHEPHERD & KELSEY No. 1E

Well ID	Sample ID	Date	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Iron (dissolved) (mg/L)*	*Manganese (dissolved) (mg/L)*	*Sulfate (mg/L)*	*Total dissolved solids (TDS) (mg/L)*
MW-4	MW-4	1/30/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	539	1000
	MW-4	4/1/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	512	**1010**
	MW-4	6/18/2009	< 0.005	< 0.005	< 0.005	< 0.005	--	--	--	--
	MW-4	9/21/2009	< 0.001	< 0.001	< 0.001	< 0.002	0.0376	**0.286**	472	963
	MW-4	12/14/2009	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.283**	--	861
	MW-4	3/31/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.336**	--	1000
	MW-4	6/7/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.373**	--	**1300**
	MW-4	9/29/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.571**	--	**1720**
	MW-4	12/14/2010	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.514**	--	**1580**
	MW-4	3/14/2011	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.602**	--	**1810**
	GW-74930-062311-PG-04	6/23/2011	--	--	--	--	--	**0.468**	--	**1530**
	GW-074930-092911-CB-007	9/29/2011	--	--	--	--	--	**0.439**	--	**1370**
NMWQCC Groundwater Quality Standards			**0.01**	**0.75**	**0.75**	**0.62**	**1.0**	**0.2**	**600**	**1000**

Notes:

1. MW = monitoring well
2. NMWQCC = New Mexico Water Quality Control Commission
3. Constituents in **BOLD** are in excess of NMWQCC groundwater quality standards
4. mg/L = milligrams per liter (parts per million)
5. < 1.0 = Below laboratory detection limit of 1.0 mg/L
6. -- = Sample not collected

APPENDICES

APPENDIX A

SEPTEMBER 2011 QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Shepherd & Kelsey No. 1E JOB# 074930

SAMPLE ID: GW-074930-092911-CB-009 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.29.11	9.29.11	1700	1.20	4.5

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER 9.31 (feet) WELL ELEVATION 96.53 (feet)

WELL DEPTH 11.87 (feet) GROUNDWATER ELEVATION 92.22 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
17.46 (°C)	7.42 (std)	0.654 (g/L)	859 (µS/cm)	82.8 (mV)	3.5 (gal)
17.37 (°C)	7.37 (std)	0.652 (g/L)	858 (µS/cm)	81.2 (mV)	4.0 (gal)
17.32 (°C)	7.36 (std)	0.649 (g/L)	862 (µS/cm)	78.9 (mV)	4.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: Cloudy ODOR: None COLOR: Clear SHEEN Y/N No

WEATHER CONDITIONS: TEMPERATURE ~75° WINDY Y/N (N) PRECIPITATION Y/N (IF Y TYPE)

SPECIFIC COMMENTS: Purge volume = 3.62

Duplicate @ 1705 GW-074930-092911-CB-010

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

9.29.11 Jason Pless

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Shepherd & Kelsey #1E JOB# 074930

SAMPLE ID: GW-074930-9291IB-0006 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.29.11	9.29.11	1605	2.86	10.5

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER	2.01	(feet)	WELL ELEVATION	98.05	(feet)
WELL DEPTH	19.93	(feet)	GROUNDWATER ELEVATION	96.04	(feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
17.29 (°C)	6.46 (std)	0.874 (g/L)	1144 (µS/cm)	104.5 (mV)	4.5 (gal)
16.49 (°C)	6.61 (std)	0.869 (g/L)	1120 (µS/cm)	93.3 (mV)	10.0 (gal)
16.38 (°C)	6.75 (std)	0.873 (g/L)	422 (µS/cm)	80.6 (mV)	10.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: None COLOR: light gray SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~85° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS: Purge Volume = 8.6

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

9.29.11 Jason Ross

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

ITE/PROJECT NAME: Bedford Ridge No. IE JOB# 074930

SAMPLE ID: GW-074930-92911CB-008 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.29.11	9.29.11	1645	2.54	8.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER 4.09 (feet) WELL ELEVATION 95.60 (feet)

WELL DEPTH 20.01 (feet) GROUNDWATER ELEVATION 91.51 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
17.69 (°C)	7.42 (std)	0.743 (g/L)	984 (µS/cm)	84.7 (mV)	7.0 (gal)
17.67 (°C)	7.39 (std)	0.744 (g/L)	985 (µS/cm)	80.8 (mV)	7.5 (gal)
17.64 (°C)	7.37 (std)	0.747 (g/L)	986 (µS/cm)	78.2 (mV)	8.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: Little cloudy ODOR: None COLOR: clear SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~85 WINDY (Y)/N breezy PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS: Purge volume = 7.102

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

9.29.11 DATE | Jason Hess PRINT | SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

ATE/PROJECT NAME: Shepherd Bekins No. 1E JOB# 074930

SAMPLE ID: GW-074930-9291-CB-007 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9.29.11	9.29.11	1630	2,46	8,0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER 5.07 (feet) WELL ELEVATION 96.23 (feet)

WELL DEPTH 20.45 (feet) GROUNDWATER ELEVATION 91.16 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
16.47 (°C)	7,51 (std)	~~1484~~ 1,151 (g/L)	1484 (µS/cm)	90.5 (mV)	6,0 (gal)
16.09 (°C)	7,39 (std)	1,145 (g/L)	1459 (µS/cm)	88.8 (mV)	7,0 (gal)
16.02 (°C)	7,35 (std)	1,135 (g/L)	1441 (µS/cm)	88.2 (mV)	7,75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear w/orange bacteria ODOR: None COLOR: orange bacteria SHEEN Y/N No

WEATHER CONDITIONS: TEMPERATURE WINDY Y/N PRECIPITATION Y/N (IF Y TYPE)

SPECIFIC COMMENTS: Purge volume = 7,38

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

9.29.11 DATE | Jason Moss PRINT | SIGNATURE

APPENDIX B

SEPTEMBER 2011 QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORT

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 13, 2011

Angela Bown
COP Conestoga-Rovers & Associa
6121 Indian School Rd
#200
Albuquerque, NM 87110

RE: Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Dear Angela Bown:
Enclosed are the analytical results for sample(s) received by the laboratory on October 01, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Anna Custer for
Dianna Meier
dianna.meier@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Cassie Brown, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60107338001	**GW-074930-092911-CB-006**	Water	09/29/11 16:05	10/01/11 08:00
60107338002	**GW-074930-092911-CB-007**	Water	09/29/11 16:30	10/01/11 08:00
60107338003	**GW-074930-092911-CB-008**	Water	09/29/11 16:45	10/01/11 08:00
60107338004	**GW-074930-092911-CB-009**	Water	09/29/11 17:00	10/01/11 08:00

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SAMPLE ANALYTE COUNT

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60107338001	**GW-074930-092911-CB-006**	EPA 6010	JDH	1
		SM 2540C	KLB	1
60107338002	**GW-074930-092911-CB-007**	EPA 6010	JDH	1
		SM 2540C	KLB	1
60107338003	**GW-074930-092911-CB-008**	EPA 6010	JDH	1
		SM 2540C	KLB	1
60107338004	**GW-074930-092911-CB-009**	EPA 6010	JDH	1
		SM 2540C	KLB	1

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PROJECT NARRATIVE

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 13, 2011

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 13, 2011

General Information:
4 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Sample: GW-074930-092911-CB-006 **Lab ID: 60107338001** Collected: 09/29/11 16:05 Received: 10/01/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**218**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 17:17	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1020**	mg/L	5.0	5.0	1		10/04/11 10:33		

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ANALYTICAL RESULTS

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Sample: GW-074930-092911-CB-007 **Lab ID: 60107338002** Collected: 09/29/11 16:30 Received: 10/01/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**439**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 17:20	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1370**	mg/L	5.0	5.0	1		10/04/11 10:33		

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ANALYTICAL RESULTS

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Sample: GW-074930-092911-CB-008 **Lab ID: 60107338003** Collected: 09/29/11 16:45 Received: 10/01/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**137**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 17:22	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**868**	mg/L	5.0	5.0	1		10/05/11 11:37		

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ANALYTICAL RESULTS

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Sample: GW-074930-092911-CB-009 **Lab ID: 60107338004** Collected: 09/29/11 17:00 Received: 10/01/11 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**102**	ug/L	5.0	0.90	1	10/03/11 13:37	10/04/11 17:24	7439-96-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**724**	mg/L	5.0	5.0	1		10/05/11 11:38		

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QUALITY CONTROL DATA

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

QC Batch: MPRP/15526 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60107338001, 60107338002, 60107338003, 60107338004

METHOD BLANK: 885398 Matrix: Water
Associated Lab Samples: 60107338001, 60107338002, 60107338003, 60107338004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/04/11 16:56	

LABORATORY CONTROL SAMPLE: 885399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	969	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885400 885401

Parameter	Units	60107270001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	789	1000	1000	1750	1720	96	93	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

QC Batch: WET/31312 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60107338001, 60107338002

METHOD BLANK: 885645 Matrix: Water
Associated Lab Samples: 60107338001, 60107338002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/04/11 10:30	

SAMPLE DUPLICATE: 885646

Parameter	Units	60107201002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1540	1550	0	17	

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QUALITY CONTROL DATA

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

QC Batch: WET/31340 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60107338003, 60107338004

METHOD BLANK: 886301 Matrix: Water
Associated Lab Samples: 60107338003, 60107338004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	10/05/11 11:35	

SAMPLE DUPLICATE: 886302

Parameter	Units	60107419001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1010	1030	1	17	

SAMPLE DUPLICATE: 886303

Parameter	Units	60107344002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	26000	29200	11	17	

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QUALIFIERS

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SHEPHERD AND KELSEY NO. 1 E
Pace Project No.: 60107338

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60107338001	**GW-074930-092911-CB-006**	EPA 3010	MPRP/15526	EPA 6010	ICP/13479
60107338002	**GW-074930-092911-CB-007**	EPA 3010	MPRP/15526	EPA 6010	ICP/13479
60107338003	**GW-074930-092911-CB-008**	EPA 3010	MPRP/15526	EPA 6010	ICP/13479
60107338004	**GW-074930-092911-CB-009**	EPA 3010	MPRP/15526	EPA 6010	ICP/13479
60107338001	**GW-074930-092911-CB-006**	SM 2540C	WET/31312		
60107338002	**GW-074930-092911-CB-007**	SM 2540C	WET/31312		
60107338003	**GW-074930-092911-CB-008**	SM 2540C	WET/31340		
60107338004	**GW-074930-092911-CB-009**	SM 2540C	WET/31340		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	CRA	Report To:	Christine Mathews	Attention:	ENFOS
Address:	6121 Indian School Rd NE, Ste 200	Copy To:	Kelly Blanchard, Angela Bown	Company Name:	
	Albequerque, NM 87110			Address:	
Email To:	cmathews@craworld.com	Purchase Order No.:		Pace Quote Reference:	
Phone: (505)884-0672	Fax: (505)884-4932	Project Name:	Shepherd and Kelsey No. 1	Pace Project Manager:	Colleen Koporc
Requested Due Date/TAT:	standard	Project Number:	074930	Pace Profile #:	5341, 4

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Requested Analysis Filtered (Y/N)

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6010 Dissolved Mn	8260 BTEX	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074930-092911-CB-006	WT	G			9.29.11	1605		5	X		X	X		3			Y	X	X	X		001
2	GW-074930-092911-CB-007	WT	G			9.29.11	1630		5	X		X	X						X	X	X		002
3	GW-074930-092911-CB-008	WT	G			9.29.11	1645		5	X		X	X						X	X	X		003
4	GW-074930-092911-CB-009	WT	G			9.29.11	1700		5	X		X	X						X	X	X		004
5	GW-074930-092911-CB-010	WT	G			9.29.11	1705		3				X		3					X			005
6	TB-092911-001	WT				9.29.11	1715		2				X		2					X			006
7																							
8																							
9																							
10																							
11																							
12																							

Pace Project No./ Lab I.D.: Gor07339

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Include MDLs on report, - J-flag		9.30.11	0730		10-1-11	0800	4.0	Y	Y	X
Metals were filtered in field										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jason Hoss

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9.30.11

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Sample Condition Upon Receipt

Pace Analytical® www.pacelabs.com

Client Name: CRA Project # 60007338

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 876800246738 Pace Shipping Label Used? ☐ Yes ☑ No

Optional: Proj. Due Date: 10/13/11 Proj. Name:

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ZIP

Thermometer Used: (T-191) / T-194 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 4.0

Temperature should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: PC 10-1-11

Chain of Custody present:	☑Yes	☐No	☐N/A
Chain of Custody filled out:	☑Yes	☐No	☐N/A
Chain of Custody relinquished:	☑Yes	☐No	☐N/A
Sampler name & signature on COC:	☑Yes	☐No	☐N/A
Samples arrived within holding time:	☑Yes	☐No	☐N/A
Short Hold Time analyses (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A
Sufficient volume:	☑Yes	☐No	☐N/A
Correct containers used:	☑Yes	☐No	☐N/A
-Pace containers used:	☑Yes	☐No	☐N/A
Containers intact:	☑Yes	☐No	☐N/A
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A
Filtered volume received for dissolved tests	☐Yes	☐No	☑N/A
Sample labels match COC: -Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No	
Trip Blank present: Pace Trip Blank lot # (if purchased): 092211-3	☑Yes	☐No	☐N/A
Headspace in VOA vials (>6mm):	☐Yes	☑No	☐N/A
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. List State:

Initial when completed ____ Lot # of added preservative ____

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: JKM Date: 10/3/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)