3R - 426

2013 AGWMR

03 / 21 / 2014

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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-426, 2013 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2013 Annual Groundwater Monitoring Report for the San Juan 27-5 No. 34A site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of groundwater monitoring conducted during October 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

ConocoPhillips San Juan 27-5 No. 34A
Rio Arriba County, New Mexico
API# 30-039-23739
NMOCD# 3R-426

Prepared for: ConocoPhillips Risk Management and Remediation

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

January 2014 • 074934 • Report No. 4

Partners in Sustainability

Table of Contents

List of Figures
(Following Text)

List of Tables
(Following Text)

List of Appendices

Section 1.0 Introduction

This report details the results of annual groundwater monitoring completed by Conestoga-Rovers & Associates (CRA) on October 1, 2013 at the ConocoPhillips Company (ConocoPhillips), San Juan 27-5 No. 34A natural gas well site located on BLM land in Unit Letter E, Section 30, Township 27N, Range 05W, of Rio Arriba County, New Mexico (Site).

The location and general features of the Site are presented as **Figures 1** and **2**, respectively. A generalized geologic cross section is presented as **Figure 3**.

1.1 Background

Hydrocarbon impacts were discovered beneath an aboveground storage tank (AST) during tank removal at the Site on January 30, 2009. Envirotech Inc. of Farmington, NM (Envirotech) was contacted for spill assessment services following the discovery. Envirotech collected a 5-point composite soil sample from beneath the AST, 4 grab soil samples from test holes advanced around the AST, and an additional 5-point composite soil sample collected from a small excavation approximately 17 feet deep (Envirotech, 2009). All soil samples collected were field analyzed for total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) method 418.1, and for organic vapors using a photoionization detector (PID). The 5-point composite soil samples were also sent for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021, and for TPH analysis by EPA Method 8015. Soil sample results from both 5-point composite samples and from one of the test holes were above recommended action levels, all other samples were below.

On March 3, 2009, Envirotech returned to the Site to continue sampling activities. A 49 feet by 49 feet by 20 feet deep area had been excavated prior to Envirotech's arrival on Site. Groundwater was encountered at 20 ft below ground surface (bgs). Envirotech sampled the groundwater for analysis of volatile organic compounds (VOCs) using EPA method 8260B (Envirotech, 2009). Laboratory results for benzene were found at a concentration above the New Mexico Water Quality Control Commission (NMWQCC) standard at 96 micrograms per liter (µg/L) in the groundwater sample. Composite soil samples were collected from the bottom of the excavation and from each of the 4 walls, then field analyzed for organic vapors and TPH. All results were below recommended action levels for organic vapors. TPH concentrations were below recommended action levels in all samples excluding one taken from the south wall of the excavation. Subsequently, the excavation was continued in the south wall 4 additional feet.

Field TPH analysis on an additional sample was below recommended action levels and excavation activities stopped. Final excavation dimensions were reported at 53 feet by 49 feet by 20 feet deep. Personal communication on July 13, 2009 between Tetra Tech and Wade Hack, ConocoPhillips field manager, revealed that the area of the excavation was within the current berm location of the produced water and condensate tanks at the Site (**Figure 2**). A total of 1,900 cubic yards of impacted soil were

removed from the Site and transported to an NMOCD permitted facility located in Farmington, New Mexico. Envirotech recommended the installation of groundwater monitor wells to determine "groundwater gradient and the extent of groundwater contamination" (Envirotech, 2009).

Between July 15, 2009 and July 16, 2009, EnviroDrill of Albuquerque, New Mexico installed 4 groundwater monitor wells at the Site under the supervision of Tetra Tech: MW-1, MW-2, MW-3, and MW-4. All wells were drilled using a CME-75 drill rig, hollow stem augers, and split-spoon sampling techniques; 15 feet of 0.010 polyvinylchloride (PVC) slotted screen was placed in each well.

Tetra Tech began quarterly groundwater quality monitoring of the Site on July 28, 2009. In March of 2011, after eight consecutive quarters of compliance with NMWQCC standards for BTEX, Tetra Tech recommended discontinuation of monitoring for BTEX. Monitoring of dissolved manganese was recommended to continue on an annual basis.

On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM. CRA began annual monitoring for dissolved manganese in September 2011.

Site history is outlined in **Table 1**.

Section 2.0 Groundwater Monitoring Summary, Methodology, and Analytical Results

2.1 Groundwater Monitoring Summary

Prior to sampling on October 1, 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 have risen on average 2.3 feet in Site monitor wells since the previous monitoring event in September 2012. **Table 2** presents the monitor well specifications and groundwater elevation data. A groundwater potentiometric surface map is presented as **Figure 4,** and illustrates that groundwater at the Site flows north-northwest.

2.2 Groundwater Monitoring Methodology

Groundwater quality samples were collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 during the October 1, 2013 groundwater sampling event. Approximately three well volumes were purged from each monitor well prior to sampling. A 1.5-inch polyethylene, dedicated bailer was used in each well to purge and collect groundwater samples. The purged water was disposed of in the on-site produced water tank (**Figure 2**). Samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace Analytical Services, Inc. of Lenexa, KS.

Groundwater samples were analyzed for the presence dissolved manganese by EPA Method 6010. Field sampling forms are included as **Appendix A**.

2.3 Groundwater Monitoring Analytical Results

The New Mexico Water Quality Control Commission 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). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Groundwater samples collected during the October 1, 2013 sampling event all had concentrations of manganese below the NMWQCC standard for manganese of 0.2 mg/L. The 2013 sampling event occurred after an historic monsoon rain event in the area. A summary of historical groundwater analytical results is presented as **Table 3**.

The corresponding laboratory analytical report for the October 2013 groundwater sampling event is included as **Appendix B**.

Section 3.0 Conclusions and Recommendations

In March of 2011, after eight consecutive quarters of compliance with NMWQCC groundwater standards for BTEX, cessation of monitoring for these constituents was approved by the NMOCD. Monitoring of dissolved manganese continues to be conducted on an annual basis. The occurrence of manganese at concentrations significantly below standards in the October 2013 samples, and below results of previous sampling events from Monitor Wells MW-1 and MW-3, are somewhat inconsistent and may be coincident with elevated groundwater levels resulting from record precipitation in the weeks just prior to the October 2013 sampling event.

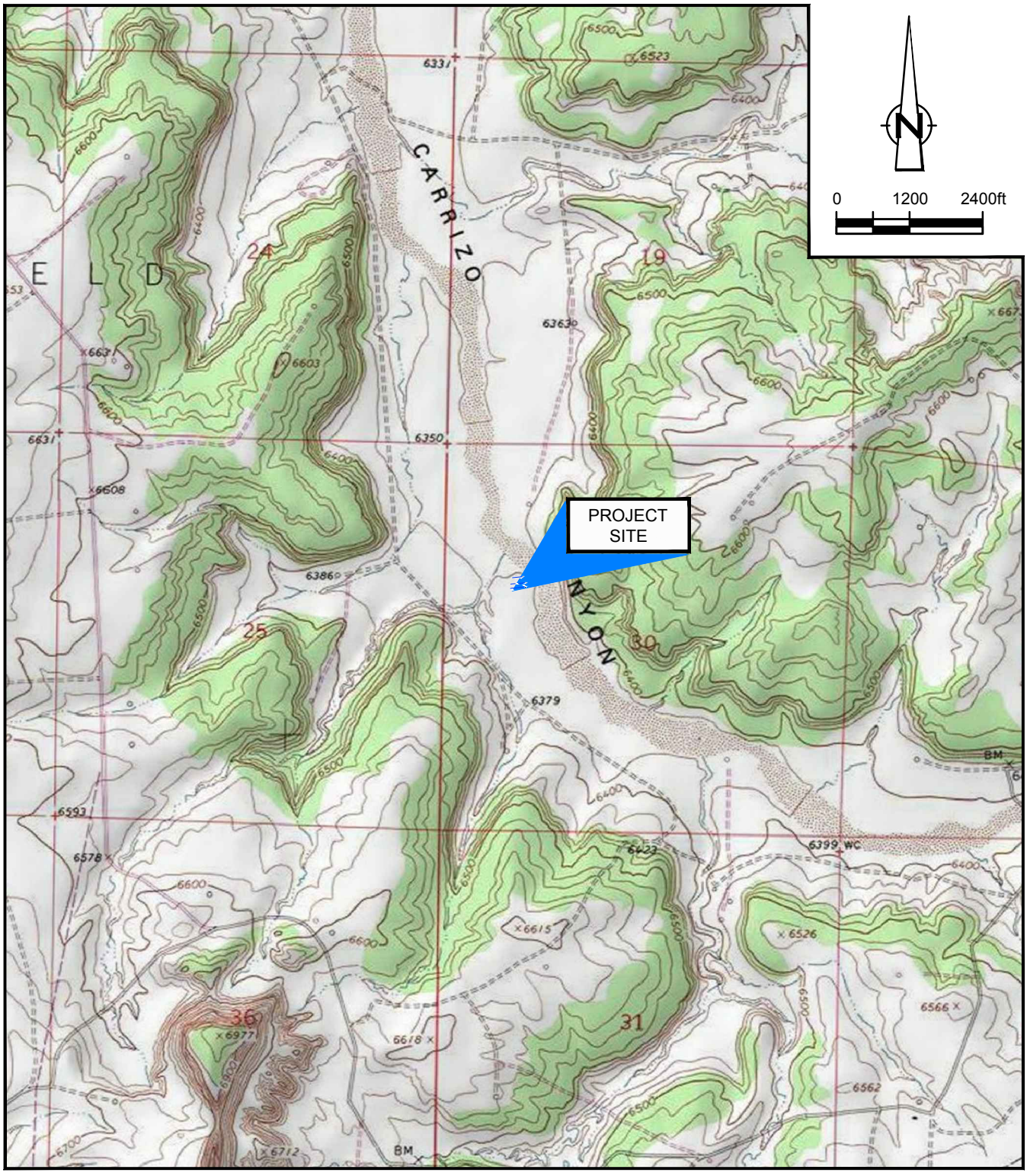
CRA recommends a semi-annual sampling event be conducted at the site in March of 2014, outside of the monsoon season cycle, to provide groundwater quality data to help determine how much of seasonal fluctuation the October 2013 manganese data represent. If results of the proposed March 2014 sampling event again show dissolved manganese concentrations in all site wells below the NMWQCC standard, quarterly sampling will be proposed in order to move towards eight quarters of compliance.

Remediation Site closure will be requested when groundwater quality results 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.

Section 4.0 References

Envirotech Incorporated. March 20, 2009. *Burlington Resources Spill Closure Report Located at San Juan 27-5 #34A, Section 30, Township 27N, Range 5W, Rio Arriba County, New Mexico*. Prepared for ConocoPhillips Company. p2.

Figures



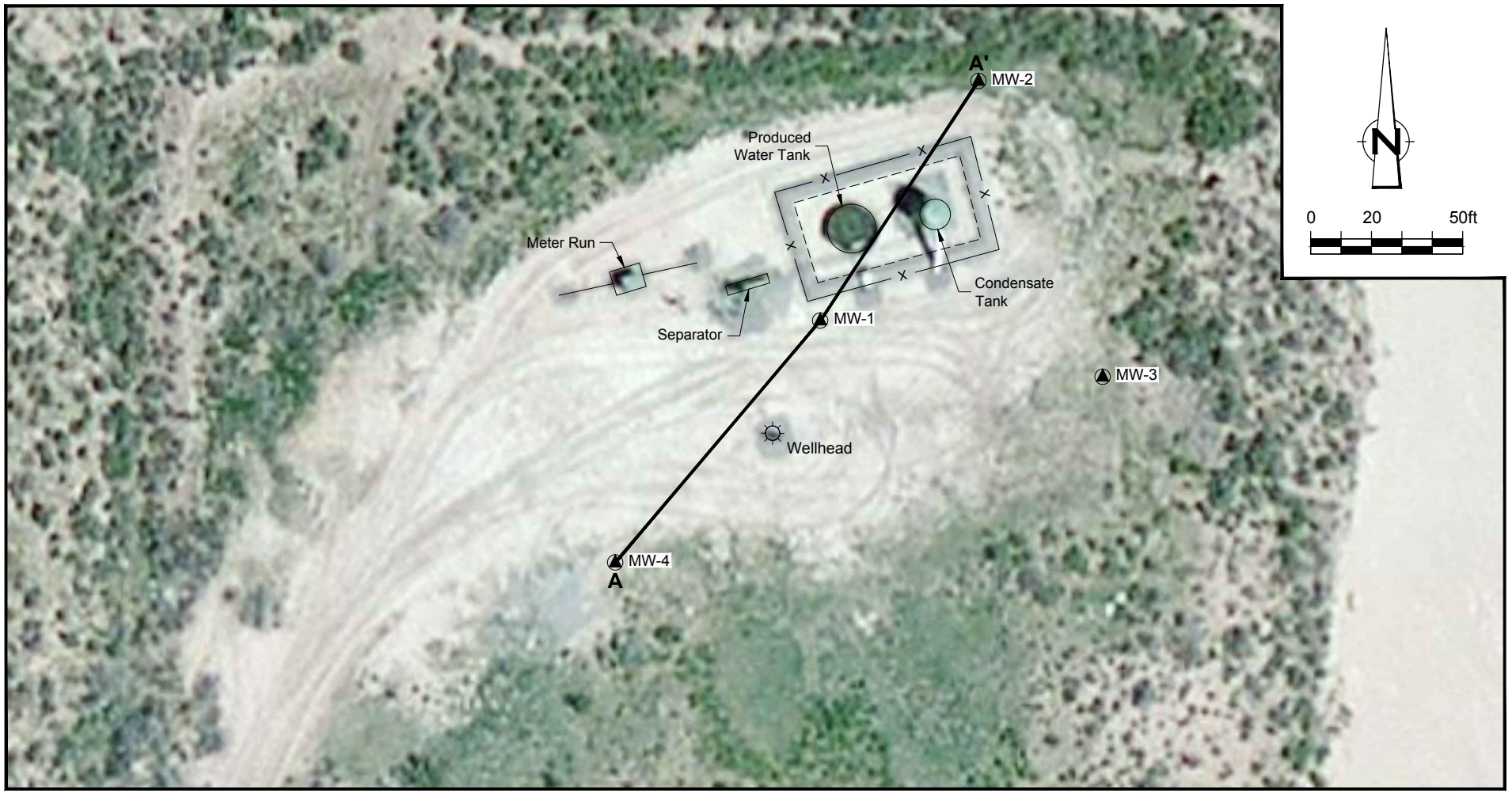
SOURCE: USGS 7.5 MINUTE QUAD
"SANTOS PEAK, NEW MEXICO"

LAT/LONG: 36.5471° NORTH, 107.4066° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO CENTRAL

Figure 1

SITE LOCATION MAP
SAN JUAN 27-5 No. 34A
SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company

074934-95(004)GN-DL001 DEC 20/2013



LAT/LONG: 36.8089° NORTH, 107.9463° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

LEGEND

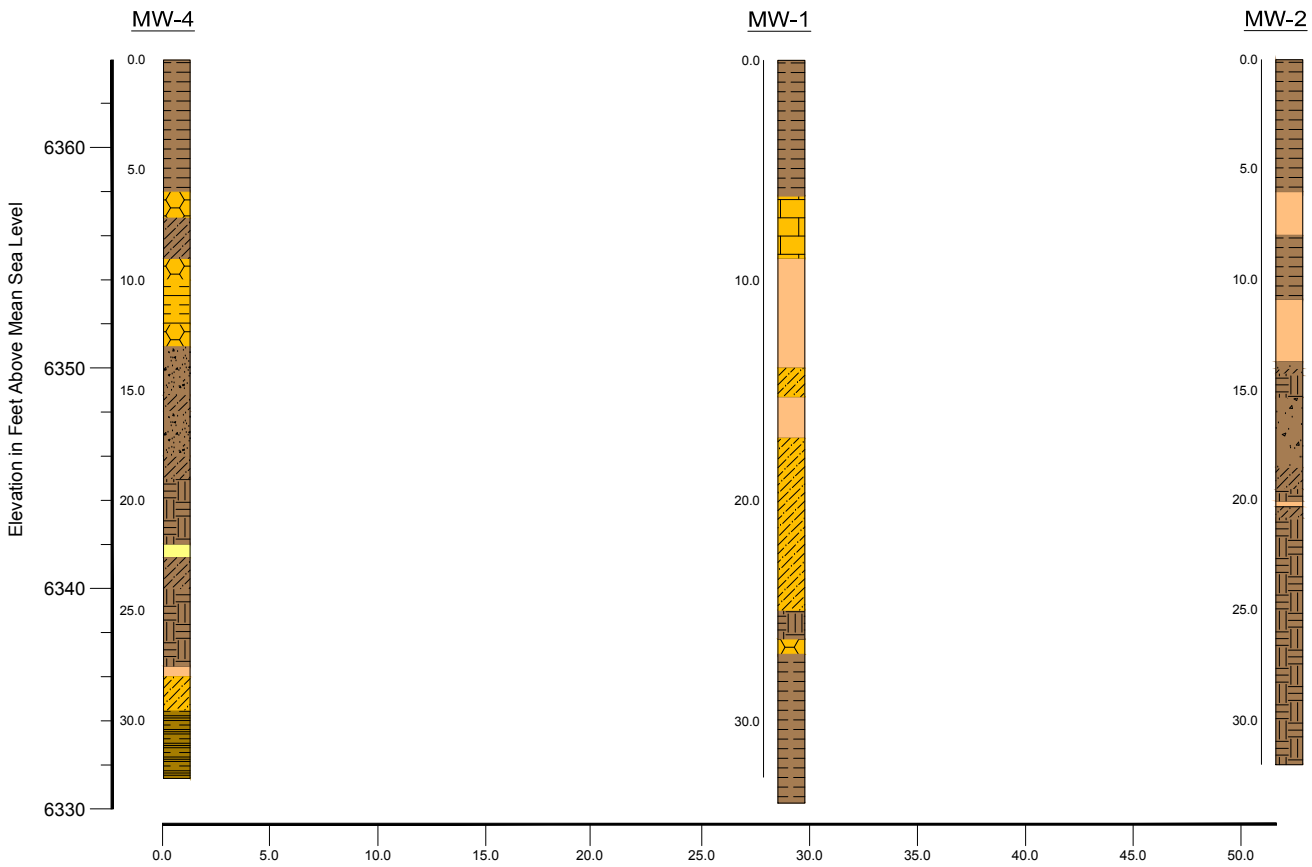
- Monitor Well Location
- Wellhead

Figure 2

SITE MAP
SAN JUAN 27-5 No. 34A
SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company

CRA

074934-95(004)GN-DL001 DEC 20/2013

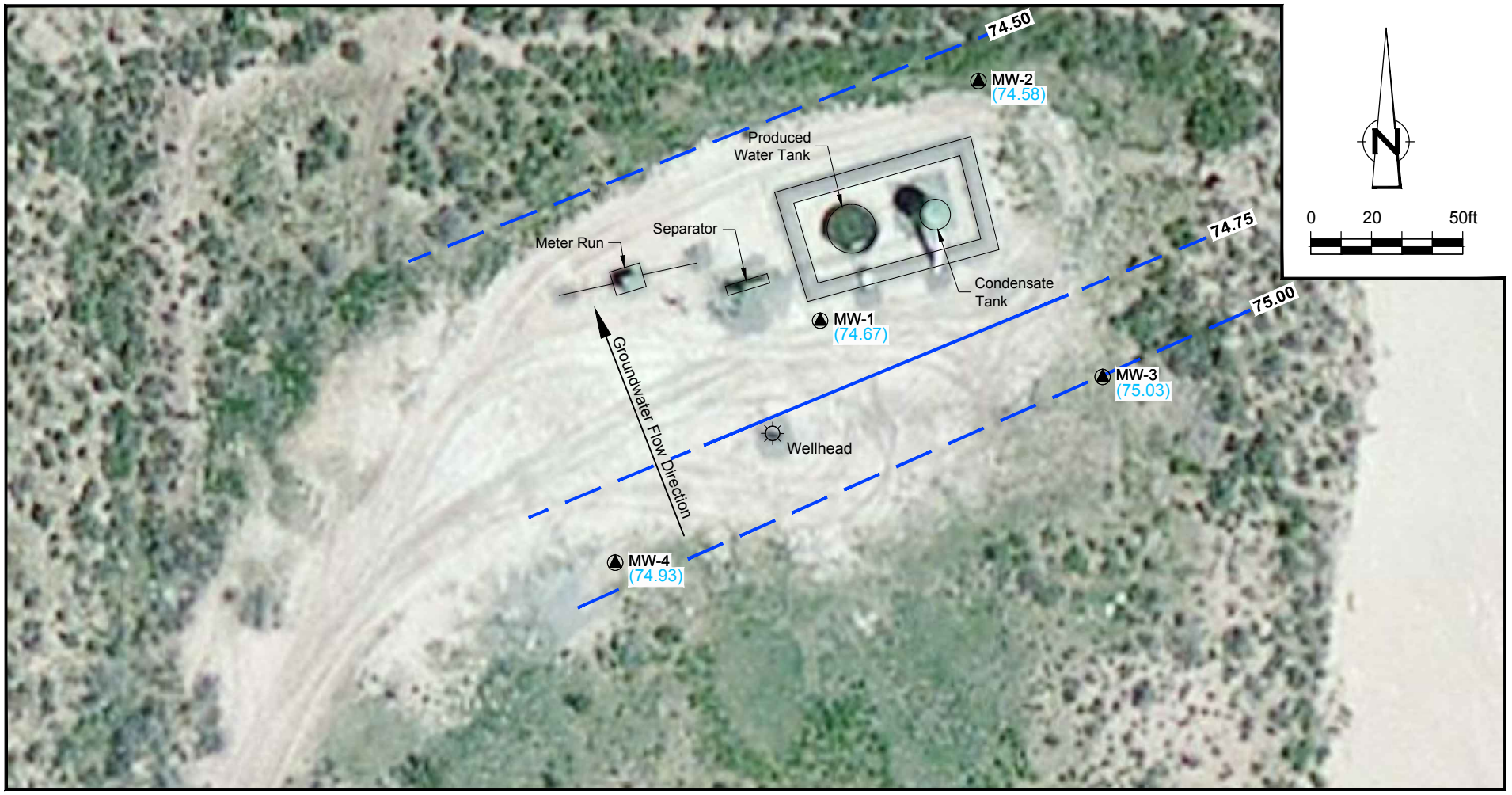


Lithology Index

- Clayey Sand
- Clayey Silt
- Clays
- Fine Grained Sand
- Fine to Medium Grained Silty Sand
- Medium Grained Sand
- Poor Recovery
- Sandy Silt
- Silty Clay
- Silty Sand
- Very Fine Grained Sand

Figure 3

GEOLOGICAL CROSS SECTION
SAN JUAN 27-5 No. 34A
SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company



LAT/LONG: 36.8089° NORTH, 107.9463° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO WEST

LEGEND

- Monitor Well Location
- Wellhead
- (72.61) Groundwater Elevation, Ft
- 72.50 Groundwater Elevation Contour, Ft
- Groundwater Flow Direction

Figure 4

OCTOBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
SAN JUAN 27-5 No. 34A
SECTION 30, T27N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company

074934-95(004)GN-DL001 JAN 14/2014

Tables

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
SAN JUAN 27-5 No. 34A
RIO ARRIBA COUNTY, NM

Date/Time Period	*Event/Action*	*Description/Comments*
January 30, 2009	Site Assessment	Hydrocarbon impacts are visually confirmed during tank removal at the Site. Envirotech Inc. of Farmington, New Mexico (Envirotech) conducted spill assessment and initial soil sampling.
March 3, 2009	Soil Excavation	Envirotech oversees soil excavation at the Site. Final dimensions of excavated area are 53'x49'x20' deep. Groundwater is encountered at 20' bgs and sampled. Laboratory results for benzene were found at a concentration of 95.6 micrograms per liter (ug/L), above the NMWQCC standard.
March 20, 2009	Excavation Report	Envirotech excavation report states that a total of 1,900 cubic yards of soil was removed from the Site and transported to an OCD-permitted facility in Farmington, NM. Envirotech recommended the installation of groundwater monitor wells at the Site (Envirotech, 2009).
April 2, 2009	Site Assessment	Tetra Tech visits the Site visit to determine placement of proposed groundwater monitor wells.
July 15, 2009 & July 16, 2009	Monitor Well Installation	Four groundwater monitor wells are installed by EnviroDrill under the supervision of Tetra Tech (MW-1, MW-2, MW-3, MW-4).
July 28, 2009	Groundwater Monitoring	Baseline quarterly groundwater monitoring event was conducted at the Site by Tetra Tech.
September 29, 2009	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
December 15, 2009	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
April 8, 2010	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
June 8, 2010	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
September 21, 2010	Groundwater Monitoring	Quarterly groundwater monitoring event conducted at the Site by Tetra Tech.
December 15, 2010	Groundwater Monitoring	Seventh quarterly groundwater monitoring event conducted at the Site by Tetra Tech. Manganese concentrations exceed NMWQCC standards in monitor wells MW-1, MW-2, and MW-3.
March 15, 2011	Groundwater Monitoring	Eighth quarterly groundwater monitoring event conducted at the Site by Tetra Tech. Manganese concentrations exceed NMWQCC standards in monitor wells MW-1, MW-2, and MW-3. After eight consecutive quarters of compliance with BTEX standards, the monitoring schedule is changed to annual sampling for dissolved manganese only.
June 15, 2011	Tranfer of Site Consulting Responsibilities	Site consulting responsibilities are transferred from Tetra Tech to Conestoga-Rovers & Associates, Inc. of Albuquerque, NM (CRA).
September 28, 2011	Groundwater Monitoring	Annual monitoring event for dissolved manganese only completed by CRA.
September 24, 2012	Groundwater Monitoring	Annual monitoring event for dissolved manganese only completed by CRA.
October 1, 2013	Groundwater Monitoring	Annual monitoring event for dissolved manganese only completed by CRA.

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
SAN JUAN 27-5 No. 34A
RIO ARRIBA COUNTY, NM

Well ID	*Total Depth (ft bgs)*	*Screen Interval (ft)*	** TOC Elevation (ft)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Groundwater Elevation*
MW-1	33.13	18.73 - 33.73	97.44	7/28/2009	23.21	74.23
				9/29/2009	23.88	73.56
				12/15/2009	24.15	73.29
				4/8/2010	21.76	75.68
				6/8/2010	22.26	75.18
				9/21/2010	23.24	74.20
				12/15/2010	23.60	73.84
				3/15/2011	22.92	74.52
				9/28/2011	24.10	73.34
				9/24/2012	25.20	72.24
				10/1/2013	22.77	74.67
MW-2	34.29	15 - 30	96.78	7/28/2009	22.72	74.06
				9/29/2009	23.40	73.38
				12/15/2009	23.66	73.12
				4/8/2010	21.21	75.57
				6/8/2010	21.81	74.97
				9/21/2010	22.78	74.00
				12/15/2010	23.13	73.65
				3/15/2011	22.44	74.34
				9/28/2011	23.62	73.16
				9/24/2012	24.72	72.06
				10/1/2013	22.20	74.58
MW-3	33.11	17.55 - 32.55	97.24	7/28/2009	22.84	74.40
				9/29/2009	23.54	73.70
				12/15/2009	23.80	73.44
				4/8/2010	21.22	76.02
				6/8/2010	21.90	75.34
				9/21/2010	22.90	74.34
				12/15/2010	23.27	73.97
				3/15/2011	22.55	74.69
				9/28/2011	23.73	73.51
				9/24/2012	24.89	72.35
				10/1/2013	22.21	75.03
MW-4	33.47	17.6 - 32.6	97.23	7/28/2009	22.62	74.61
				9/29/2009	23.31	73.92
				12/15/2009	23.57	73.66
				4/8/2010	21.25	75.98
				6/8/2010	21.75	75.48
				9/21/2010	22.67	74.56
				12/15/2010	23.03	74.20
				3/15/2011	22.35	74.88
				9/28/2011	23.50	73.73
				9/24/2012	24.62	72.61
				10/1/2013	22.30	74.93

Notes:
ft = Feet
TOC = Top of casing
bgs = below ground surface
*Groundwater elevation is relative to an arbitrary 100 feet

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
SAN JUAN 27-5 No. 34A
RIO ARRIBA COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Manganese (dissolved) (mg/L)*	*Total Dissolved Solids (TDS) (mg/L)*
MW-1	MW-1	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-1	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.694**	--
	MW-1	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.576**	--
	MW-1	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.896**	640
	MW-1	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.612**	--
	MW-1	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.784**	--
	MW-1	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.933**	--
	MW-1	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.732**	--
	GW-074934-092811-CM-001	9/28/2011	(orig)	--	--	--	--	**0.789**	--
	GW-074934-092412-CM-MW-1	9/24/2012	(orig)	--	--	--	--	**0.76**	--
	GW-074934-100113-CM-MW-1	10/1/2013	(orig)	--	--	--	--	< 0.005	--
MW-2	MW-2	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-2	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**1.38**	--
	MW-2	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**1.92**	--
	MW-2	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.43**	700
	MW-2	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.12**	--
	MW-2	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.25**	--
	MW-2	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.17**	--
	MW-2	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.01**	--
	GW-074934-092811-CM-003	9/28/2011	(orig)	--	--	--	--	**0.592**	--
	GW-074934-092412-CM-MW-2	9/24/2012	(orig)	--	--	--	--	0.12	--
	GW-074934-092412-CM-DUP	9/24/2012	(duplicate)	--	--	--	--	0.13	--
	GW-074934-100113-CM-MW-2	10/1/2013	(orig)	--	--	--	--	0.0214	--
	GW-074934-100113-CM-DUP	10/1/2013	(duplicate)	--	--	--	--	0.0194	--
MW-3	MW-3	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-3	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**1.7**	--
	MW-3	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.04**	--
	MW-3	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.51**	525
	MW-3	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.51**	--
	MW-3	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.87**	--
	MW-3	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.69**	--
	MW-3	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**2.01**	--
	GW-074934-092811-JP-002	9/28/2011	(orig)	--	--	--	--	**2.03**	--
	GW-074934-092412-CM-MW-3	9/24/2012	(orig)	--	--	--	--	**1.2**	--
	GW-074934-100113-CM-MW-3	10/1/2013	(orig)	--	--	--	--	< 0.005	--

TABLE 3

GROUNDWATER LABORATORY ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
SAN JUAN 27-5 No. 34A
RIO ARRIBA COUNTY

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*	*Manganese (dissolved) (mg/L)*	*Total Dissolved Solids (TDS) (mg/L)*
MW-4	MW-4	7/28/2009	(orig)	< 0.005	< 0.005	< 0.005	< 0.005	--	--
	MW-4	9/29/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	**0.269**	--
	MW-4	12/15/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0579	--
	MW-4	4/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.121	684
	MW-4	6/8/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0384	--
	MW-4	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0301	--
	MW-4	12/15/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.0088	--
	MW-4	3/15/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	0.008	--
	GW-074934-092811-CM-005	9/28/2011	(orig)	--	--	--	--	0.0461	--
	GW-074934-092412-CM-MW-4	9/24/2012	(orig)	--	--	--	--	0.026	--
	GW-074934-100113-CM-MW-4	10/1/2013	(orig)	--	--	--	--	0.157	--
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**	**0.2**	**1000**

Notes:
NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter (parts per million)
< 0.001 = Below laboratory detection limit of 0.001 mg/L
Bold = concentrations that exceed the NMWQCC limits
-- = not analyzed

Appendix A

October 2013 Annual Groundwater Sampling Field Forms

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: San Juan 27-5 34A JOB# 074934

SAMPLE ID: GW-074934-10113-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)
10/1/13	10/1/13	1310	1.653	5.0

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP	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	N/A	A - IN-LINE DISPOSABLE		B - PRESSURE	Lab to filter

FIELD MEASUREMENTS

DEPTH TO WATER	22.77	(feet)	WELL ELEVATION		(feet)
WELL DEPTH	33.15 − 10.38	(feet)	GROUNDWATER ELEVATION		(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
13.01 (°C)	6.63 (std)	0.624 (g/L)	960 (µS/cm)	1.43 (mg/L)	67.6 (mV)	4.0 (gal)
12.91 (°C)	6.64 (std)	0.612 (g/L)	941 (µS/cm)	1.28 (mg/L)	63.4 (mV)	4.5 (gal)
12.98 (°C)	6.64 (std)	0.609 (g/L)	937 (µS/cm)	1.23 (mg/L)	62.0 (mV)	5.0 (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: gray SHEEN Y/N no

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

SPECIFIC COMMENTS:

1.653 x 3 = 4.958

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

DATE 10/1/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: San Juan 27-5 34A JOB# 074934

SAMPLE ID: GW-074934-100113-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)
10/1/13	10/1/13	1330	1.941	3.0

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP	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	N/A	A - IN-LINE DISPOSABLE	B - PRESSURE	Lab to filter	

FIELD MEASUREMENTS

DEPTH TO WATER 22.20 (feet) WELL ELEVATION (feet)

WELL DEPTH 34.33 (feet) 12.13 GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
12.75 (°C)	7.18 (std)	0.568 (g/L)	874 (µS/cm)	3.82 (mg/L)	81.5 (mV)	3.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(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: ODOR: COLOR: SHEEN Y/N

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

SPECIFIC COMMENTS:

Duplicate Collected @ 1335

1.941 x 3 = 5.822

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

DATE 10/1/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: San Juan 27-5 34A JOB# 074934

SAMPLE ID: GW-074934-100113-CM-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)
10/1/13	10/1/13	1300	1.742	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	N/A	A - IN-LINE DISPOSABLE	B - PRESSURE	Lab to filter	

FIELD MEASUREMENTS

DEPTH TO WATER 22.21 (feet) WELL ELEVATION (feet)

10.89

WELL DEPTH 33.10 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
12.65 (°C)	6.21 (std)	0.536 (g/L)	824 (µS/cm)	1.57 (mg/L)	73.7 (mV)	4.25 (gal)
12.52 (°C)	6.24 (std)	0.522 (g/L)	801 (µS/cm)	1.77 (mg/L)	71.3 (mV)	4.75 (gal)
12.49 (°C)	6.30 (std)	0.510 (g/L)	784 (µS/cm)	1.50 (mg/L)	68.4 (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: light brown SHEEN Y/N no

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

SPECIFIC COMMENTS:

1.742 x 3 = 5.23

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

DATE 10/1/13 PRINT Christine Mathews SIGNATURE [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: San Juan 27-5 34A JOB# 074934

SAMPLE ID: GW-074934-100113-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)
10/1/13	10/1/13	1320	1.810	3.0

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	N/A	A - IN-LINE DISPOSABLE	B - PRESSURE	Lab to filter	

FIELD MEASUREMENTS

DEPTH TO WATER: 22.30 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 33.61 (feet) 11.31 GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
12.72 (°C)	7.56 (std)	0.883 (g/L)	1359 (µS/cm)	4.97 (mg/L)	54.8 (mV)	2.75 (gal) 3.0
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(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: no

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

SPECIFIC COMMENTS: Sampled @ 3 gallons, well had bailed dry @ 2.5 gallons returned and got 0.5 more gallons before dry again for a total of 3.0 gallons

1.810 x 3 = 5.428

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

DATE 10/1/13 PRINT Christine Mathews SIGNATURE Christine Mathews

Appendix B

October 2013 Annual Groundwater Laboratory Analytical Report

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

October 17, 2013

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

RE: Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 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: Angela Bown, COP Conestoga-Rovers & Associa
Jeff Walker, COP Conestoga-Rovers & Associa

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

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: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154652001	**GW-074934-100113-CM-MW-1**	Water	10/01/13 13:10	10/03/13 08:30
60154652002	**GW-074934-100113-CM-MW-2**	Water	10/01/13 13:30	10/03/13 08:30
60154652003	**GW-074934-100113-CM-MW-3**	Water	10/01/13 13:00	10/03/13 08:30
60154652004	**GW-074934-100113-CM-MW-4**	Water	10/01/13 13:20	10/03/13 08:30
60154652005	**GW-074934-100113-CM-MW-DUP**	Water	10/01/13 13:35	10/03/13 08:30

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

SAMPLE ANALYTE COUNT

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154652001	**GW-074934-100113-CM-MW-1**	EPA 6010	TJT	1
60154652002	**GW-074934-100113-CM-MW-2**	EPA 6010	TJT	1
60154652003	**GW-074934-100113-CM-MW-3**	EPA 6010	TJT	1
60154652004	**GW-074934-100113-CM-MW-4**	EPA 6010	TJT	1
60154652005	**GW-074934-100113-CM-MW-DUP**	EPA 6010	TJT	1

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

PROJECT NARRATIVE

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved (LF)
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: October 17, 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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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Sample: GW-074934-100113-CM-MW-1 **Lab ID: 60154652001** Collected: 10/01/13 13:10 Received: 10/03/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	ND	ug/L	5.0	0.49	1	10/11/13 12:00	10/15/13 10:53	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Sample: GW-074934-100113-CM-MW-2 **Lab ID: 60154652002** Collected: 10/01/13 13:30 Received: 10/03/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**21.4**	ug/L	5.0	0.49	1	10/11/13 12:00	10/15/13 11:02	7439-96-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Sample: GW-074934-100113-CM-MW-3 **Lab ID: 60154652003** Collected: 10/01/13 13:00 Received: 10/03/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	ND	ug/L	5.0	0.49	1	10/11/13 12:00	10/15/13 11:04	7439-96-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Sample: GW-074934-100113-CM-MW-4 **Lab ID: 60154652004** Collected: 10/01/13 13:20 Received: 10/03/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**157**	ug/L	5.0	0.49	1	10/11/13 12:00	10/15/13 11:07	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Sample: GW-074934-100113-CM-MW-DUP **Lab ID: 60154652005** Collected: 10/01/13 13:35 Received: 10/03/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved (LF)	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Manganese, Dissolved	**19.4**	ug/L	5.0	0.49	1	10/11/13 12:00	10/15/13 11:09	7439-96-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

QC Batch: MPRP/24684 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60154652001, 60154652002, 60154652003, 60154652004, 60154652005

METHOD BLANK: 1269910 Matrix: Water
Associated Lab Samples: 60154652001, 60154652002, 60154652003, 60154652004, 60154652005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/15/13 11:16	

LABORATORY CONTROL SAMPLE: 1269911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	978	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269912 1269913

Parameter	Units	60154652001 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	ND	1000	1000	982	958	98	95	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 07934 SAN JUAN 27-5 NO 34A
Pace Project No.: 60154652

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154652001	**GW-074934-100113-CM-MW-1**	EPA 3010	MPRP/24684	EPA 6010	ICP/19184
60154652002	**GW-074934-100113-CM-MW-2**	EPA 3010	MPRP/24684	EPA 6010	ICP/19184
60154652003	**GW-074934-100113-CM-MW-3**	EPA 3010	MPRP/24684	EPA 6010	ICP/19184
60154652004	**GW-074934-100113-CM-MW-4**	EPA 3010	MPRP/24684	EPA 6010	ICP/19184
60154652005	**GW-074934-100113-CM-MW-DUP**	EPA 3010	MPRP/24684	EPA 6010	ICP/19184

Pace Analytical
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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60154652

60154652

Client Name: COP - CRA NM

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 8023 6827 9443 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 ☑ Zplc

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

Cooler Temperature: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/3/13 AD

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: WT		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 / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased):		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: AMF Date: 10/3/13

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

Start: 1440	Start:
End: 1445	End:
Temp:	Temp:

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical
www.pacelabs.com

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

Page: of

Section A Required Client Information:

Company:	COP CRA NM
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone: (505)884-0672	Fax: (505)884-4932
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	
Project Name:	San Juan 27-5 No. 34A
Project Number:	74934

Section C Invoice Information:

Attention:	COP epayables
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 18

REGULATORY AGENCY

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

Site Location STATE: NM

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

Requested Analysis Filtered (Y/N)

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-074934-100113-CM-MW-1	WT	G			10/1/13	1310		1	X								X	X		60154652 BP3U CM
2	GW-074934-100113-CM-MW-2	WT	G			10/1/13	1330		1	X								X	X		CM
3	GW-074934-100113-CM-MW-3	WT	G			10/1/13	1300		1	X								X	X		CM
4	GW-074934-100113-CM-MW-4	WT	G			10/1/13	1320		1	X								X	X		CM
5	GW-074934-100113-CM-DUP	WT	G			10/1/13	1335		1	X								X	X		CM
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*Mg, Ca, B, K, Na										
* NOT Field Filtered Please filter & preserve @ Lab. Thanks	Christine Mathews/CRA	10/2/13	0930	E Brockett / Pace	10/3	0830	1.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: Christine Mathews DATE Signed (MM/DD/YY): 10/2/13

*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

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