3R - 098

JUNE 2011 GWMR

12 / 08 / 2011

CONESTOGA-ROVERS
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December 8, 2011

Reference No. 074929,
074926,
074928,
074932,
074930

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

Re: Faye Berdette No. 1 Quarterly Groundwater Monitoring Report - June 2011
Flora Vista No. 1 Quarterly Groundwater Monitoring Report - June 2011 3R-173
Howell K No. 1 Quarterly Groundwater Monitoring Report - June 2011
Sategna No. 2E Quarterly Groundwater Monitoring Report - June 2011
Shepherd & Kelsey No. 1E Quarterly Groundwater Monitoring Report - June 2011 3R-098

Dear Mr. von Gonten:

Enclosed, please find a copy of the above-referenced documents as compiled by Conestoga-Rovers and Associates, Inc.

If you have any questions or require additional information, please contact me at (505) 884-0672 or keblanchard@craworld.com.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager

KB/cd/1
Encl.

cc: Brandon Powell, NMOCD
Terry Lauck, ConocoPhillips (electronic only)
Rose Carter, Landowner (Flora Vista No. 1 only)

JUNE 2011 QUARTERLY GROUNDWATER MONITORING REPORT

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

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

Prepared For:

CONOCOPHILLIPS COMPANY

Risk Management and Remediation

420 South Keeler Avenue

Bartlesville, OK, 74004

DECEMBER 2011
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1.0 INTRODUCTION

This report presents the results of a quarterly groundwater monitoring event conducted by Conestoga-Rovers & Associates (CRA) on June 23, 2011, at the ConocoPhillips Company (ConocoPhillips) Shepherd & Kelsey No. 1E site in Bloomfield, San Juan County, New Mexico (Site). This sampling event represents the eleventh 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 well head 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 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 of Albuquerque, NM 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 June 23, 2011. This monitoring event represents the first 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 a dual 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 June 23, 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 a CRA Well Sampling Field Information Form (**Appendix A**). The groundwater samples were placed in laboratory prepared

bottles, packed on ice, and shipped with chain-of-custody documentation to Accutest Laboratories in Houston, Texas. Samples were analyzed for dissolved manganese by EPA Method 6010B; and total dissolved solids (TDS) by EPA Method 2540C.

2.3 GROUNDWATER MONITORING ANALYTICAL RESULTS

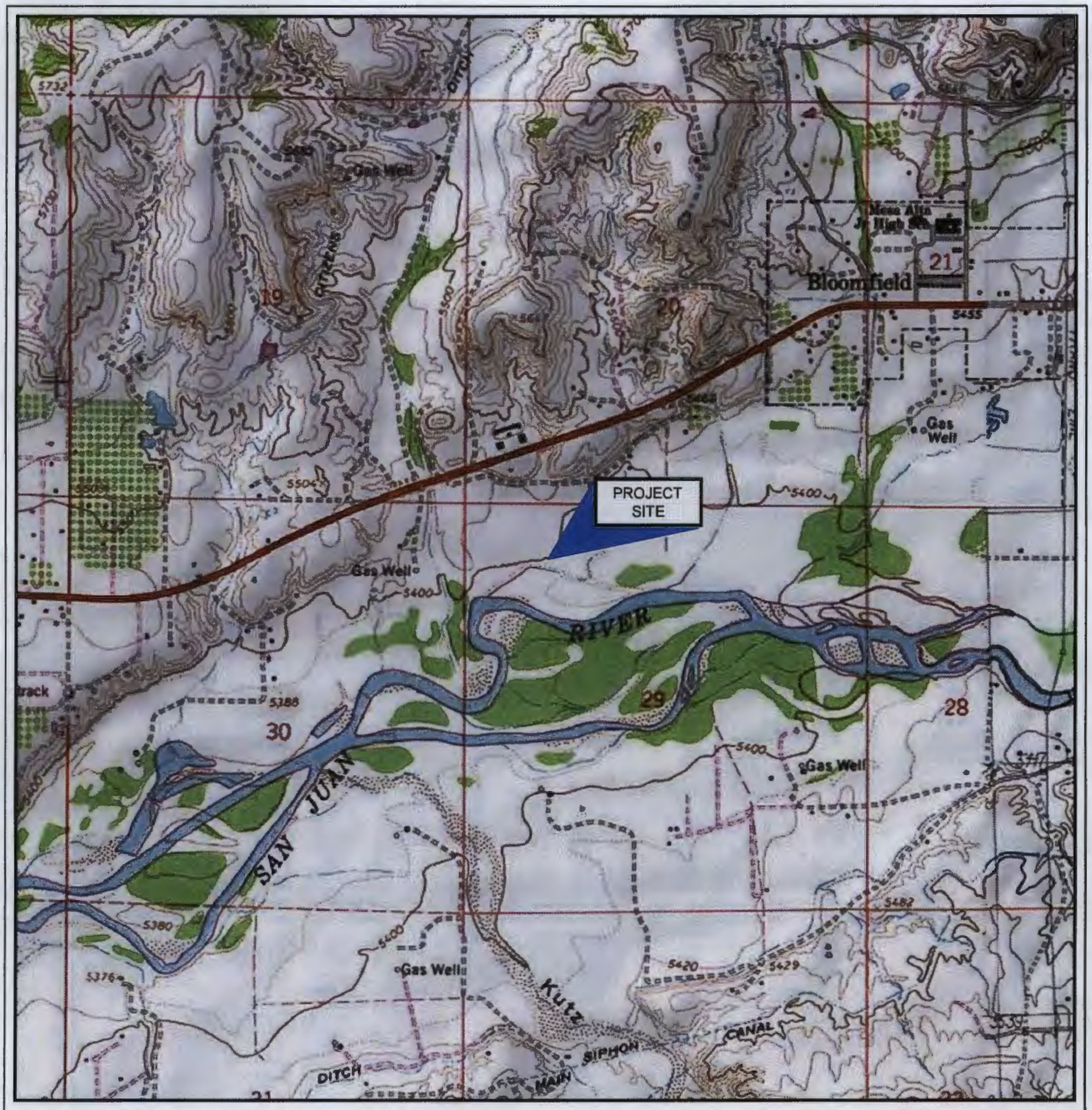
The NMWQCC mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). A historical summary of groundwater analytical results is provided in **Table 3**. 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 June 23, 2011 from Monitor Well MW-2 and MW-4 were found to contain dissolved manganese at concentrations of 0.25 mg/L and 0.468 mg/L, respectively.
- **TDS**
    - The groundwater quality standard for TDS is 1000 mg/L. Groundwater samples collected on June 23, 2011 from Monitor Well MW-2 and Monitor Well MW-4 were found at concentrations of 1,150 mg/L and 1,530 mg/L, respectively.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The June 2011 monitoring event represents the first quarter of groundwater monitoring with BTEX analysis discontinued for all four Site monitor wells; however, during this latest monitoring period, two wells (MW-2 and MW-4) revealed dissolved manganese and TDS concentrations above the NMWQCC standard. In order to move toward Site closure with NMOCD, continued groundwater quality monitoring is recommended for TDS and dissolved manganese to determine if seasonal trends are influencing Site groundwater quality and if the levels appear to be stable and/or at background concentrations. The next groundwater monitoring event is scheduled for September 2011.

FIGURES



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

N

0 1000 2000ft

Figure 1

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

CRA

074930-95(002)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(002)GN-DL001 DEC 6/2011

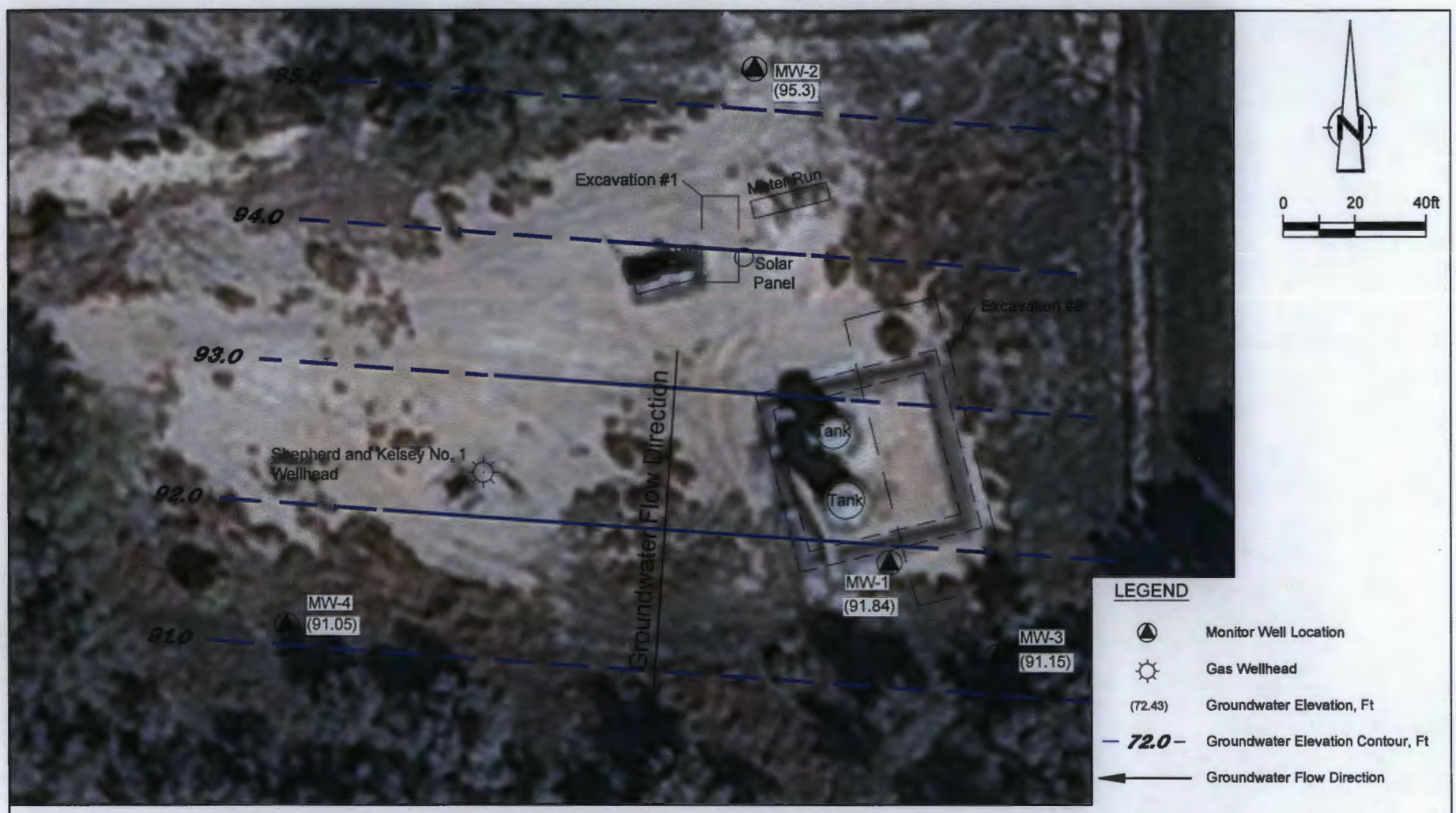


Figure 3

JUNE 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(002)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 eleventh quarterly groundwater monitoring event at the Site (sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4). This is the first quarterly groundwater monitoring event with BTEX analysis discontinued.

TABLE 2
MONITORING WELL SPECIFICATIONS & GROUNDWATER ELEVATIONS
JANUARY 2009 - JUNE 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	5.7	90.83
				4/1/2009	5.9	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	5.1	91.43
				12/14/2010	4.76	91.77
				3/14/2011	5.42	91.11
				6/23/2011	4.69	91.84
MW-2	20.3	98.05	3-18	1/30/2009	5.41	92.64
				4/1/2009	5.78	92.27
				6/18/2009	2.5	95.55
				9/21/2009	4.6	93.45
				12/14/2009	4.99	93.06
				3/31/2010	5.53	92.52
				6/7/2010	2.7	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	95.3
MW-3	20.1	95.6	3-18	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	5.3	90.3
				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
MW-4	20.7	96.23	3.7-18.7	1/30/2009	6.33	89.9
				4/1/2009	6.4	89.83
				6/18/2009	5.51	90.72
				9/21/2009	6.13	90.1
				12/14/2009	5.91	90.32
				3/31/2010	6.1	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

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 - JUNE 2011
CONOCOPHILLIPS
SHEPHERD & KELSEY NO. 1E

Well ID	Date	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Aluminum (dissolved) (mg/L)*	*Aluminum (mg/L)*	*Iron (dissolved) (mg/L)*	*Iron (mg/L)*	*Manganese (dissolved) (mg/L)*	*Manganese (mg/L)*	*Sulfate (mg/L)*	*Total dissolved solids (TDS) (mg/L)*
NMWQCC Groundwater Quality Standards		**0.01**	**0.75**	**0.75**	**0.62**	**5**	**NE**	**1.0**	**NE**	**0.2**	**NE**	**600**	**1000**
MW-1	9/26/2007	0.0004	0.0004	0.0005	0.0011	--	--	--	--	--	--	--	--
	10/23/2008	<0.005	<0.005	<0.005	<0.005	--	--	--	2.59	--	0.417	438	--
	1/30/2009	<0.005	<0.005	<0.005	<0.005	--	0.658	--	1.45	--	0.276	303	692
	4/1/2009	<0.005	<0.005	<0.005	<0.005	--	1.19	--	1.9	--	0.416	258	**1340**
	6/18/2009	<0.005	<0.005	<0.005	<0.005	--	0.187	--	0.209	--	--	--	--
	9/21/2009	<0.001	<0.001	<0.001	<0.002	<0.1	--	0.0458	--	0.0356	--	324	700
	12/14/2009	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.0539	--	--	661
	3/31/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.0662	--	--	697
	6/7/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.0599	--	--	778
	9/29/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.117	--	--	853
	12/14/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.102	--	--	770
	3/14/2011	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.117	--	--	782
	6/23/2011	--	--	--	--	--	--	--	--	0.0963	--	--	828
MW-2	1/30/2009	<0.005	<0.005	<0.005	<0.005	--	11.3	--	22.4	--	2.06	**706**	**1130**
	4/1/2009	<0.005	<0.005	<0.005	<0.005	--	4.39	--	11.3	--	0.964	**613**	**1420**
	6/18/2009	<0.005	<0.005	<0.005	<0.005	--	2.38	--	4.01	--	--	--	--
	9/21/2009	<0.001	<0.001	<0.001	<0.002	<0.1	--	<0.02	--	0.158	--	421	740
	12/14/2009	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.106	--	--	764
	3/31/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.144	--	--	804
	6/7/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.152	--	--	826
	9/29/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.212**	--	--	**1090**
	12/14/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.194	--	--	**1120**
	3/14/2011	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.242**	--	--	1000
	6/23/2011	--	--	--	--	--	--	--	--	**0.25**	--	--	**1150**
MW-3	1/30/2009	<0.005	<0.005	<0.005	<0.005	--	4.34	--	5.77	--	0.675	427	918
	4/1/2009	<0.005	<0.005	<0.005	<0.005	--	1.45	--	3.00	--	0.615	416	**1010**
	6/18/2009	<0.005	<0.005	<0.005	<0.005	--	0.67	--	1.57	--	--	--	--
	9/21/2009	<0.001	<0.001	<0.001	<0.002	<0.1	--	<0.02	--	0.115	--	359	733
	12/14/2009	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.154	--	--	712
	3/31/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.219**	--	--	898
	6/7/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.132	--	--	841
	9/29/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.147	--	--	849
	12/14/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.161	--	--	835
	3/14/2011	<0.001	<0.001	<0.001	<0.001	--	--	--	--	0.156	--	--	882
	6/23/2011	--	--	--	--	--	--	--	--	0.168	--	--	869

TABLE 3
GROUNDWATER ANALYTICAL RESULTS SUMMARY
SEPTEMBER 2007 - JUNE 2011
CONOCOPHILLIPS
SHEPHERD & KELSEY NO. 1E

Well ID	Date	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Aluminum (dissolved) (mg/L)*	*Aluminum (mg/L)*	*Iron (dissolved) (mg/L)*	*Iron (mg/L)*	*Manganese (dissolved) (mg/L)*	*Manganese (mg/L)*	*Sulfate (mg/L)*	*Total dissolved solids (TDS) (mg/L)*
NMWQCC Groundwater Quality Standards		**0.01**	**0.75**	**0.75**	**0.62**	**5**	**NE**	**1.0**	**NE**	**0.2**	**NE**	**600**	**1000**
MW-4	1/30/2009	<0.005	<0.005	<0.005	<0.005	--	7.29	--	19.4	--	16.7	539	1000
	4/1/2009	<0.005	<0.005	<0.005	<0.005	--	11.4	--	23.4	--	3.36	512	**1010**
	6/18/2009	<0.005	<0.005	<0.005	<0.005	--	0.344	--	0.362	--	--	--	--
	9/21/2009	<0.001	<0.001	<0.001	<0.002	<0.1	--	0.0376	--	**0.286**	--	472	963
	12/14/2009	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.283**	--	--	861
	3/31/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.336**	--	--	1000
	6/7/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.373**	--	--	**1300**
	9/29/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.571**	--	--	**1720**
	12/14/2010	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.514**	--	--	**1580**
	3/14/2011	<0.001	<0.001	<0.001	<0.001	--	--	--	--	**0.602**	--	--	**1810**
	6/23/2011	--	--	--	--	--	--	--	--	**0.468**	--	--	**1530**

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. NE = not established

APPENDIX A

JUNE 2011 QUARTERLY GROUNDWATER SAMPLING FIELD FORMS

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Shepherd & Kelsey No. 1E **JOB#** 74930

SAMPLE ID: GW-74930-062311-PG 02 **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)
6.23.11	6.23.11	1015	1.15	4.25

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER	4.69	(feet)	WELL ELEVATION	96.53	(feet)
WELL DEPTH	11.92	(feet)	GROUNDWATER ELEVATION	91.84	(feet)

TEMPERATURE (°C)	pH (std)	TDS (g/L)	CONDUCTIVITY (µS/cm)	ORP (mV)	VOLUME (gal)
16.14	7.46		3015	32.9	3.25
16.05	7.35		3003	33.2	3.75
15.83	7.31		2982	33.6	4.25

FIELD COMMENTS

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

WEATHER CONDITIONS: TEMPERATURE ~86° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

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

DATE: 6.23.11 PRINT: [signature] SIGNATURE: [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Shepherd + Kelsey No. 1E JOB# 74930

SAMPLE ID: GW-74930-062311-PG-01 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)
6.23.11	6.23.11	0940	2.75	8.5

PURGING AND SAMPLING EQUIPMENT

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

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 2.75 (feet) WELL ELEVATION 98.05 (feet)

WELL DEPTH 19.98 (feet) GROUNDWATER ELEVATION 95.30 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
14.8 (°C)	7.19 (std)	(g/L)	3476 (µS/cm)	70.1 (mV)	7.0 (gal)
14.90 (°C)	7.25 (std)	(g/L)	3955 (µS/cm)	46.3 (mV)	7.5 (gal)
13.94 (°C)	7.24 (std)	(g/L)	3873 (µS/cm)	30.1 (mV)	8.0 (gal)
13.67 (°C)	7.20 (std)	(g/L)	3830 (µS/cm)	22.7 (mV)	8.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: — COLOR: gray brown SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~80° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS:

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

DATE	PRINT	SIGNATURE
6.23.11	Robbie Brown	Robbie Brown

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Shepherd + Kelsey No. 1E JOB# 74930

SAMPLE ID: GW-074930-062311-PG-03 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)
6.23.11	6.23.11	1030	2.5	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 - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

DEPTH TO WATER 4.45 (feet) WELL ELEVATION 95.6 (feet)

WELL DEPTH 20.12 (feet) GROUNDWATER ELEVATION 91.15 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
14.88 (°C)	7.41 (std)	(g/L)	3044 (µS/cm)	30.9 (mV)	7.0 (gal)
14.75 (°C)	7.27 (std)	(g/L)	3028 (µS/cm)	22.2 (mV)	7.5 (gal)
14.44 (°C)	7.23 (std)	(g/L)	3011 (µS/cm)	18.3 (mV)	8.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: ✓ COLOR: clear SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~80° WINDY Y/(N) PRECIPITATION Y/(N) IF Y TYPE)

SPECIFIC COMMENTS:

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

6.23.11 Cassie Brown Cassie Brown

DATE PRINT SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

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

SAMPLE ID: GW-074930-062311-PG-04 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)
6.23.11	6.23.11	1045	2.43	7.5

PURGING AND SAMPLING EQUIPMENT

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

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

FIELD MEASUREMENTS

DEPTH TO WATER 5.18 (feet) WELL ELEVATION 96.23 (feet)

WELL DEPTH 20.4 (feet) GROUNDWATER ELEVATION 91.05 (feet)

TEMPERATURE	pH	TDS	CONDUCTIVITY	ORP	VOLUME
13.83 (°C)	7.23 (std)	(g/L)	4755 (µS/cm)	20.4 (mV)	6.5 (gal)
13.95 (°C)	7.18 (std)	(g/L)	4765 (µS/cm)	17.6 (mV)	7.0 (gal)
13.96 (°C)	7.17 (std)	(g/L)	4764 (µS/cm)	14.8 (mV)	7.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: - COLOR: clear SHEEN Y/(N)

WEATHER CONDITIONS: TEMPERATURE ~80° WINDY Y/(N) PRECIPITATION Y/(N) (IF Y TYPE)

SPECIFIC COMMENTS: First 2.5 gallons of purge ~~water~~ was reddish brown in color.

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

DATE	PRINT	SIGNATURE
6.23.11	Chris Brown	Chris Brown

APPENDIX B

JUNE 2011 QUARTERLY GROUNDWATER LABORATORY ANALYTICAL REPORT

Gulf Coast ACCUTEST LABORATORIES

07/20/11

Technical Report for

Conoco Phillips

Shephard Kelsey #1E

Shephard Kelsey #1E

Accutest Job Number: T79674

Sampling Date: 06/23/11

Report to:

Tetra Tech, Inc.

keblanchard@craworld.com
christine.mathews@tetratech.com; cassandre.brown@tetratech.com
ATTN: Kelly Blanchard

Total number of pages in report: **25**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Erica Cardenas 713-271-4700

Certifications: TX (T104704220-10-3) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103)

Test results relate only to samples analyzed.

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Sample Summary

Conoco Phillips

Job No: T79674

Shephard Kelsey #1E
Project No: Shephard Kelsey #1E

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
T79674-1	06/23/11	09:40	06/25/11	AQ	Ground Water	GW-74930-062311-PG-01
T79674-1F	06/23/11	09:40	06/25/11	AQ	Groundwater Filtered	GW-74930-062311-PG-01
T79674-2	06/23/11	10:15	06/25/11	AQ	Ground Water	GW-74930-062311-PG-02
T79674-2F	06/23/11	10:15	06/25/11	AQ	Groundwater Filtered	GW-74930-062311-PG-02
T79674-3	06/23/11	10:30	06/25/11	AQ	Ground Water	GW-74930-062311-PG-03
T79674-3F	06/23/11	10:30	06/25/11	AQ	Groundwater Filtered	GW-74930-062311-PG-03
T79674-4	06/23/11	10:45	06/25/11	AQ	Ground Water	GW-74930-062311-PG-04
T79674-4F	06/23/11	10:45	06/25/11	AQ	Groundwater Filtered	GW-74930-062311-PG-04

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-01		
Lab Sample ID:	T79674-1	**Date Sampled:**	06/23/11
Matrix:	AQ - Ground Water	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	1150	10	mg/l	1	06/28/11	BG	SM 2540C

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-01		
Lab Sample ID:	T79674-1F	**Date Sampled:**	06/23/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	250	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-02		
Lab Sample ID:	T79674-2	**Date Sampled:**	06/23/11
Matrix:	AQ - Ground Water	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	828	10	mg/l	1	06/28/11	BG	SM 2540C

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-02		
Lab Sample ID:	T79674-2F	**Date Sampled:**	06/23/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	96.3	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-03		
Lab Sample ID:	T79674-3	**Date Sampled:**	06/23/11
Matrix:	AQ - Ground Water	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	869	10	mg/l	1	06/28/11	BG	SM 2540C

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-03		
Lab Sample ID:	T79674-3F	**Date Sampled:**	06/23/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	168	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-04		
Lab Sample ID:	T79674-4	**Date Sampled:**	06/23/11
Matrix:	AQ - Ground Water	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	1530	10	mg/l	1	06/28/11	BG	SM 2540C

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	GW-74930-062311-PG-04		
Lab Sample ID:	T79674-4F	**Date Sampled:**	06/23/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/25/11
		Percent Solids:	n/a
Project:	Shephard Kelsey #1E		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Manganese	468	15	ug/l	1	07/04/11	07/05/11	EG	SW846 6010B [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5891
(2) Prep QC Batch: MP15156

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

Accutest Gulf Coast/SPL Environmental
10165 Harwin Drive, Suite 150, Houston, TX 77036
TEL.713-271-4700 FAX: 713-271-4770
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: T79674

Client / Reporting Information

Company Name: ~~Tetra Tech, Inc.~~ CRA
Street Address: 6121 Indian School Rd. NE, Ste. 200
City: Albuquerque State: NM Zip: 87110
Project Contact: Kelly Blanchard E-mail: ~~kelly.blanchard@tetratech.com~~ kblanchard@craworld.com
Phone #: ~~505-237-8440~~ 505-884-0672 Fax #: 505-237-8656
Sampler(s) Name(s): Phone #:

Project Information

Project Name: Shephard Kelsey #1E
Street:
City: State:
Project #: 74930
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name: ConocoPhillips
Street Address: 1358 Phillips Bldg., 420 S. Keeler Ave.
City: Bartlesville State: OK Zip: 74004
Attention: Terry Lauck

Requested Analyses

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	Dissolved Mn	TDS	LAB USE ONLY
1	GW-74930-062311-PG-01	6.23.11		GW	2						X							X	X	
2	GW-74930-062311-PG-02	6.23.11		GW	2						X							X	X	
3	GW-74930-062311-PG-03	6.23.11		GW	2						X							X	X	
4	GW-74930-062311-PG-04	6.23.11		GW	2						X							X	X	

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [x] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3 & 4)
- [ ] REDT1 (Level 3 & 4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

~~(TAL) Ba, Be, As, Ba, Cd, Cr, Co, Cu, Pb, Mg, Mo, Ni, Se, Ag, Zn, Hg~~
Please filter and preserve metals @ lab.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	6.23.11 1920	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp.
5		5	☐ Intact ☐ Not Intact	☐	☐

3.1 3

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: T79674 **Client:** CRA **Project:** SHEPHARD KELSEY #1E

Date / Time Received: 6/25/2011 **Delivery Method:** FedEx **Airbill #'s:** 4868-9990-4644

No. Coolers: 1 **Therm ID:** IRGUN4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (5.6/5.5);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☐		☑

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		

Quality Control Preservation	Y	or	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐		☐	☑	☐	☐
2. Trip Blank listed on COC:	☐		☐	☑		
3. Samples preserved properly:	☑		☐			
4. VOCs headspace free:	☐		☐	☑		

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☐		☑

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments NO TIMES ON C.O.C. ONLY BOTTLES
SAMPLE #1 @ 9:40
SAMPLE #2 @10:15
SAMPLE #3 @ 10:30
SAMPLE #4 @ 10:45

6/25/11

Accutest Laboratories
V:713.271.4700

10165 Harwin Drive
F: 713.271.4770

Houston, TX 77036
www.accutest.com

T79674: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES

Sample Receipt Log

Job #: T79674 **Date / Time Received:** 6/25/2011 10:55:00 AM **Initials:** BG

Client: CRA

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	T79674-1	500 ml	1	1BB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-1	500 ml	2	3A	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-2	500 ml	1	1BB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-2	500 ml	2	3A	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-3	500 ml	1	1BB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-3	500 ml	2	3A	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-4	500 ml	1	1BB	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5
1	T79674-4	500 ml	2	3A	N/P	Note #2 - Preservative check not applicable.	IRGUN4	5.6	-0.1	5.5

3.1

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T79674: Chain of Custody
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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	12		
Antimony	5.0	1	1		
Arsenic	5.0	1.7	1		
Barium	200	.97	3.4		
Beryllium	5.0	.056	.16		
Boron	100	1.4	7.8		
Cadmium	4.0	.11	.09		
Calcium	5000	7.4	25		
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	25	1.1	5.9		
Iron	100	1.1	23		
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9		
Manganese	15	.054	1.9	0.33	<15
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45		
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100		
Strontium	10	.061	.4		
Thallium	10	.67	1.2		
Tin	20	.69	2.8		
Titanium	20	.29	.3		
Vanadium	50	.3	.3		
Zinc	20	.51	3.5		

Associated samples MP15156: T79674-1F, T79674-2F, T79674-3F, T79674-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11 07/04/11

Metal	T79629-1F Original	DUP	RPD	QC Limits	T79629-1F Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	46.0	46.3	0.7	0-20	46.0	434	400	97.0	80-120
Molybdenum									
Nickel									
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP15156: T79674-1F, T79674-2F, T79674-3F, T79674-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	T79629-1F Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper						
Iron	anr					
Lead	anr					
Lithium						
Magnesium	anr					
Manganese	46.0	432	400	96.5	0.5	20
Molybdenum						
Nickel						
Potassium						
Selenium	anr					
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP15156: T79674-1F, T79674-2F, T79674-3F, T79674-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	BSP Result	Spikelot MPTW4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	anr			
Lithium				
Magnesium	anr			
Manganese	395	400	98.8	80-120
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP15156: T79674-1F, T79674-2F, T79674-3F, T79674-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

QC Batch ID: MP15156
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/04/11

Metal	T79629-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron	anr			
Lead	anr			
Lithium				
Magnesium	anr			
Manganese	46.0	50.8	10.6*(a)	0-10
Molybdenum				
Nickel				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP15156: T79674-1F, T79674-2F, T79674-3F, T79674-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

Gulf Coast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN32476	10	0.0	mg/l	500	486	97.2	80-120%

Associated Samples:
Batch GN32476: T79674-1, T79674-2, T79674-3, T79674-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T79674
Account: CONOCO - Conoco Phillips
Project: Shephard Kelsey #1E

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN32476	T79399-1	mg/l	998	1000	0.2	0-5%

Associated Samples:
Batch GN32476: T79674-1, T79674-2, T79674-3, T79674-4
(*) Outside of QC limits