3R - 434

2013 AGWMR

03 / 21 / 2014

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ConocoPhillips

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

March 21, 2014

Re: NMOCD Case No. 3RP-434, 2013 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2013 Annual Groundwater Monitoring Report for the Faye Burdette No. 1 site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of groundwater monitoring conducted during September 2013.

Please let me know if you have any questions.

Sincerely,

Terry S. Lauck

Enc

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Report

2013 Annual Groundwater Monitoring Report

ConcoPhillips Faye Burdette No. 1
San Juan County, New Mexico
API# 30-045-09725
NMOCD# 3R-434

Prepared for: ConocoPhillips Risk Management and Remediation

Conestoga-Rovers & Associates
6121 Indian School Road, NE Suite 200
Albuquerque, New Mexico 87110

January 2014 • 074929 • Report No. 5

Partners in Sustainability

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Section 1.0 Introduction

This report presents the results of annual groundwater monitoring completed by Conestoga-Rovers & Associates (CRA) on September 16, 2013, at the ConocoPhillips Company (ConocoPhillips) Faye Burdette No. 1 site, located on private land in Unit Letter G, Section 9, Township 30N, Range 11W of San Juan County, New Mexico (Site). Geographical coordinates for the Site are 36° 49' 47.71" North, 107° 59' 31.50" West. This event represents the first annual sampling event conducted at the Site, which follows 12 consecutive quarterly groundwater sampling events at the Site.

The Site is located near the intersection of Highway 550 and Pioneer Avenue in Aztec, NM. The Site consists of a gas wellhead and associated equipment and installations. The location and general features of the Site are presented as **Figures 1** and **2**, respectively. A generalized geologic cross section of the Site is included as **Figure 3**.

1.1 Background

The Faye Burdette No. 1 wellhead was spudded by Southwest Production Company in April 1962. Ownership was transferred to Beta Development Company in September 1963 and again to Mesa Operating Limited Partnership in August 1988. Conoco Inc., predecessor to ConocoPhillips Company, acquired the well in July 1991. A release occurred at the Site in May 2007 from a rusted portion of the produced water tank. Evidence of pre-existing hydrocarbon impacted soil was encountered during excavation, possibly related to a former earthen pit. Temporary Monitor Well MW-1 was drilled by Envirotech in September 2007. Groundwater samples from MW-1 indicated that benzene, toluene, ethylbenzene, and xylenes (BTEX) were below the New Mexico Water Quality Control Commission (NMWQCC) standards.

To complete additional investigation of the Site, as requested by the New Mexico Oil Conservation Division (NMOCD), Monitor Wells MW-2, MW-3, and MW-4 were installed under the supervision of Tetra Tech, Inc. (Tetra Tech) during January 2009. All four monitor wells were incorporated into a quarterly monitoring program that was initiated on January 29, 2009. On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM. Site history is outlined in **Table 1**.

After 10 consecutive quarters of sampling with BTEX constituents below New Mexico Water Quality Control Commission (NMWQCC) standards, BTEX analysis was discontinued following the March 2011 sampling event. Since the September 2011 sampling event, annual monitoring for dissolved manganese only has been conducted.

Section 2.0 Groundwater Monitoring Summary, Methodology, and Analytical Results

2.1 Groundwater Monitoring Summary

Prior to sampling on September 16, 2013, groundwater elevation measurements were obtained for Monitor Wells MW-1, MW-2, MW-3, and MW-4 using an oil/water interface probe. Groundwater elevations are detailed in **Table 2**. A groundwater potentiometric surface map is presented as **Figure 4.** Based on the September 2013 monitoring event data, groundwater flow is to the northwest and is consistent with historical monitoring event records for this Site.

2.2 Groundwater Monitoring Methodology

Monitor Wells MW-1, MW-2, MW-3, and MW-4 were sampled during the September 2013 annual sampling event. Approximately three well volumes were purged from each monitor well with a dedicated, polyethylene, 1.5-inch disposable bailer prior to sampling. Purge water was placed in the on-Site produced water tank. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Pace Analytical Services, Inc. in Lenexa, Kansas. The samples were analyzed for the presence of dissolved manganese according to EPA Method 6010. Groundwater sampling field forms are included as **Appendix A.**

2.3 Groundwater Monitoring Analytical Results

The NMWQCC standard for dissolved manganese is 0.2 milligrams per liter (mg/L). Laboratory analysis of groundwater samples collected during the September 16, 2013 monitoring event revealed that the sample from Monitor Well MW-1 exceeded the NMWQCC standard for dissolved manganese with a concentration of 0.22 mg/L. **Table 3** summarizes the laboratory analytical results for the September 2013 groundwater sampling event. The corresponding laboratory analytical report is included in **Appendix B**.

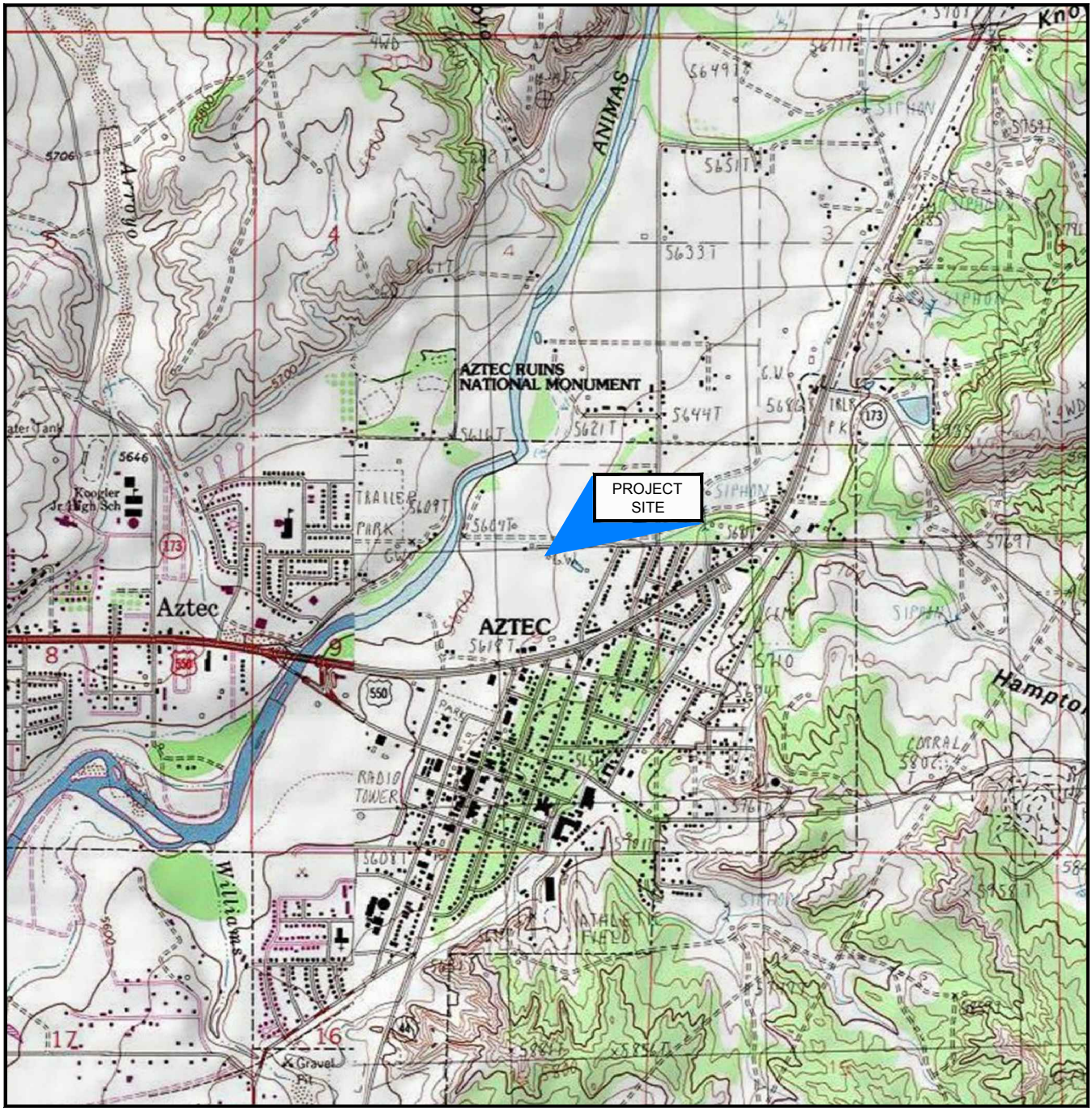
Section 3.0 Conclusions and Recommendations

Analysis for BTEX constituents, which were below both NMWQCC standards and laboratory detection limits for 10 consecutive quarters, was discontinued following the March 2011 sampling event.

Groundwater samples collected from MW-1 have continually exceeded the NMWQCC groundwater quality standard for dissolved manganese from October 2008 to September 2013. The September 16, 2013 sample represents the lowest concentration observed to date in MW-1, at a level approaching the standard.

Since the dissolved manganese concentration in MW-1 was very close to the NMWQCC standard, quarterly groundwater sampling and analysis for dissolved manganese will be initiated in the first quarter of 2014. Remediation Site closure will be requested when groundwater quality results begin to indicate that all monitored groundwater quality parameters are consistently below NMWQCC groundwater quality standards, are stable, or are representative of background conditions at the Site.

Figures



SOURCE: USGS 7.5 MINUTE QUADS
"AZTEC AND FLORA VISTA, NEW MEXICO"

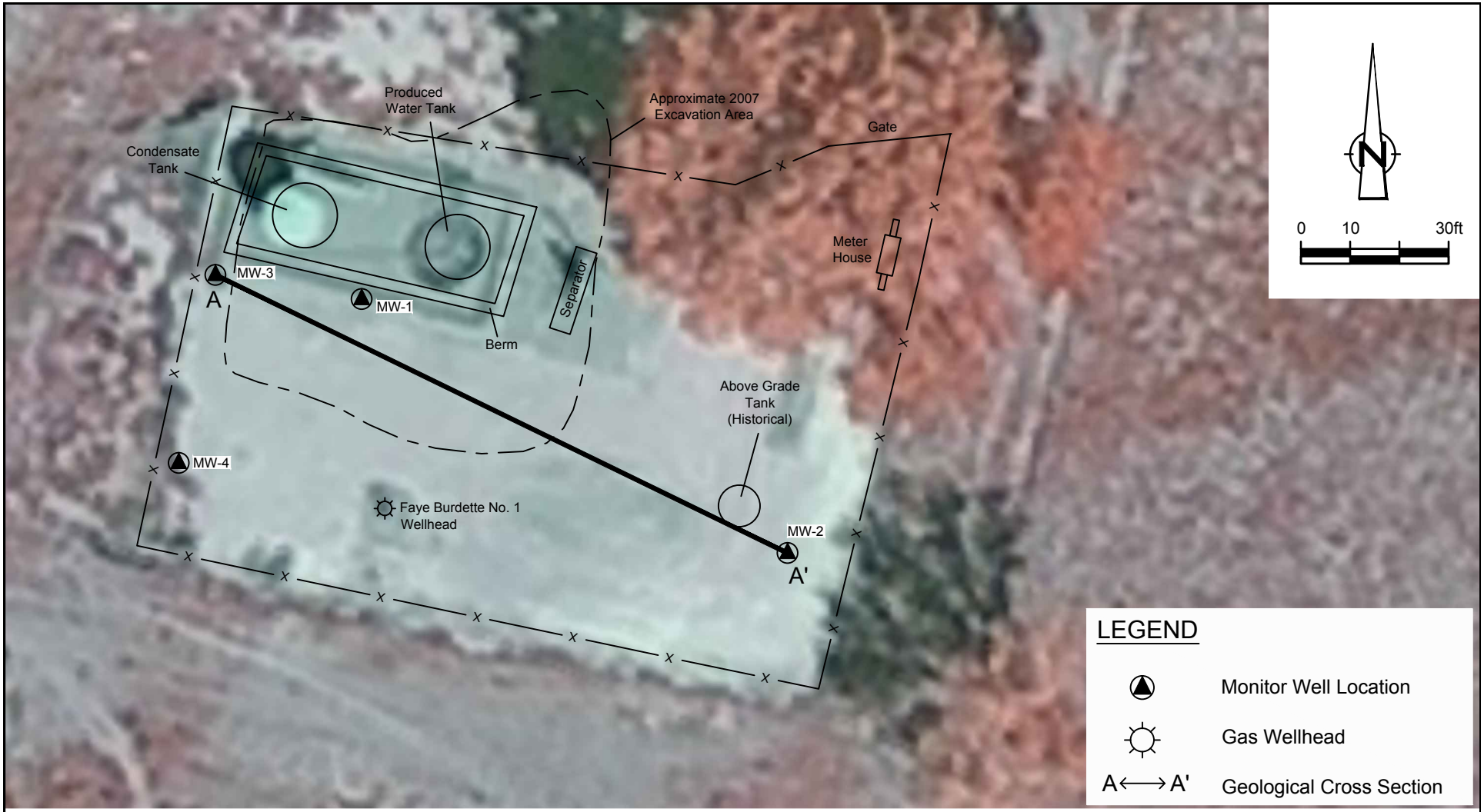
N

0 1000 2000ft

Figure 1

SITE VICINITY MAP
FAYE BURDETTE No. 1 GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074929-95(005)GN-DL005_TOPO DEC 18/2013

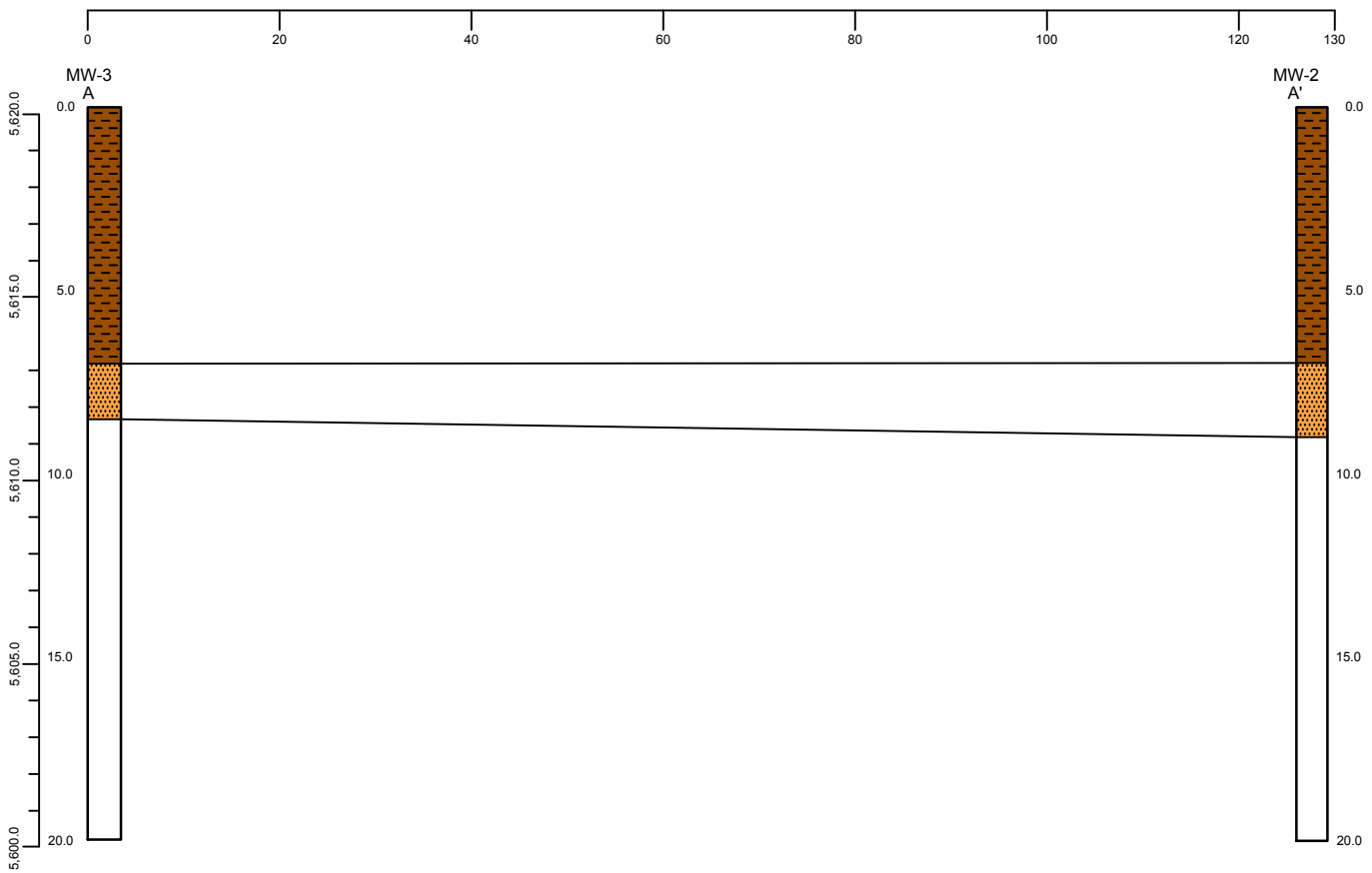


ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE DETAIL MAP
FAYE BURDETTE No. 1 GAS WELL SITE
SECTION 09, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074929-95(005)GN-DL001_SD DEC 18/2013



H: 1"= 20'
V: 1"= 10'

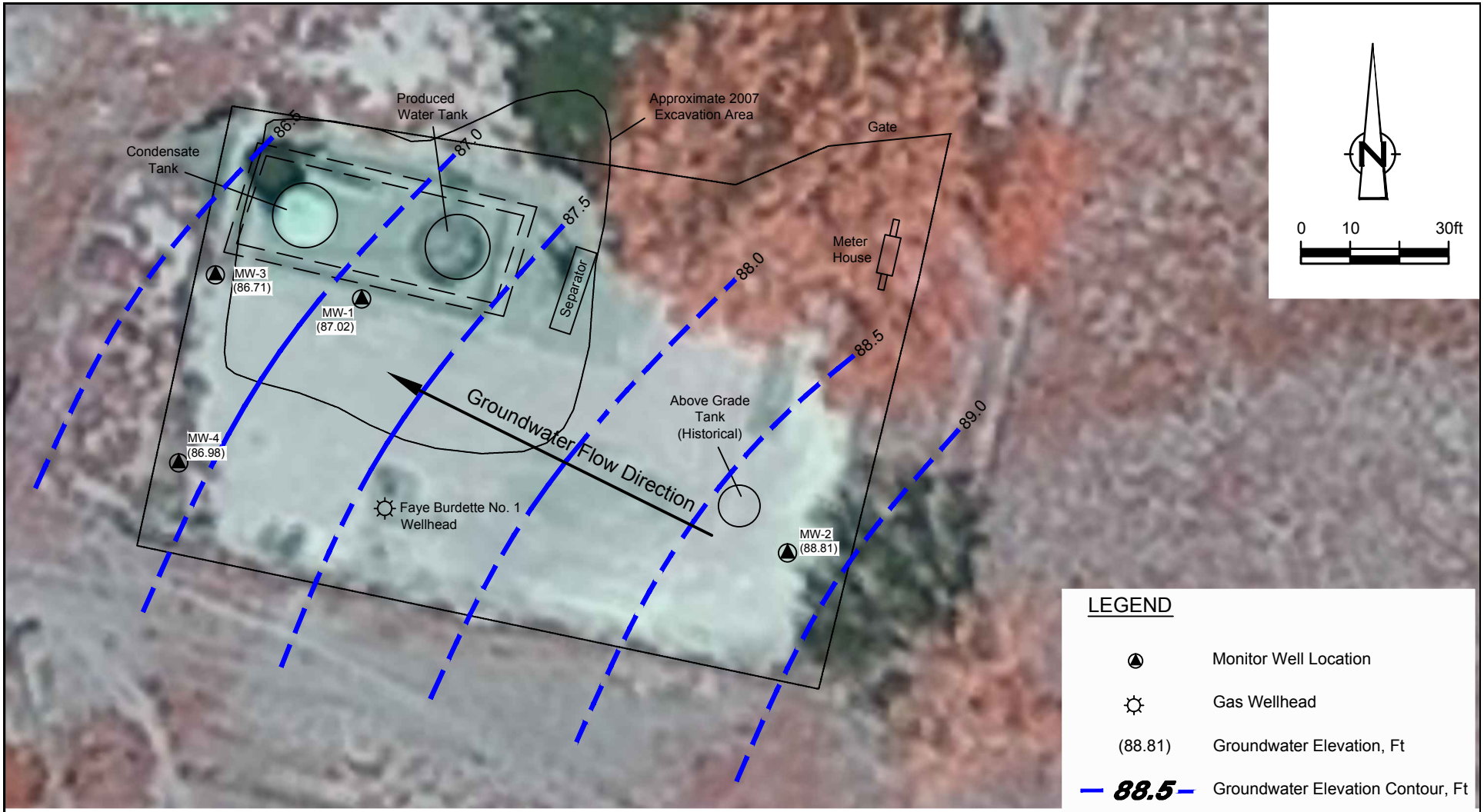
Silty Sand

Medium Grained Sand

Figure 3

GEOLOGICAL CROSS SECTION
FAYE BURDETTE No. 1 GAS WELL SITE
SECTION 09, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074929-95(005)GN-DL002_XSEC DEC 18/2013



ConocoPhillips high resolution aerial imagery 2008.

Figure 4

SEPTEMBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FAYE BURDETTE No. 1 GAS WELL SITE
SECTION 09, T30N-R11W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074929-95(005)GN-DL003_GG DEC 18/2013

Tables

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
FAYE BURDETTE No. 1
SAN JUAN COUNTY, NEW MEXICO

DATE	*Event/Action*	*ACTIVITY*
April 29, 1962	Well spudded	Well was spudded by Southwest Production Company.
September 1, 1963	Ownership transfer	Ownership of well transferred to Beta Development Company.
February 21, 1983	NMOCD inspection	NMOCD inspection noted a leaking 2-inch valve on a storage tank.
August 15, 1988	Ownership transfer	Ownership of well transferred to Mesa Operating Limited Partnership.
July 1, 1991	Ownership transfer	Ownership of well transferred to Conoco Inc.
May 24, 2007	Release from produced water tank	A small (<25 gallons) release occurred from the produced water tank after a rusty spot was scraped off. Follow-up excavation encountered evidence of pre-existing hydrocarbon-impacted soil, apparently related to a former earthen pit beneath the tank.
July 1, 2007	Initial site assessment	Contaminated soil was excavated from the Site. Two ground water samples were obtained at the time of this excavation, and one (1) of these samples was found to contain total xylenes above the State of New Mexico drinking water standard.
September 26, 2007	Monitor well installation/Site assessment	Ground water monitor well installed to a depth of 15 feet below ground surface (bgs) by Envirotech Inc. of Farmington, NM (Envirotech). A soil sample obtained from the well boring was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH). Results were below NMOCD regulations of 10 parts per million (ppm), 50 ppm, and 100 ppm, respectively.
	Site assessment	A ground water sample was collected from the temporary Monitor Well (MW-1) and analyzed for BTEX; results were below the State of New Mexico drinking water standard for this constituent. Depth to ground water recorded at 9.5 feet bgs.
November 1, 2007	Envirotech recommendation	Envirotech report recommends plugging and abandonment of the temporary ground water monitor well and a no further action determination 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 between Tetra Tech and Glenn Von Gonten.
October 22, 2008	Groundwater monitoring	1st quarter sampling of MW-1 conducted by Tetra Tech.
January 9, 2009	Installation of additional monitor wells	WDC Exploration and Wells of Peralta, NM installed additional Monitor Wells MW-2, MW-3 and MW-4 under the supervision of Tetra Tech.
January 29, 2009	Groundwater monitoring	Second quarter sampling of MW-1 conducted by Tetra Tech. Initial sampling of Monitor Wells MW-2, MW-3, and MW-4.
March 31, 2009	Groundwater monitoring	Third consecutive quarter of sampling MW-1 conducted by Tetra Tech. Second quarter sampling of Monitor Wells MW-2, MW-3, and MW-4.
June 17, 2009	Groundwater monitoring	Fourth consecutive quarter of sampling MW-1 conducted by Tetra Tech. Third quarter of sampling Monitor Wells MW-2, MW-3, and MW-4.
September 22, 2009	Groundwater monitoring	Fifth consecutive quarter of sampling MW-1 by Tetra Tech. Fourth consecutive quarter of sampling Monitor Wells MW-2, MW-3, and MW-4. Sampling for total metals discontinued as approved by NMOCD. Sampling for select dissolved metals based on total metals analyses begins.
December 16, 2009	Groundwater monitoring	Sixth consecutive quarter sampling of MW-1 conducted by Tetra Tech. Fifth consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.
April 1, 2010	Groundwater monitoring	Seventh consecutive quarter sampling of MW-1 conducted by Tetra Tech. Sixth consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.
June 9, 2010	Groundwater monitoring	Eighth consecutive quarter sampling of MW-1 conducted by Tetra Tech. Seventh consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.
September 20, 2010	Groundwater monitoring	Ninth consecutive quarter sampling of MW-1 conducted by Tetra Tech. Eighth consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
FAYE BURDETTE No. 1
SAN JUAN COUNTY, NEW MEXICO

DATE	*Event/Action*	*ACTIVITY*
December 17, 2010	Groundwater monitoring	Tenth consecutive quarter sampling of MW-1 conducted by Tetra Tech. Ninth consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only.
March 16, 2011	Groundwater monitoring	11th consecutive quarter sampling of MW-1 conducted by Tetra Tech. Tenth consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4 for BTEX and dissolved manganese only. Tetra Tech recommended that sampling for BTEX be discontinued.
June 15, 2011	Transfer of site consulting responsibilities	On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to Conestoga-Rovers & Associates (CRA) of Albuquerque, NM.
June 22, 2011	Groundwater monitoring	12th consecutive quarter sampling of MW-1. 11th consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4. Samples analyzed for dissolved manganese only.
September 27, 2011	Groundwater monitoring	13th consecutive quarter sampling of MW-1. 12th consecutive quarter sampling of Monitor Wells MW-2, MW-3, and MW-4. Samples analyzed for dissolved manganese only.
September 17, 2012	Groundwater monitoring	Annual groundwater sampling event. Samples analyzed for dissolved manganese only.
September 16, 2013	Groundwater monitoring	Annual groundwater sampling event. Samples analyzed for dissolved manganese only.

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
OCT 2008 - SEPT 2013
CONOCOPHILLIPS COMPANY
FAYE BURDETTE No. 1
SAN JUAN COUNTY, NM

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	17.52	97.66	4.8 - 14.8	10/22/2008	10.91	86.75
				1/29/2009	11.72	85.94
				3/31/2009	11.88	85.78
				6/17/2009	11.24	86.42
				9/22/2009	10.87	86.79
				12/16/2009	11.56	86.10
				4/1/2010	11.91	85.75
				6/9/2010	11.31	86.35
				9/20/2010	11.39	86.27
				12/17/2010	11.06	86.60
				3/16/2011	11.39	86.27
				6/22/2011	10.73	86.93
				9/27/2011	10.68	86.98
				9/17/2012	10.81	86.85
				9/16/2013	10.64	87.02
MW-2	19.45	98.54	5 - 20	1/29/2009	10.91	87.63
				3/31/2009	11.12	87.42
				6/17/2009	10.48	88.06
				9/22/2009	10.76	87.78
				12/16/2009	10.61	87.93
				4/1/2010	11.20	87.34
				6/9/2010	10.35	88.19
				9/20/2010	10.35	88.19
				12/17/2010	10.10	88.44
				3/16/2011	10.70	87.84
				6/22/2011	9.69	88.85
				9/27/2011	9.63	88.91
				9/17/2012	10.02	88.52
				9/16/2013	9.73	88.81
MW-3	22.96	97.16	5 - 20	1/29/2009	11.44	85.72
				3/31/2009	11.62	85.54
				6/17/2009	10.97	86.19
				9/22/2009	10.57	86.59
				12/16/2009	11.32	85.84
				4/1/2010	11.66	85.50
				6/9/2010	11.10	86.06
				9/20/2010	11.17	85.99
				12/17/2010	10.84	86.32
				3/16/2011	11.16	86.00
				6/22/2011	10.54	86.62
				9/27/2011	10.50	86.66
				9/17/2012	10.61	86.55
				9/16/2013	10.45	86.71

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
OCT 2008 - SEPT 2013
CONOCOPHILLIPS COMPANY
FAYE BURDETTE No. 1
SAN JUAN COUNTY, NM

MW-4	22.28	97.06	5 - 20	1/29/2009	11.02	86.04
				3/31/2009	11.18	85.88
				6/17/2009	10.59	86.47
				9/22/2009	10.16	86.90
				12/16/2009	10.87	86.19
				4/1/2010	11.04	86.02
				6/9/2010	10.65	86.41
				9/20/2010	10.72	86.34
				12/17/2010	10.46	86.60
				3/16/2011	10.84	86.22
				6/22/2011	10.15	86.91
				9/27/2011	10.10	86.96
				9/17/2012	10.31	86.75
				9/16/2013	10.08	86.98

Notes:

1. ft = Feet
2. TOC = Top of casing
3. bgs = below ground surface
4. * Elevation relative to an arbitrary point set at 100 feet

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
OCTOBER 2008 - SEPTEMBER 2013
CONOCOPHILLIPS COMPANY
FAYE BURDETTE No. 1
SAN JUAN COUNTY, NEW MEXICO

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
MW-1	MW-1	10/22/2008	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1	1/29/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1 Duplicate	1/29/2009	Duplicate	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1	3/31/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1 Duplicate	3/31/2009	Duplicate	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1	6/17/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1 Duplicate	6/17/2009	Duplicate	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1	9/22/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.445	**1.44**
	MW-1 Duplicate	9/22/2009	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	MW-1	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.732**
	MW-1 Duplicate	12/16/2009	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	MW-1	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	**1.71**
	MW-1 Duplicate	4/1/2010	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	MW-1	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	**1.61**
	MW-1 Duplicate	6/9/2010	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	MW-1	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.895**
	MW-1 Duplicate	9/20/2010	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	MW-1	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	**0.773**
	MW-1 Duplicate	12/17/2010	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	MW-1	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	**2.23**
	MW-1 Duplicate	3/16/2011	Duplicate	< 0.001	< 0.001	< 0.001	< 0.001	--	--
	GW-74929-062211-PG-04	6/22/2011	(orig)	--	--	--	--	--	**0.368**
	GW-074929-092711-CM-009	9/27/2011	(orig)	--	--	--	--	--	**0.624**
	GW-074929-091712-CM-MW-1	9/17/2012	(orig)	--	--	--	--	--	**0.73**
	GW-074929-091712-CM-DUP	9/17/2012	Duplicate	--	--	--	--	--	**0.38**
	GW-074929-091613-CM-MW-1	9/16/2013	(orig)	--	--	--	--	--	**0.22**
MW-2	MW-2	1/29/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-2	3/31/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-2	6/17/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-2	9/22/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02	0.0264
	MW-2	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0654
	MW-2	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.16
	MW-2	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0323
	MW-2	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0455
	MW-2	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0332
	MW-2	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0265
	GW-74929-062211-PG-01	6/22/2011	(orig)	--	--	--	--	--	0.0232
	GW-074929-092711-CM-006	9/27/2011	(orig)	--	--	--	--	--	0.0142
	GW-074929-091712-CM-MW-2	9/17/2012	(orig)	--	--	--	--	--	< 0.005
	GW-074929-091613-CM-MW-2	9/16/2013	(orig)	--	--	--	--	--	0.0082

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
OCTOBER 2008 - SEPTEMBER 2013
CONOCOPHILLIPS COMPANY
FAYE BURDETTE No. 1
SAN JUAN COUNTY, NEW MEXICO

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
MW-3	MW-3	1/29/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-3	3/31/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-3	6/17/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-3	9/22/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0291	0.0201
	MW-3	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0607
	MW-3	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0232
	MW-3	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.005
	MW-3	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.005
	MW-3	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.178
	MW-3	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0424
	GW-74929-062211-PG-03	6/22/2011	(orig)	--	--	--	--	--	0.0311
	GW-074929-092711-CM-008	9/27/2011	(orig)	--	--	--	--	--	0.0244
	GW-074929-091712-CM-MW-3	9/17/2012	(orig)	--	--	--	--	--	0.015
	GW-074929-091613-CM-MW-3	9/16/2013	(orig)	--	--	--	--	--	0.012
	GW-074929-091613-CM-DUP	9/16/2013	Duplicate	--	--	--	--	--	0.015
MW-4	MW-4	1/29/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-4	3/31/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-4	6/17/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-4	9/22/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.108	**0.476**
	MW-4	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0149
	MW-4	4/1/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.005
	MW-4	6/9/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.005
	MW-4	9/20/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0152
	MW-4	12/17/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	0.0502
	MW-4	3/16/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	< 0.005
	GW-74929-062211-PG-02	6/22/2011	(orig)	--	--	--	--	--	< 0.015
	GW-074929-092711-CM-007	9/27/2011	(orig)	--	--	--	--	--	0.182
	GW-074929-091712-CM-MW-4	9/17/2012	(orig)	--	--	--	--	--	0.090
	GW-074929-091613-CM-MW-4	9/16/2013	(orig)	--	--	--	--	--	0.011
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**	**1**	**0.2**

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

Appendix A

September 2013 Annual Groundwater Sampling Field Forms

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FAYE BURDETTE JOB# 074929

SAMPLE ID: GW-074929-091613-CM-MW-1 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)
9-16-13	9-16-13	1550	1.07	3.25

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	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 FOR METALS ONLY	

FIELD MEASUREMENTS

DEPTH TO WATER 10.64 (feet) WELL ELEVATION (feet)

WELL DEPTH 17.34 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
18.60 16.77 (°C)	~~6.37~~ 7.02 (std)	0.729 (g/L)	1121 (µS/cm)	2.31 (mg/L)	63.3 (mV)	2.25 (gal)
18.48 (°C)	7.03 (std)	0.719 (g/L)	1106 (µS/cm)	2.02 (mg/L)	41.0 (mV)	2.75 (gal)
18.54 (°C)	7.02 (std)	0.721 (g/L)	1110 (µS/cm)	2.17 (mg/L)	29.7 (mV)	3.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: CLOUDY ODOR: NONE COLOR: BROWN SHEEN Y/N N

WEATHER CONDITIONS: TEMPERATURE 80's WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N

SPECIFIC COMMENTS:

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

DATE 9/16/13 PRINT Christine Matheus SIGNATURE Christine Matheus

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FAYE BURDETTE JOB# 074929

SAMPLE ID: GW-074929-091613-CM-MW-2 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)
9-16-13	9-16-13	1545	1.55	4.75

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	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 FOR METALS ONLY	

FIELD MEASUREMENTS

DEPTH TO WATER 9.73 (feet) WELL ELEVATION (feet)

WELL DEPTH 19.42 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
16.51 (°C)	6.93 (std)	0.725 (g/L)	1115 (µS/cm)	4.89 (mg/L)	94.1 (mV)	3.75 (gal)
16.11 (°C)	6.87 (std)	0.717 (g/L)	1103 (µS/cm)	4.20 (mg/L)	94.6 (mV)	4.25 (gal)
16.03 (°C)	6.78 (std)	0.716 (g/L)	1102 (µS/cm)	3.62 (mg/L)	96.4 (mV)	4.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: Cloudy ODOR: none COLOR: Light brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 60° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

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

DATE 9/16/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FAYE BURDETTE JOB# 074929

SAMPLE ID: GW-074929-091613-OM-MW-3 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)
9-16-13	9-16-13	1525	1.98	6.00

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	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 FOR METALS ONLY	

FIELD MEASUREMENTS

DEPTH TO WATER 10.45 (feet) WELL ELEVATION (feet)

WELL DEPTH 22.83 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
16.79 (°C)	6.38 (std)	0.713 (g/L)	1097 (µS/cm)	6.54 (mg/L)	104.6 (mV)	5.0 (gal)
16.82 (°C)	6.43 (std)	0.711 (g/L)	1095 (µS/cm)	4.34 (mg/L)	108.0 (mV)	5.5 (gal)
16.27 (°C)	6.48 (std)	0.708 (g/L)	1090 (µS/cm)	3.74 (mg/L)	110.2 (mV)	6.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: CLOUDY ODOR: NONE COLOR: LIGHT BROWN SHEEN Y/N N

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

SPECIFIC COMMENTS:

DUP COLLECTED @ 1530

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

DATE 9/16/13 PRINT Christine Mathews SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FAYE BURDETTE JOB# 074929

SAMPLE ID: GW-074929-09613-CM-MW-4 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)
9-16-13	9-16-13	1535	1.72	5.25

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	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 FOR METALS ONLY	

FIELD MEASUREMENTS

DEPTH TO WATER: 10.08 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 20.80 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
18.19 (°C)	6.69 (std)	0.707 (g/L)	1088 (µS/cm)	2.93 (mg/L)	109.4 (mV)	4.25 (gal)
17.83 (°C)	6.78 (std)	0.709 (g/L)	1090 (µS/cm)	2.82 (mg/L)	106.4 (mV)	4.75 (gal)
18.18 (°C)	6.76 (std)	0.707 (g/L)	1087 (µS/cm)	2.87 (mg/L)	102.5 (mV)	5.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: Lt. Brown SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE: 80s WINDY Y/N: no PRECIPITATION Y/N (IF Y TYPE): no

SPECIFIC COMMENTS:

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

DATE 9/16/13 PRINT Christine Mathews SIGNATURE Christine Mathews

Appendix B

September 2013 Annual Groundwater Laboratory Analytical Report

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

October 03, 2013

Christine Matthews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

RE: Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 20, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Angela Bown, COP Conestoga-Rovers & Associa
Jeff Walker, COP Conestoga-Rovers & Associa

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60153659001	**GW-074929-CM-MW-1**	Water	09/16/13 15:50	09/20/13 08:30
60153659002	**GW-074929-CM-MW-2**	Water	09/16/13 15:45	09/20/13 08:30
60153659003	**GW-074929-CM-MW-3**	Water	09/16/13 15:25	09/20/13 08:30
60153659004	**GW-074929-CM-MW-4**	Water	09/16/13 15:35	09/20/13 08:30
60153659005	**GW-074929-CM-DUP**	Water	09/16/13 15:35	09/20/13 08:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60153659001	**GW-074929-CM-MW-1**	EPA 6010	NDJ	1
60153659002	**GW-074929-CM-MW-2**	EPA 6010	NDJ	1
60153659003	**GW-074929-CM-MW-3**	EPA 6010	NDJ	1
60153659004	**GW-074929-CM-MW-4**	EPA 6010	NDJ	1
60153659005	**GW-074929-CM-DUP**	EPA 6010	NDJ	1

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PROJECT NARRATIVE

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 03, 2013

General Information:
5 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, where applicable, 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.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Sample: GW-074929-CM-MW-1 **Lab ID: 60153659001** Collected: 09/16/13 15:50 Received: 09/20/13 08:30 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	**0.22**	mg/L	0.0050	0.00049	1	09/26/13 10:25	09/27/13 11:08	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Sample: GW-074929-CM-MW-2 **Lab ID: 60153659002** Collected: 09/16/13 15:45 Received: 09/20/13 08:30 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	**0.0082**	mg/L	0.0050	0.00049	1	09/26/13 10:25	09/27/13 11:11	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Sample: GW-074929-CM-MW-3 **Lab ID: 60153659003** Collected: 09/16/13 15:25 Received: 09/20/13 08:30 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	**0.012**	mg/L	0.0050	0.00049	1	09/26/13 10:25	09/27/13 11:14	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Sample: GW-074929-CM-MW-4 **Lab ID: 60153659004** Collected: 09/16/13 15:35 Received: 09/20/13 08:30 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	**0.011**	mg/L	0.0050	0.00049	1	09/26/13 10:25	09/27/13 11:17	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Sample: GW-074929-CM-DUP **Lab ID: 60153659005** Collected: 09/16/13 15:35 Received: 09/20/13 08:30 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	**0.015**	mg/L	0.0050	0.00049	1	09/26/13 10:25	09/27/13 11:20	7439-96-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

QC Batch: MPRP/24442 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60153659001, 60153659002, 60153659003, 60153659004, 60153659005

METHOD BLANK: 1260460 Matrix: Water
Associated Lab Samples: 60153659001, 60153659002, 60153659003, 60153659004, 60153659005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	mg/L	ND	0.0050	09/27/13 10:15	

LABORATORY CONTROL SAMPLE: 1260461

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1260462 1260463

Parameter	Units	60153641001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	mg/L	0.89	1	1	1.8	1.8	94	95	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

TNI - The NELAC Institute.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074929 Faye Burdette No. 1
Pace Project No.: 60153659

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60153659001	**GW-074929-CM-MW-1**	EPA 3010	MPRP/24442	EPA 6010	ICP/19045
60153659002	**GW-074929-CM-MW-2**	EPA 3010	MPRP/24442	EPA 6010	ICP/19045
60153659003	**GW-074929-CM-MW-3**	EPA 3010	MPRP/24442	EPA 6010	ICP/19045
60153659004	**GW-074929-CM-MW-4**	EPA 3010	MPRP/24442	EPA 6010	ICP/19045
60153659005	**GW-074929-CM-DUP**	EPA 3010	MPRP/24442	EPA 6010	ICP/19045

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60153659

60153659

Client Name: CoP CDA NM

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 8023 0827 9465 Pace Shipping Label Used? Yes ☒ No ☐

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

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DMS 9/26/13 1030

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☑Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
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	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: DMS — Lot # of added preservative:
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): n/a		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MAF Date: 9/26/2013

Temp Log: Record start and finish times when unpacking cooler, if >20 min. recheck sample temps.

Start: 1030	Start:
End: 1035	End:
Temp:	Temp:

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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:	COP CRA NM	Report To:	Christine Mathews	Attention:	COP epayables
Address:	6121 Indian School Rd NE, Ste 200	Copy To:	Jeff Walker, 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:	Faye Burdette No. 1	Pace Project Manager:	Alice Flanagan
Requested Due Date/TAT:	standard	Project Number:	74929	Pace Profile #:	5514, 16

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	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED 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	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074929-091613-CM-MW-1	WT	G			9-16-13	1550		1			1						X	X		40153059 001
2	GW-074929-091613-CM-MW-2	WT	G			9-16-13	1545		1			1						X	X		002
3	GW-074929-091613-CM-MW-3	WT	G			9-16-13	1525		1			1						X	X		003
4	GW-074929-091613-CM-MW-4	WT	G			9-16-13	1535		1			1						X	X		004
5	GW-074929-091613-CM-DUP	WT	G			9-16-13	1530		1			1						X	X		005
6																					
7																					
8																					
9																					
10																					
11																					
12																					

(1 (BP3F) 1.5)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
METALS WERE FIELD FILTERED	CRA	9-18-13	9:00	Pace	9/20/13	830	1.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	CALE KAYACK					
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 9/18/13				

*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.