3R – 432

2013 AGWMR

08 / 22 / 2014

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ConocoPhillips

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

August 22, 2014

Re: NMOCD Case No. 3R-432, 2013 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2013 Annual Groundwater Monitoring Report for the Charles et al No. 1 site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of groundwater monitoring from March, June, September, and December 2013.

Please let me know if you have any questions.

Sincerely,

David C. Hathaway

David C. Hathaway, P.E.

Enc

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Final Report

2013 Annual Groundwater Monitoring Report

ConocoPhillips Charles et al No. 1
San Juan County, New Mexico
API# 30-045-06623
NMOCD# 3R-432

Prepared for: ConocoPhillips Company

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

September 2014 • 074935 • Report No. 5

Partners in Sustainability

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Section 1.0 Introduction

This report presents the results of quarterly groundwater sampling events conducted during 2013 by Conestoga-Rovers & Associates, Inc. (CRA) at the ConocoPhillips Company (ConocoPhillips) Charles et al. No. 1 remediation site (Site) located near Angel Peak in the San Juan Basin of northwestern New Mexico. The Site is located on Navajo Nation land in Section 12, Township 27N, Range 9W, of San Juan County, New Mexico. Geographical coordinates for the Site are 36°35'10.25" North, 107°44'24.89" West. A Site vicinity map and Site plan are included as **Figures 1** and **2**, respectively.

1.1 Background

The historical timeline for the Site is summarized below, and is also presented in **Table 1**.

The Charles et al. No. 1 natural gas well was spudded in April 1965 by the Austral Oil Company of Houston, TX. Operatorship of the well was transferred several times before a subsidiary of Burlington Resources became the operator in August 1992. The well was abandoned shortly thereafter due to low production. The well was recompleted and production was restored on May 20, 2003. ConocoPhillips acquired Burlington Resources on March 30, 2006. ConocoPhillips plugged and abandoned the well on June 11, 2010.

A ConocoPhillips employee discovered an area of dead vegetation approximately 100 feet from the Blanco Wash and approximately ¼ mile from the Charles et al. No. 1 wellhead while investigating a pipeline release on June 23, 2008 (**Figure 2**). ConocoPhillips reported the release to the NMOCD by phone and email on June 24, 2008 and submitted a Form C-141 to NMOCD on June 30, 2008. Envirotech, Inc. (Envirotech) advanced several soil borings and installed seven piezometer/monitor wells using a hand auger between June 25 and 26, 2008. Solar-powered soil vapor extraction (SVE) equipment was installed over Monitor Well MW-1 on August 14, 2008 to facilitate the remediation of the area (Envirotech, 2009). To date, the SVE equipment continues to operate and remains in place over Monitor Well MW-1.

Envirotech conducted quarterly groundwater sampling events beginning June 25, 2008 and recommended discontinuing the sampling of Monitor Wells MW-5, MW-6, and MW-7 in March 2009. Tetra Tech, Inc. (Tetra Tech) began monitoring the Charles et al. No. 1 remediation site in March, 2010. On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech to CRA of Albuquerque, NM.

1.2 Hydrogeology

The Site is underlain by unconsolidated aeolian and alluvial deposits which are approximately 6 to 11 feet thick. The Jurassic-age Bluff Sandstone occurs beneath these unconsolidated sediments.

The Bluff can be divided into three sandstone zones based on the degree of weathering and fracturing. The upper weathered sandstone is weakly cemented with iron staining and is roughly 1-foot thick. The middle sandstone is moderately to heavily fractured, approximately 10 to 15 feet thick. The lower sandstone zone is relatively unfractured, well-cemented, and massive, about 110 feet thick.

A perched aquifer occurs within the upper two weathered and fractured zones in the Bluff Sandstone. The perched water table surface approximately coincides with the top of the Bluff Sandstone. Depths to perched water are generally 10 to 15 feet below land surface and the perched aquifer is approximately 15 feet thick across the Site.

The regional water table lies approximately 40 to 60 feet below the station in the lower, well-cemented Bluff Sandstone. No impacts to the regional aquifer were indicated by previous investigations.

Section 2.0 Groundwater Monitoring Methodology and Analytical Results

2.1 Groundwater Monitoring Summary

Quarterly groundwater sampling events were conducted by CRA at the Site on March 18, June 14, September 13, and December 13, 2013.

2.2 Groundwater Monitoring Methodology

Prior to collection of groundwater samples, depth to groundwater in each Site monitor well was measured using an oil/water interface probe(**Table 1)**.

Groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260. Monitor Wells MW-1, MW-2, MW-3, and MW-4 were purged of at least 3 casing volumes of groundwater using a 1.5-inch diameter, polyethylene, dedicated bailer prior to sampling. Groundwater quality parameters (pH, temperature, electrical conductivity, and dissolved oxygen) were collected using a YSI 556 multi-parameter sonde and results were recorded.

A summary of field measured groundwater quality parameters obtained in the course of sampling is presented in **Appendix A.**

2.3 Groundwater Monitoring Results

The Navajo Nation Environmental Protection Agency (NNEPA) has not established groundwater quality standards; however, drinking water quality on Navajo Nation land is mandated in Part II the Navajo Nation Primary Drinking Water Regulations (NNPDWR).

Drinking water quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedences of NNPDWR water quality standards in Site monitor wells are discussed below.

Results of the 2013 quarterly groundwater sampling events are discussed below:

- Groundwater flow at the Site is to the east-northeast at a gradient of 0.01 feet per foot which is generally consistent with previous data. Groundwater potentiometric surface maps reflecting 2013 quarterly groundwater elevations are presented as **Figures 3,4,5 and 6**.
- **Benzene:** NNPDWR drinking water quality standard for benzene is 0.005 milligrams per liter (mg/L). Groundwater samples collected from Monitor Well MW-1 during all four 2013 quarterly sampling events were found to contain benzene at concentrations exceeding 0.005 mg/L. Concentrations ranged from 0.0053 mg/L to 0.189 mg/L.
- **Toluene:** The NNPDWR drinking water quality standard for toluene is 1.0 milligrams per liter (mg/L). Groundwater samples collected from MW-1 during the June and September 2013 quarterly sampling events were found to contain toluene at concentrations exceeding 1.0 mg/L. Concentrations were 1.41mg/L and 3.30 mg/L, respectively.

A copy of Laboratory Analytical Reports for the 2013 quarterly groundwater sampling events are included in **Appendix B**. A historical laboratory analytical summary is available as **Table 3**. Site maps showing the concentration of benzene present in groundwater during each quarterly sampling event are included as **Figures 7, 8, 9,** and **10**. **Figure 11** presents a hydrograph of benzene concentrations vs. groundwater levels over time in MW-1. Note that the peaks seen in 2010 and 2011 are no longer observed and curve exhibits a generally stable decreasing trend.

Section 3.0 Conclusion and Recommendations

Groundwater samples collected from MW-1 have continually exceeded NNPDWR drinking water quality standards for benzene from June 2008 to December of 2013 and have intermittently exceeded the standards for toluene and ethylbenzene. Samples collected from MW-3 and MW-4 have never exceeded standards for BTEX constituents during this same period. Groundwater samples collected from MW-2 have not exceeded the NNPDWR standards for BTEX constituents since the September 2008 sampling event, when benzene was detected above the standard.

Due to intermittent presence of a hydrocarbon sheen, CRA continues the use of a hydrocarbon absorbent sock in MW-1. The sock has been changed periodically and maintained in the well since September of 2010.

CRA recommends a groundwater extraction or pumping event utilizing a vacuum truck, or mobile dual phase extraction, be conducted to remove hydrocarbon-impacted groundwater from Monitor Well MW-1. A half to full day event is recommended to remove as much groundwater as possible, dependant upon groundwater recharge in MW-1.

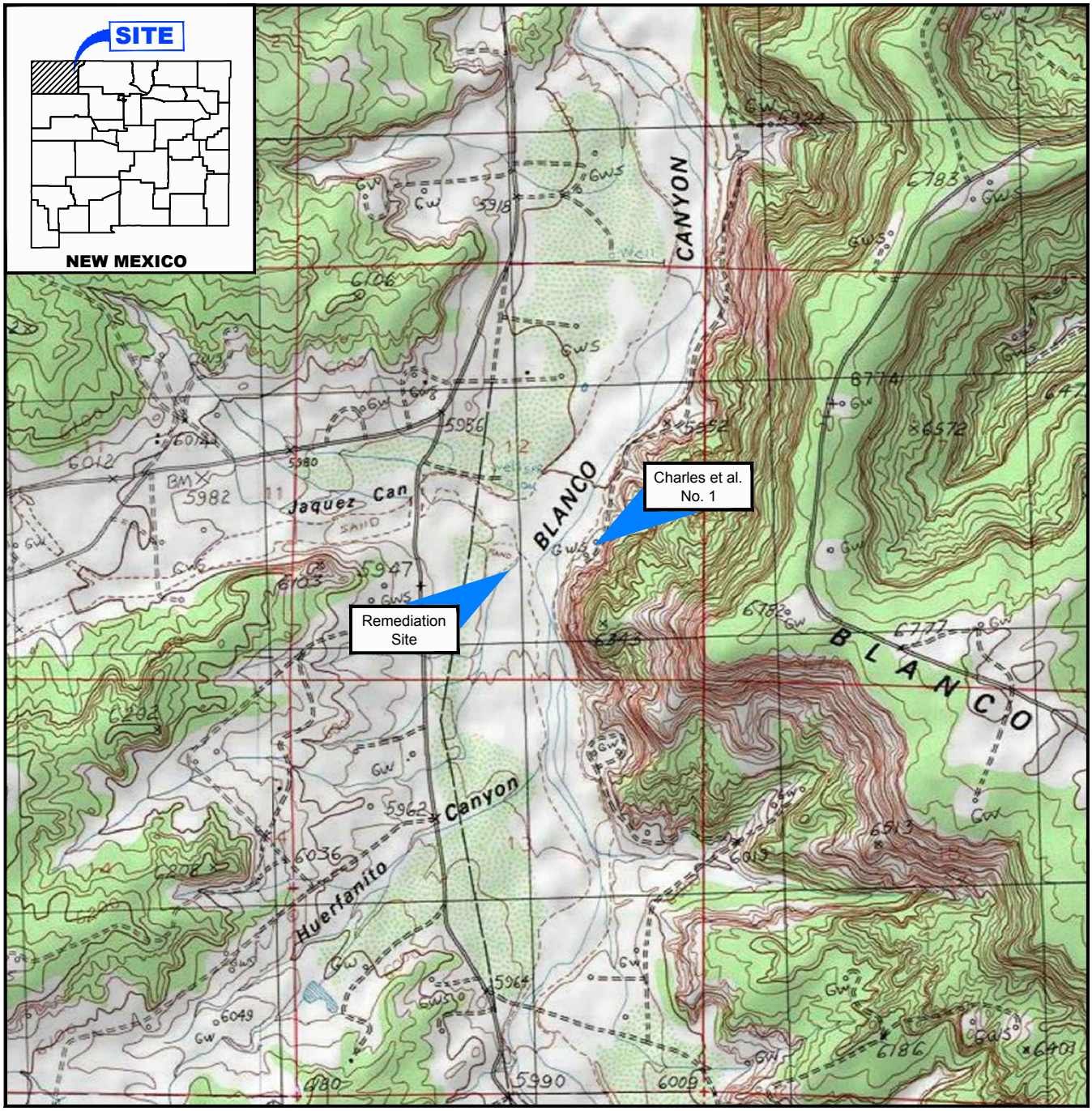
CRA recommends continued quarterly groundwater sampling at the Site. Remediation Site closure will be requested when groundwater analytical results indicate that all monitored groundwater quality parameters are consistently below NNPDWR drinking water quality standards or background levels have been reached.

Section 4.0 References

Envirotech Incorporated (2009). *June 2009 Groundwater Monitoring Report.* Prepared for ConocoPhillips. Report Dated August 2009.

State of New Mexico Energy Minerals and Natural Resources Form C-141 (2003). *Release Notification and Corrective Action.* Dated June 30, 2008.

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"FRESNO CANYON, NEW MEXICO"

N

0 1000 2000ft

Figure 1

SITE VICINITY MAP
CHARLES et al. No. 1
SEC 12 36.5860050 N, -107.740131 W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074935-95(005)GN-DL004_TOPO MAR 17/2014

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

Figure 2

SITE PLAN
CHARLES et al. No. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

CRA

074935-95(005)GN-DL001_SD MAR 17/2014

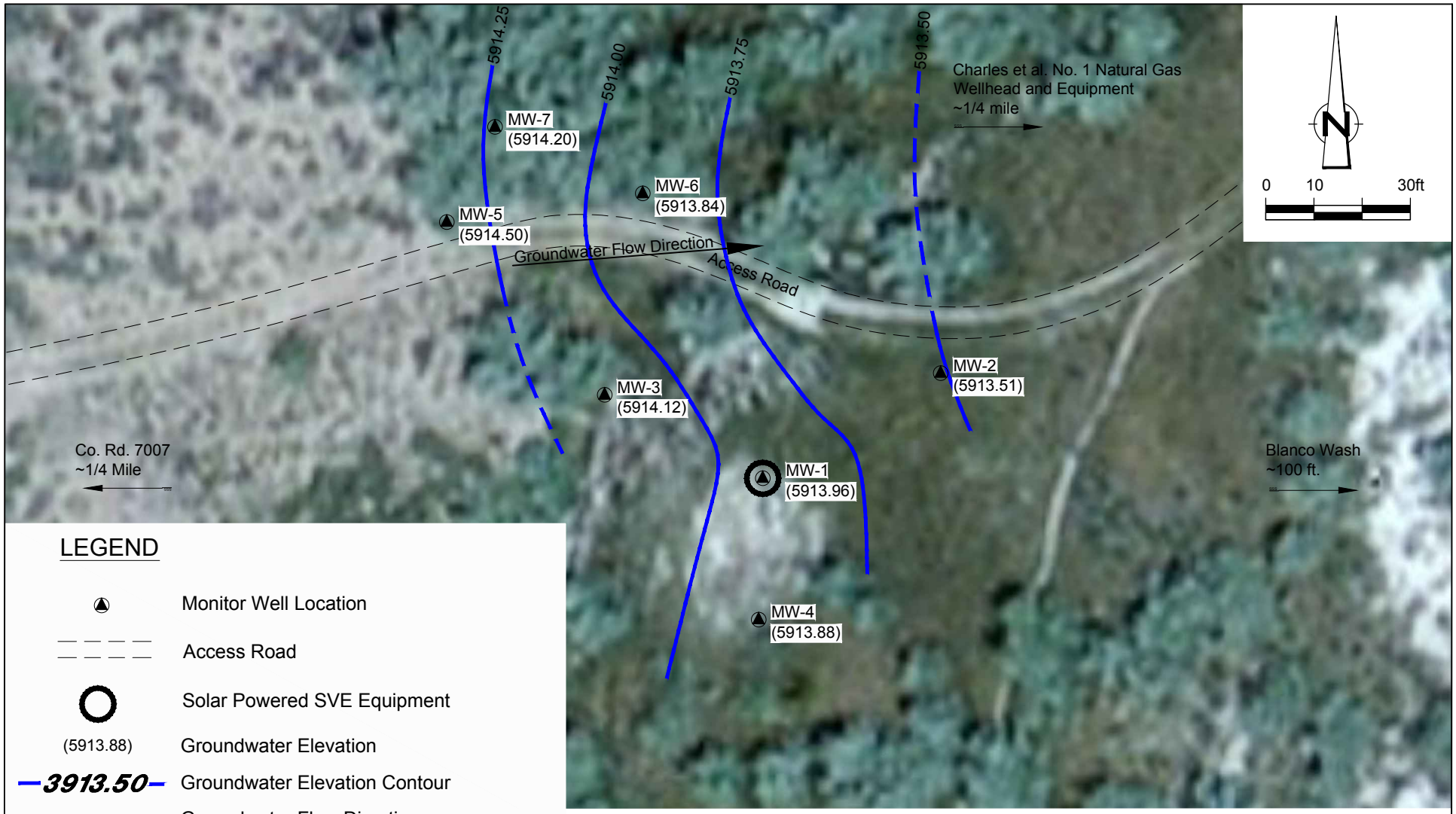


Figure 3

MARCH 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
CHARLES et al. No. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

074935-95(005)GN-DL002_GG MAR 17/2014

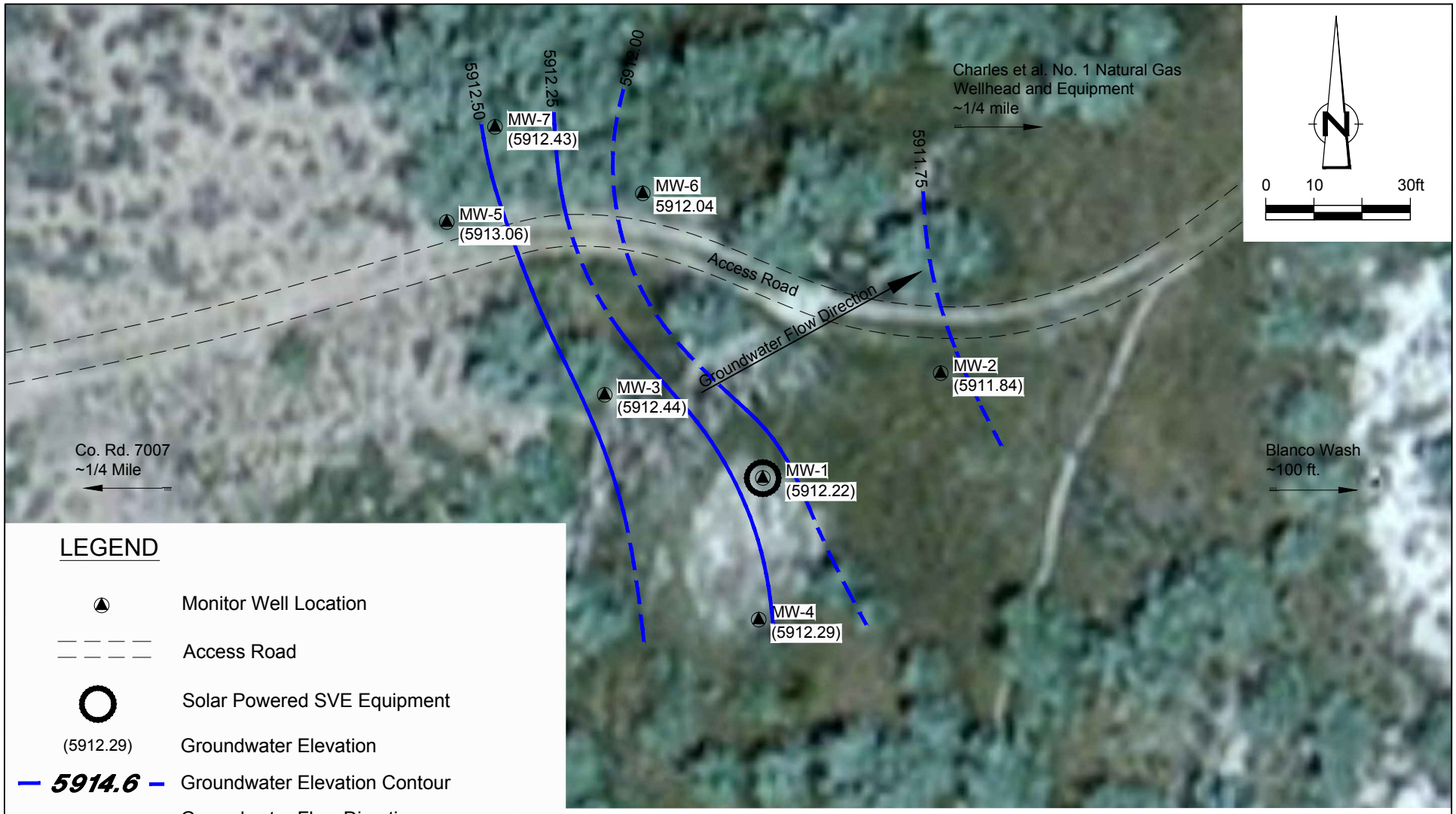


Figure 4

JUNE 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
CHARLES et al. NO. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

074935-95(005)GN-DL002_GG MAR 17/2014

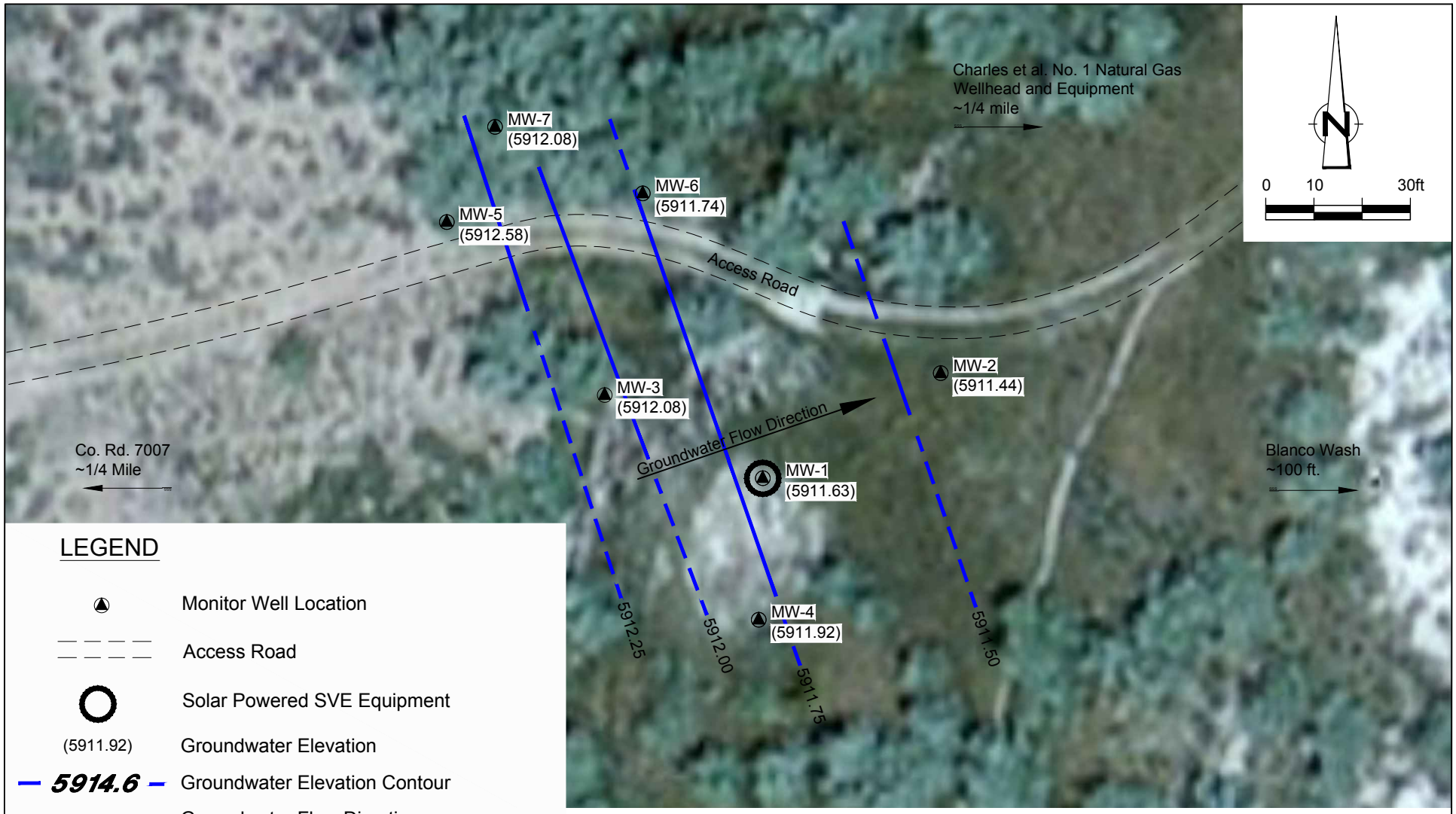


Figure 5

SEPTEMBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
CHARLES et al. NO. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

CRA

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

074935-95(005)GN-DL002_GG MAR 27/2014

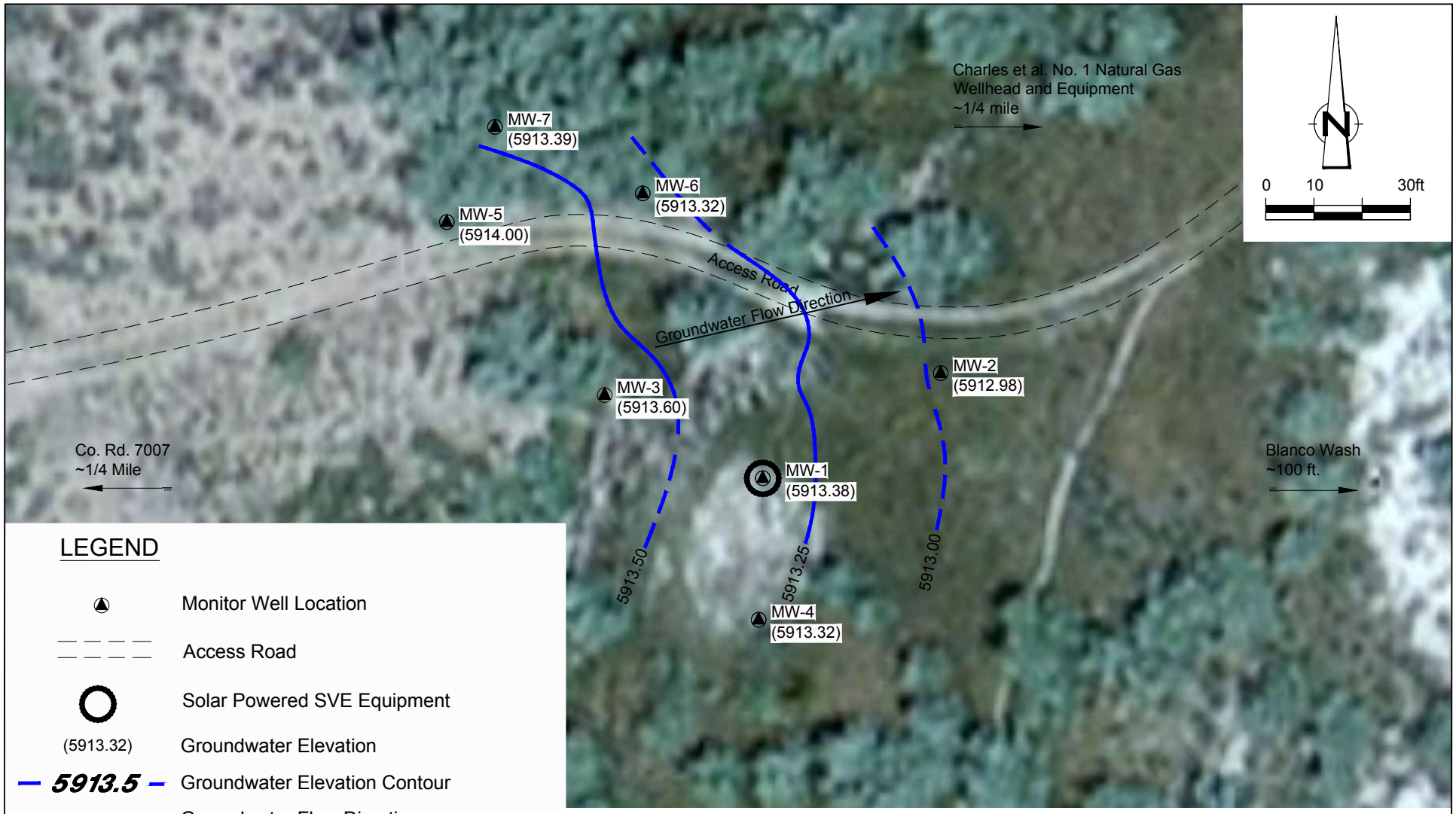


Figure 6

DECEMBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
CHARLES et al. NO. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

074935-95(005)GN-DL002_GG MAR 17/2014

Figure 7

MARCH 2013 BENZENE CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

074935-95(005)GN-DL003_BENZ MAR 17/2014

Figure 8

JUNE 2013 BENZENE CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

074935-95(005)GN-DL003_BENZ MAR 17/2014

LEGEND

- Monitor Well Location
- Access Road
- Solar Powered SVE Equipment
- (0.0414) Benzene Concentration, mg/L
- 0.01 Benzene Concentration Contour, mg/L
- (NS) Benzene Concentration, mg/L

Adapted from Tetratech, Inc. figure,
"Site Layout Map"

Figure 9

SEPTEMBER 2013 BENZENE CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074935-95(005)GN-DL003_BENZ MAR 17/2014

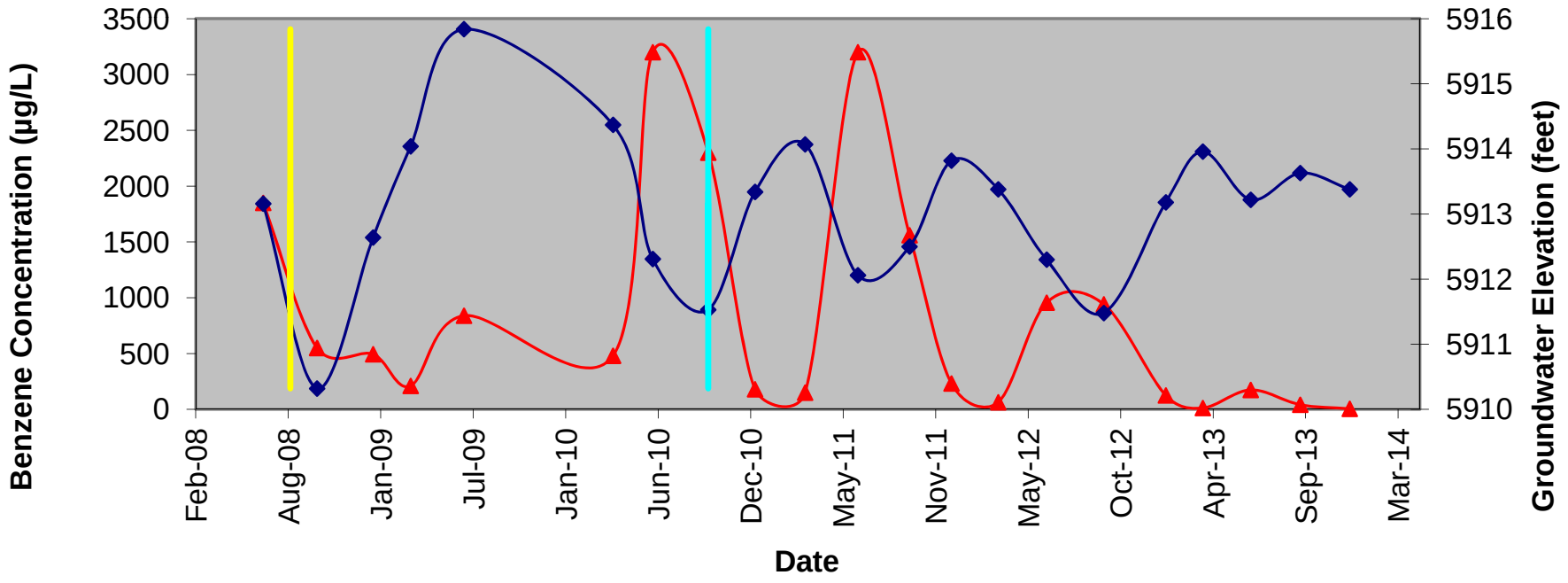
Adapted from Tetratech, Inc. figure,
"Site Layout Map"

Figure 10

DECEMBER 2013 BENZENE CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N,-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074935-95(005)GN-DL003_BENZ MAR 17/2014

Figure 11. ConocoPhillips Charles et al. No. 1 Benzene Concentration vs. Groundwater Elevation Over Time in MW-1



Tables

TABLE 1

SITE HISTORICAL TIMELINE
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Date/Time Period	*Event/Action*	*Description/Comments*
April 12, 1965	Well Spudded	Well spudded by Austral Oil Company Inc.
March 30, 1978	Operator Change	Change in operatorship to the Superior Oil Company.
September 1, 1986	Operator Change	Change in operatorship to Mobil Producing TX and NM Inc.
August 1, 1992	Operator Change	Change in operatorship to Meridian Oil Inc, a subsidiary of Burlington Resources.
August 1, 2001	Well Abandoned	Burlington Resources abandons well due to low production.
May 20, 2003	Well Returns to Production	The Charles et al. No. 1 natural gas well returned to production.
March 31, 2006	Operator Change	ConocoPhillips acquires Burlington Resources.
June 23, 2008	Release Discovered	A release was discovered from the pipeline running from the wellhead to the meter house; upon walking the pipeline, an area of dead vegetation was also discovered approximately 100 feet from Blanco Wash.
June 24, 2008	Release Reported	ConocoPhillips reported the release to the New Mexico Oil Conservation Division (NMOCD) via phone and email.
June 25-26, 2008	Initial Site Assessment	Envirotech, Inc. of Farmington, NM advances several soil borings and installed piezometers using a hand auger to determine the extent of impact (Envirotech, 2009). Envirotech also installed Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7; and obtained water level measurements and samples from all of the wells.
August 14, 2008	Soil Vapor Extraction System Installed	Envirotech, Inc. installed solar-powered Soil Vapor Extraction (SVE) equipment over the existing Monitor Well, MW-1; and obtained water level measurements and samples from all of the wells.
October 2, 2008	Groundwater Monitoring	Envirotech, Inc. completed the third round of groundwater sampling.
January 13, 2009	Groundwater Monitoring	Envirotech, Inc. completed the fourth round of groundwater sampling.
March 23, 2009	Groundwater Monitoring	Envirotech, Inc. completed the fifth round of groundwater sampling and recommended sampling only Monitor Wells MW-1, MW-2, MW-3, and MW-4.
June 29, 2009	Groundwater Monitoring	Envirotech, Inc. completed the sixth round of groundwater sampling and recommended drilling additional monitor wells downgradient of MW-2.
March 30, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling.
June 11, 2010	Well Abandoned	Charles et al. No. 1 is plugged and abandoned by ConocoPhillips.
June 11, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling.
September 21, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling. An oil absorbant sock was placed in MW-1.
December 16, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling. The benzene concentration in MW-1 exceeded the Navajo Nation Primary Drinking Water Regulations (NNPDWR) standard. Oil absorbant sock in MW-1 was replaced.
March 18, 2011	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling. The benzene concentration in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.
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 23, 2011	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and ethylbenzene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 26, 2011	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and ethylbenzene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 12, 2011	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.
March 7, 2012	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.
June 4, 2012	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene, toluene, and ethylbenzene levels in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 17, 2012	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene, toluene, and ethylbenzene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
January 9, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and toluene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
March 18, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
June 14, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and Toluene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 13, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and Toluene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 13, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	*TOC Elevation* (ft AMSL)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft AMSL)*
MW-1	5917.87	6/25/2008	4.71	5913.16
		8/14/2008	5.21	5912.66
	5917.05	10/2/2008	5.13	5911.92
		1/13/2009	4.41	5912.64
		3/23/2009	3.01	5914.04
		6/29/2009	2.12	5914.93
		3/30/2010	2.68	5914.37
		6/11/2010	4.74	5912.31
		9/21/2010	5.52	5911.53
		12/16/2010	3.71	5913.34
		3/18/2011	2.98	5914.07
		6/23/2011	4.99	5912.06
		9/27/2011	4.55	5912.50
		12/12/2011	3.23	5913.82
		3/7/2012	3.67	5913.38
		6/4/2012	4.75	5912.30
		9/17/2012	5.57	5911.48
		1/9/2013	3.87	5913.18
		3/18/2013	3.09	5913.96
		6/14/2013	4.83	5912.22
		9/13/2013	5.42	5911.63
		12/13/2013	3.67	5913.38
MW-2	5917.33	6/25/2008	4.66	5912.67
		8/14/2008	5.35	5911.98
	5916.53	10/2/2008	5.12	5911.41
		1/13/2009	3.15	5913.38
		3/23/2009	2.65	5913.88
		6/29/2009	4.20	5912.33
		3/30/2010	2.57	5913.96
		6/11/2010	4.63	5911.90
		9/21/2010	5.53	5911.00
		12/16/2010	3.53	5913.00
		3/18/2011	2.70	5913.83
		6/23/2011	4.80	5911.73
		9/27/2011	4.30	5912.23
		12/12/2011	3.13	5914.20
		3/7/2012	2.58	5913.95
		6/4/2012	4.51	5912.02
		9/17/2012	5.56	5910.97
		1/9/2013	3.75	5912.78
		3/18/2013	3.02	5913.51
		6/14/2013	4.69	5911.84
		9/13/2013	5.09	5911.44
		12/13/2013	3.55	5912.98
MW-3	5920.57	6/25/2008	7.16	5913.41
		8/14/2008	8.86	5911.71
	5919.8	10/2/2008	7.63	5912.17
		1/13/2009	5.56	5914.24
		3/23/2009	5.56	5914.24
		6/29/2009	1.10	5918.70
		3/30/2010	5.38	5914.42
		6/11/2010	7.44	5912.36
		9/21/2010	8.22	5911.58
		12/16/2010	6.06	5913.74
		3/18/2011	5.42	5914.38
		6/23/2011	7.68	5912.89
		9/27/2011	7.13	5912.67
		12/12/2011	5.78	5914.79
		3/7/2012	5.33	5914.47
		6/4/2012	7.27	5912.53
		9/17/2012	8.15	5911.65
		1/9/2013	6.37	5913.43
		3/18/2013	5.68	5914.12
		6/14/2013	7.36	5912.44
		9/13/2013	7.72	5912.08
		12/13/2013	6.20	5913.60

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	*TOC Elevation* (ft AMSL)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft AMSL)*
MW-4	5920.48	6/25/2008	4.27	5916.21
		8/14/2008	7.89	5912.59
	5919.69	10/2/2008	7.73	5911.96
		1/13/2009	5.94	5913.75
		3/23/2009	5.64	5914.05
		6/29/2009	6.84	5912.85
		3/30/2010	5.40	5914.29
		6/11/2010	7.23	5912.46
		9/21/2010	8.17	5911.52
		12/16/2010	6.24	5913.45
		3/18/2011	5.50	5914.19
		6/23/2011	7.50	5912.19
		9/27/2011	6.98	5912.71
		12/12/2011	5.94	5914.54
		3/7/2012	5.36	5914.33
		6/4/2012	7.18	5912.51
		9/17/2012	8.18	5911.51
		1/9/2013	6.53	5913.16
		3/18/2013	5.81	5913.88
		6/14/2013	7.40	5912.29
		9/13/2013	7.77	5911.92
		12/13/2013	6.37	5913.32
MW-5	5923.63	6/26/2008	8.23	5915.40
		8/14/2008	8.68	5914.95
	5921.55	10/2/2008	8.70	5912.85
		1/13/2009	6.96	5914.59
		3/23/2009	6.58	5914.97
		6/29/2009	4.10	5917.45
		3/30/2010	NM	NM
		6/11/2010	8.20	5913.35
		9/21/2010	9.25	5912.30
		12/16/2010	7.40	5914.15
		3/18/2011	6.74	5914.81
		6/23/2011	NM	NM
		9/26/2011	8.25	5913.30
		12/12/2011	7.12	5916.51
		3/7/2012	6.65	5914.90
		6/4/2012	8.17	5913.38
		9/17/2012	9.30	5912.25
		1/9/2013	7.76	5913.79
		3/18/2013	7.05	5914.50
		6/14/2013	8.49	5913.06
		9/13/2013	8.97	5912.58
		12/13/2013	7.55	5914.00
MW-6	5920.68	6/26/2008	6.75	5913.93
		8/14/2008	6.97	5913.71
	5918.64	10/2/2008	6.83	5911.81
		1/13/2009	4.89	5913.75
		3/23/2009	4.12	5914.52
		6/29/2009	1.80	5916.84
		3/30/2010	NM	NM
		6/11/2010	6.63	5912.01
		9/21/2010	7.41	5911.23
		12/16/2010	5.12	5913.52
		3/15/2011	4.49	5914.15
		6/23/2011	6.80	5911.84
		9/26/2011	6.33	5912.31
		12/12/2011	4.84	5915.84
		3/7/2012	4.46	5914.18
		6/4/2012	6.45	5912.19
		9/17/2012	7.37	5911.27
		1/9/2013	5.46	5913.18
		3/18/2013	4.80	5913.84
		6/14/2013	6.60	5912.04
		9/13/2013	6.90	5911.74
		12/13/2013	5.32	5913.32

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	*TOC Elevation* (ft AMSL)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft AMSL)*
MW-7	5920.75	6/26/2008	6.32	5914.43
		8/14/2008	7.17	5913.58
	5918.74	10/2/2008	6.42	5912.32
		1/13/2009	NM	NM
		3/23/2009	4.67	5914.07
		6/29/2009	1.56	5917.18
		3/30/2010	NM	NM
		6/11/2010	NM	NM
		9/21/2010	NM	NM
		12/16/2010	4.91	5913.83
		3/18/2011	DRY (1)	NA
		6/23/2011	6.55	5912.19
		9/26/2011	6.14	5912.60
		12/12/2011	DRY (1)	NA
		3/7/2012	DRY (1)	NA
		6/4/2012	6.08	5912.66
		9/17/2012	7.11	5911.63
		1/9/2013	5.28	5913.46
		3/18/2013	4.54	5914.20
		6/14/2013	6.31	5912.43
		9/13/2013	6.66	5912.08
		12/13/2013	5.35	5913.39

Notes:
1. (1) Indication of well being dry is inconsistent with perviously recorded levels. Will continue to monitor depth to groundwater and total depth to determine a potential cause.
2. ft = feet
3. AMSL = Above mean sea level
4. NA = Not available
5. NM = Not measured
6. Note: Measurements between 6/25/2008 and 6/29/2009 obtained by Envirotech, Inc.

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	Sample ID	Date	Sample Type	**Benzene (mg/L)**	**Toluene (mg/L)**	**Ethylbenzene (mg/L)**	**Xylenes (total) (mg/L)**
NNPDWR Standards				**0.005**	**1**	**0.7**	**10**
MW-1	MW-1	6/25/2008	(orig)	**1.85**	0.486	**0.971**	0.379
	MW-1	9/25/2008	(orig)	**0.575**	0.66	0.293	1.547
	MW-1	1/13/2009	(orig)	**0.494**	0.581	0.474	3.572
	MW-1	3/23/2009	(orig)	**0.21**	0.311	0.378	1.418
	MW-1	6/29/2009	(orig)	**0.839**	0.107	0.674	3.404
	MW-1	3/30/2010	(orig)	**0.48**	0.11	0.25	1.573
	MW-1	6/11/2010	(orig)	**3.2**	0.45	0.69	4.51
	MW-1	9/21/2010	(orig)	**2.3**	**1.1**	0.25	4.84
	MW-1	12/16/2010	(orig)	**0.18**	0.2	0.25	1.79
	MW-1	3/18/2011	(orig)	**0.15**	0.14	0.16	1.083
	GW-74935-062311-PG04	6/23/2011	(orig)	**3.20**	0.933	**0.972**	5.80
	GW-74935-062311-PG05	6/23/2011	(Duplicate)	**3.38**	**1.45**	**1.06**	6.76
	GW-074935-092611-CM-008	9/26/2011	(orig)	**1.56**	**2.61**	0.624	6.59
	GW-074935-092611-CM-009	9/26/2011	(Duplicate)	**1.57**	**3.02**	**0.756**	7.26
	GW-074935-121211-CB-MW-1	12/12/2011	(orig)	**0.232**	0.947	0.5	3.94
	GW-074935-121211-CB-DUP	12/12/2011	(Duplicate)	**0.244**	0.994	0.58	4.65
	GW-074935-3712-CB-MW-1	3/7/2012	(orig)	**0.0637**	0.366	0.293	2.23
	GW-074935-3712-CB-DUP	3/7/2012	(Duplicate)	**0.0693**	0.416	0.333	2.63
	GW-074935-060412-CB-MW-1	6/4/2012	(orig)	**0.956**	**2.38**	**0.919**	6.71
	GW-074935-060412-CB-DUP	6/4/2012	(Duplicate)	**0.934**	**2.26**	**0.966**	6.36
	GW-074935-091712-CM-MW-1	9/17/2012	(orig)	**0.941**	**3.51**	**0.785**	5.56
	GW-074935-091712-CM-DUP	9/17/2012	(Duplicate)	**0.984**	**3.04**	**0.852**	5.87
	GW-074935-010913-CM-MW-1	1/9/2013	(orig)	**0.125**	**1.14**	0.334	2.44
	GW-074935-010913-CM-DUP	1/9/2013	(Duplicate)	**0.142**	**1.52**	0.438	3.09
	GW-074935-031813-CM-MW-1	3/18/2013	(orig)	**0.012**	0.195	0.0871	0.581
	GW-074935-031813-CM-DUP	3/18/2013	(Duplicate)	**0.0114**	0.188	0.0891	0.575
	GW-074935-061413-JK-MW1	6/14/2013	(orig)	**0.174**	**1.41**	0.668	3.26
	GW-074935-061413-JK-DUP	6/14/2013	(Duplicate)	**0.189**	**2.02**	**0.742**	4.17
	GW-074935-091313-CM-MW-1	9/13/2013	(orig)	**0.0414**	**3.240**	0.123	4.340
	GW-074935-091313-CM-DUP	9/13/2013	(Duplicate)	**0.0372**	**3.300**	0.126	4.430
	GW-074935-121313-CM-MW-1	12/13/2013	(orig)	**0.0053**	0.188	0.122	0.681
	GW-074935-121313-CM-DUP	12/13/2013	(Duplicate)	**0.0071**	0.258	0.148	0.843
MW-2	MW-2	6/25/2008	(orig)	0.0042	0.0046	0.0016	0.0011
	MW-2	9/25/2008	(orig)	**0.0195**	0.0258	0.0051	0.1008
	MW-2	1/13/2009	(orig)	0.0021	0.002	0.0022	0.0281
	MW-2	3/23/2009	(orig)	0.0014	0.0004	0.0006	0.0073
	MW-2	6/29/2009	(orig)	0.0015	<0.0002	0.0002	0.0004
	MW-2	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG02	6/23/2011	(orig)	0.00060	< 0.0010	< 0.0010	< 0.0030
	GW-074935-092611-JP-010	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-2	12/12/2011	(orig)	0.00034	< 0.001	< 0.001	< 0.003
	GW-074935-3712-CB-MW-2	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-060412-CB-MW-2	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091712-CM-MW-2	9/17/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-010913-CM-MW-2	1/9/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-031813-CM-MW-2	3/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061413-JK-MW-2	6/14/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091313-CM-MW-2	9/13/2013	(orig)	<0.001	<0.001	<0.001	<0.003
	GW-074935-121313-CM-MW-2	12/13/2013	(orig)	<0.001	<0.001	<0.001	<0.003

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	Sample ID	Date	Sample Type	**Benzene (mg/L)**	**Toluene (mg/L)**	**Ethylbenzene (mg/L)**	**Xylenes (total) (mg/L)**
MW-3	MW-3	6/25/2008	(orig)	ND	ND	ND	ND
	MW-3	9/25/2008	(orig)	ND	0.0023	0.0009	0.0121
	MW-3	1/13/2009	(orig)	ND	ND	ND	ND
	MW-3	3/23/2009	(orig)	<0.0002	0.0002	0.0002	0.0014
	MW-3	6/29/2009	(orig)	<0.0002	0.0017	0.0007	0.0082
	MW-3	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG01	6/23/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	GW-074935-092611-CM-006	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-3	12/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-3712-CB-MW-3	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-060412-CB-MW-3	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091712-CM-MW-3	9/17/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-010913-CM-MW-3	1/9/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-031813-CM-MW-3	3/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061413-JK-MW-3	6/14/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091313-CM-MW-3	9/13/2013	(orig)	<0.001	<0.001	<0.001	<0.003
	GW-074935-121313-CM-MW-3	12/13/2013	(orig)	<0.001	<0.001	<0.001	<0.003
MW-4	MW-4	6/25/2008	(orig)	0.0038	0.0199	0.0014	0.007
	MW-4	9/25/2008	(orig)	ND	ND	ND	ND
	MW-4	1/13/2009	(orig)	ND	ND	ND	ND
	MW-4	3/23/2009	(orig)	<0.0002	<0.0002	<0.0002	<0.0002
	MW-4	6/29/2009	(orig)	<0.0002	<0.0002	0.0002	0.0029
	MW-4	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG03	6/23/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	GW-074935-092611-SP-007	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-4	12/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-3712-CB-MW-4	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-060412-CB-MW-4	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-010913-CM-MW-4	1/9/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091712-CM-MW-4	9/17/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-031813-CM-MW-4	3/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061413-JK-MW-4	6/14/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091313-CM-MW-4	9/13/2013	(orig)	<0.001	<0.001	<0.001	<0.003
	GW-074935-121313-CM-MW-4	12/13/2013	(orig)	<0.001	<0.001	<0.001	<0.003

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
CHARLES ET AL. NO. 1

Well ID	Sample ID	Date	Sample Type	**Benzene (mg/L)**	**Toluene (mg/L)**	**Ethylbenzene (mg/L)**	**Xylenes (total) (mg/L)**
MW-5	MW-5	6/26/2008	(orig)	ND	ND	ND	ND
	MW-5	9/25/2008	(orig)	ND	ND	ND	ND
	MW-5	1/13/2009	(orig)	ND	ND	ND	ND
	MW-5	3/23/2009	(orig)	ND	ND	ND	ND
MW-6	MW-6	6/26/2008	(orig)	ND	ND	ND	ND
	MW-6	9/25/2008	(orig)	ND	ND	ND	ND
	MW-6	1/13/2009	(orig)	ND	ND	ND	ND
	MW-6	3/23/2009	(orig)	ND	ND	ND	ND
MW-7	MW-7	6/26/2008	(orig)	ND	ND	ND	ND
	MW-7	9/25/2008	(orig)	ND	ND	ND	ND
	MW-7	3/23/2009	(orig)	ND	ND	ND	ND

Notes:
1. MW = monitor well
2. ND = Not Detected
3. NNPDWR = Navajo Nation Primary Drinking Water Regulations
4. mg/L = milligrams per liter (parts per million)
5. < 1.0 = Below laboratory detection limit of 1.0 mg/L
6. **Bold** = concentrations that exceed the NNEPA limits
7. Analytes sampled between 6/25/2008 and 6/29/2009 obtained by Envirotech, Inc.

Appendix A

Field Forms

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al. No.1 JOB# 074935

SAMPLE ID: GW-074935-031813-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)
3.18.13	3.18.13	1325	0.678	2.25

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		

FIELD MEASUREMENTS

DEPTH TO WATER 3.09 (feet) WELL ELEVATION (feet)

WELL DEPTH 7.33 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
3.97 (°C)	6.91 (std)	3.789 (g/L)	3485 (µS/cm)	4.51 (mg/L)	-165.3 (mV)	1.25 (gal)
3.86 (°C)	6.82 (std)	3.762 (g/L)	3443 (µS/cm)	4.49 (mg/L)	-181.2 (mV)	1.75 (gal)
3.88 (°C)	6.84 (std)	3.715 (g/L)	3406 (µS/cm)	4.40 (mg/L)	-195.1 (mV)	2.25 (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: HYDROCARBON COLOR: DK GRAY SHEEN Y/N Yes - spotty/discontinuous ~~discontinuous~~

WEATHER CONDITIONS: TEMPERATURE 65° WINDY Y/N breezy PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

Duplicate collected @ ~~1325~~ 1330

GW-074935-031813-CM-Dup

0.678 x 3 = 2.034

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

DATE 3/18/13 PRINT Christine Mateas SIGNATURE Christine Mateas

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES ET AL NO. 1 JOB# 074935

SAMPLE ID: GW-074935-031813-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)
3.18.13	3.18.13	1315	0.717	2.25

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		

FIELD MEASUREMENTS

DEPTH TO WATER	3.02 (feet)	WELL ELEVATION	(feet)
WELL DEPTH	7.50 (feet)	GROUNDWATER ELEVATION	(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
4.35 (°C)	7.13 (std)	2.548 (g/L)	2375 (µS/cm)	10.03 (mg/L)	-97.9 (mV)	1.25 (gal)
4.11 (°C)	7.11 (std)	2.561 (g/L)	2365 (µS/cm)	9.22 (mg/L)	-110.8 (mV)	1.25 (gal)
4.60 (°C)	7.25 (std)	2.663 (g/L)	2502 (µS/cm)	5.99 (mg/L)	-119.5 (mV)	2.25 (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: very light gray SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 65° WINDY Y/N breezy PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

0.717 x 3 = 2.150

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

DATE 3/18/13 PRINT Christine Matheus SIGNATURE Christine Matheus

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES FT AC NO. 1 JOB# 074935

SAMPLE ID: GW-074935-031813-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)
3-18-13	3-18-13	1300	0.754	2.25

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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	NA	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER	5.68 (feet)	WELL ELEVATION	(feet)
WELL DEPTH	10.39 (feet)	GROUNDWATER ELEVATION	(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
6.60 (°C)	7.16 (std)	2.087 (g/L)	2020 (µS/cm)	7.17 (mg/L)	-115.8 (mV)	1.25 (gal)
5.30 (°C)	7.01 (std)	2.052 (g/L)	1968 (µS/cm)	7.00 (mg/L)	-115.1 (mV)	1.75 (gal)
5.25 (°C)	6.98 (std)	2.035 (g/L)	1950 (µS/cm)	6.97 (mg/L)	-117.9 (mV)	2.25 (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: very light brown/grey SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE 65° WINDY Y/N breezy PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

0.754 x 3 = 2.261

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

DATE 3/18/13 PRINT Christine Mattes SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES ET AL No. 1 JOB# 074935

SAMPLE ID: GW-074935-030813-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)
3-18-13	3-18-13	1240	0.733	2.25

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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		

FIELD MEASUREMENTS

DEPTH TO WATER 5.81 (feet) WELL ELEVATION (feet)

WELL DEPTH 10.39 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO mg/L	ORP	VOLUME
4.46 (°C)	7.02 (std)	2.725 (g/L)	2550 (µS/cm)	18.33 (mg/L)	-31.9 (mV)	1.25 (gal)
4.48 (°C)	7.02 (std)	2.780 (g/L)	2601 (µS/cm)	12.68 (mg/L)	-35.0 (mV)	1.75 (gal)
4.51 (°C)	7.04 (std)	2.811 (g/L)	2632 (µS/cm)	11.48 (mg/L)	-35.8 (mV)	2.25 (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 64° WINDY Y/N breezy PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS: H_2O slight orange @ first, then light brown after 1 volume.

0.733 * 3 = 2.198

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

DATE 3/18/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES ET AL JOB# 374935
SAMPLE ID: GW-074935-061413-SK-MW1 WELL# MW1

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)
6.14.13	6.14.13	920	0.398	1.25

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	C	A - TEFLON	D - PVC		X= PURGING MATERIAL OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING MATERIAL	C	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		

FIELD MEASUREMENTS

DEPTH TO WATER 4.83 (feet) WELL ELEVATION (feet)
WELL DEPTH 7.52 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
13.13 (°C)	7.01 (std)	3.185 (g/L)	4914 (µS/cm)	2.86 (mg/L)	-297.9 (mV)	0.25 (gal)
13.03 (°C)	7.16 (std)	3.231 (g/L)	4979 (µS/cm)	2.21 (mg/L)	-311.9 (mV)	0.75 (gal)
12.57 (°C)	7.19 (std)	3.323 (g/L)	5128 (µS/cm)	1.90 (mg/L)	-339.9 (mV)	1.25 (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: ODOR: slight COLOR: black SHEEN Y/N
WEATHER CONDITIONS: TEMPERATURE 70 WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N
SPECIFIC COMMENTS:

DUP COLLECTED

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

DATE PRINT Josh Ribowa SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES ET AL JOB# 074935

SAMPLE ID: GW-074935-061413-SK-MW2 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)
6.14.13	6.14.13	900	.42	1.25

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)
SAMPLING TUBING: C	B - TYGON	E - POLYETHYLENE		
	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45: A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER: 4.69 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 7.49 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
12.37 (°C)	7.17 (std)	1.969 (g/L)	3041 (µS/cm)	3.67 (mg/L)	-138.3 (mV)	~~0.25~~ (gal) 0.5
11.07 (°C)	7.11 (std)	2.081 (g/L)	3201 (µS/cm)	0.57 (mg/L)	-163.2 (mV)	~~0.5~~ (gal) 0.75
10.90 (°C)	7.18 (std)	2.079 (g/L)	3197 (µS/cm)	.28 (mg/L)	-187.8 (mV)	1.25 (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: ODOR: COLOR: SHEEN Y/N: N

WEATHER CONDITIONS: TEMPERATURE: 70 WINDY Y/N: N PRECIPITATION Y/N (IF Y TYPE): N

SPECIFIC COMMENTS: 2.8 X .15 = .42 x 3 = 1.26

~~DUP COLLECTED~~ CK 7-10-13

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

DATE PRINT SEAN KIRCHNER SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Chevron et al JOB# 074935

SAMPLE ID: BW-074935-061413-SC-MW3 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)
6.14.13	6.14.13	920	0.566	1.25

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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	C	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	C	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER: ~~4.83~~ 7.36 (feet) WELL ELEVATION: (feet)

WELL DEPTH: ~~9.52~~ 10.4 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
12.27 (°C)	7.57 (std)	2.167 (g/L)	3342 (µS/cm)	.86 (mg/L)	-188.2 (mV)	0 (gal)
12.04 (°C)	7.33 (std)	2.167 (g/L)	3331 (µS/cm)	.64 (mg/L)	-198.0 (mV)	.5 (gal) 0.25
11.89 (°C)	7.21 (std)	2.121 (g/L)	3262 (µS/cm)	.45 (mg/L)	-191.2 (mV)	1.0 (gal) 0.5
11.85 (°C)	7.14 (std)	2.043 (g/L)	3248 (µS/cm)	.31 (mg/L)	-187.0 (mV)	1.5 (gal) 0.75
11.95 (°C)	7.10 (std)	2.033 (g/L)	3159 (µS/cm)	.46 (mg/L)	-171.7 (mV)	1.25 (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: ODOR: COLOR: SHEEN Y/N

WEATHER CONDITIONS: TEMPERATURE 70 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 PRINT JOSH RIPPINGER SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES ET AL JOB# 074935

SAMPLE ID: GW-074935-061413-SIC-MW4 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)
6.14.13	6.14.13	905	.45	1.25

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		

FIELD MEASUREMENTS

DEPTH TO WATER 7.40 (feet) WELL ELEVATION (feet)

WELL DEPTH 10.37 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
11.64 (°C)	7.71 (std)	2.157 (g/L)	3364 (µS/cm)	1.5 (mg/L)	345.2 (mV)	0.25 (gal)
11.48 (°C)	7.45 (std)	2.156 (g/L)	3311 (µS/cm)	1.16 (mg/L)	342.2 (mV)	0.75 (gal)
11.14 (°C)	7.68 (std)	1.804 (g/L)	2772 (µS/cm)	.52 (mg/L)	222.8 (mV)	1.25 (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: ODOR: COLOR: SHEEN Y/N

WEATHER CONDITIONS: TEMPERATURE 70 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 PRINT SOM KIRAMER SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al No.1 JOB# 074935
SAMPLE ID: GW-074935-091313-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)
9/13/13	9/13/13	1155	0.31	~~1.00~~ 0.75

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	N/A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER	5.42 (feet)	WELL ELEVATION	(feet)
WELL DEPTH	7.34 (feet)	GROUNDWATER ELEVATION	(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
16.34 (°C)	7.17 (std)	42.773 (g/L)	4267 (µS/cm)	1.32 (mg/L)	399.3 (mV)	0.75 (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: cloudy ODOR: bio COLOR: black SHEEN Y/N slight spotty dirantowes
WEATHER CONDITIONS: TEMPERATURE 70° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no
SPECIFIC COMMENTS:

Dry @ 0.50 gallons, Sample @ 0.75 gallons
Duplicate @ 1200

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

DATE 9/13/13 PRINT Christie Mathews SIGNATURE [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: CHARLES et al No. 1 JOB# 074935

SAMPLE ID: GW-074935-091313-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)
9/13/13	9/13/13	1145	0.38	~~1.25~~ 1.0

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	6	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X= PURGING DEVICE OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	6	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		

FIELD MEASUREMENTS

DEPTH TO WATER 5.09 (feet) WELL ELEVATION (feet)

WELL DEPTH 7.49 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
14.91 (°C)	6.48 (std)	2.411 (g/L)	3698 (µS/cm)	3.54 (mg/L)	-90.3 (mV)	0.75 (gal)
14.92 (°C)	6.56 (std)	2.478 (g/L)	3812 (µS/cm)	2.03 (mg/L)	-114.3 (mV)	1.0 (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)

FIELD COMMENTS

SAMPLE APPEARANCE: ~~Clear~~ Cloudy ODOR: none COLOR: gray brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 70° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

Bailed dry @ 0.5 gallons
Sampled @ 1.0 gallons

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE QA/A PROTOCOLS

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

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al No 1 JOB# 074935

SAMPLE ID: GW-074935-09133-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)
9/13/13	9/13/13	1130	0.42	1.25

PURGING AND SAMPLING EQUIPMENT

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

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

PURGING DEVICE	G	A - SUBMERSIBLE PUMP 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		

FIELD MEASUREMENTS

DEPTH TO WATER	7.77 (feet)	WELL ELEVATION	(feet)
WELL DEPTH	10.38 (feet)	GROUNDWATER ELEVATION	(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
14.61 (°C)	6.58 (std)	2.048 (g/L)	3149 (µS/cm)	3.84 (mg/L)	-67.7 (mV)	0.75 (gal)
14.67 (°C)	7.10 (std)	2.064 (g/L)	3173 (µS/cm)	2.83 (mg/L)	-82.0 (mV)	1.00 (gal)
14.67 (°C)	6.85 (std)	2.059 (g/L)	3168 (µS/cm)	2.59 (mg/L)	-75.4 (mV)	1.25 (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/gray SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 70° 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 9/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al No. 1 JOB# 074935
SAMPLE ID: GW-074935-09313-(M-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)
9/13/13	9/13/13	1125	0.43	1.50

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		

FIELD MEASUREMENTS

DEPTH TO WATER 7.72 (feet) WELL ELEVATION (feet)

WELL DEPTH 10.40 (feet) GROUNDWATER ELEVATION (feet)

1.325

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.42 (°C)	6.84 (std)	2039 (g/L)	2040 (µS/cm)	5.29 (mg/L)	-72.2 (mV)	1.0 (gal)
15.52 (°C)	6.84 (std)	2.435 (g/L)	3746 (µS/cm)	2.54 (mg/L)	-81.7 (mV)	1.25 (gal)
15.41 (°C)	6.91 (std)	2.414 (g/L)	3714 (µS/cm)	2.70 (mg/L)	-82.9 (mV)	1.50 (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 70° 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 9/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: G Charles et al No.1 JOB# 074935

SAMPLE ID: GW-074935-121313-CM-MW1 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)
12/13/13	12/13/13	1645	0.54	1.75

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	N/A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER 3.67 (feet) WELL ELEVATION (feet)

WELL DEPTH 3.07 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
3.56 (°C)	7.24 (std)	3.947 (g/L)	6074 (µS/cm)	3.00 (mg/L)	-280.4 (mV)	1.5 (gal)
4.04 (°C)	7.20 (std)	3.895 (g/L)	5997 (µS/cm)	1.90 (mg/L)	-293.9 (mV)	1.75 (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/particulated ODOR: bio/sulfur COLOR: dark gray SHEEN Y/N no yes slight spotty

WEATHER CONDITIONS: TEMPERATURE 25° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

0.54 x 3 = 1.62

duplicate @ 1650

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

DATE 12/13/13 PRINT Christine Matteucci SIGNATURE Christine Matteucci

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al, No 1 JOB# 074935 (CM)
SAMPLE ID: GW-074935-12313-CM-MW-2 WELL# MW-32

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)
12/13/13	12/13/13	1700	0.624	

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		

FIELD MEASUREMENTS

DEPTH TO WATER 3.55 (CM) (feet) WELL ELEVATION (feet)

WELL DEPTH 13.10 (CM) (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
6.13 (°C)	7.02 (std)	3.585 (g/L)	5517 (µS/cm)	2.86 (mg/L)	116.9 (mV)	1.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	1.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	2.0 (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: bio COLOR: gray brown / lt brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 25° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

0.624 x 3 = 1.872

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

DATE 12/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

10.84 12.18.7

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al No. 1 JOB# 074935

SAMPLE ID: GW-074935-121313-CM-MW-2 WELL# MW-2 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)
12/13/13	12/13/13	1625	0.6	2.0

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

X= _____ PURGING DEVICE OTHER (SPECIFY)

X= _____ SAMPLING DEVICE OTHER (SPECIFY)

X= _____ PURGING MATERIAL OTHER (SPECIFY)

X= _____ SAMPLING MATERIAL OTHER (SPECIFY)

X= _____ PURGE TUBING OTHER (SPECIFY)

X= _____ SAMPLING TUBING OTHER (SPECIFY)

FIELD MEASUREMENTS

DEPTH TO WATER: 6.2 3.35 (CM) (feet) WELL ELEVATION: _____ (feet)

WELL DEPTH: 10.1 7.1 (CM) (feet) GROUNDWATER ELEVATION: _____ (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
5.23 (°C)	6.82 (std)	2.039 (g/L)	3145 (µS/cm)	4.06 (mg/L)	-131.7 (mV)	1.5 (gal)
6.21 (°C)	6.82 (std)	2.177 (g/L)	3345 (µS/cm)	2.90 (mg/L)	-149.6 (mV)	1.75 (gal)
6.40 (°C)	6.83 (std)	2.232 (g/L)	3436 (µS/cm)	2.59 (mg/L)	-150.6 (mV)	2.0 (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: brown SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE 25° WINDY Y/N: no PRECIPITATION Y/N (IF Y TYPE): no

SPECIFIC COMMENTS:

0.6 x 3 = 1.8

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CHAIN OF CUSTODY

DATE 12/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Charles et al No.1 JOB# 074935

SAMPLE ID: GW-074935-121313-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)
12/13/13	12/13/13	1715	0.605	

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		

FIELD MEASUREMENTS

DEPTH TO WATER 6.37 (feet) WELL ELEVATION (feet)

WELL DEPTH 10.15 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
5.62 (°C)	6.99 (std)	5.314 (g/L)	8179 (µS/cm)	3.22 (mg/L)	-142.0 (mV)	1.5 (gal)
5.69 (°C)	6.97 (std)	5.243 (g/L)	8063 (µS/cm)	3.61 (mg/L)	-132.2 (mV)	1.75 (gal)
5.78 (°C)	6.90 (std)	5.112 (g/L)	7872 (µS/cm)	3.05 (mg/L)	-83.9 (mV)	2.0 (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/silty ODOR: none COLOR: brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 60-25° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

0.605 x 3 = 1.815

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

DATE 12/13/13 PRINT Christine Mathews SIGNATURE

Appendix B

Analytical Report

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

April 03, 2013

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

RE: Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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
Cassie Brown, COP Conestoga-Rovers & Associa
Jason Ploss, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 12-019-0
Illinois Certification #: 002885
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-12-3
Utah Certification #: KS000212012-2
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60140781001	**TB-074935-031813-CM-001**	Water	03/18/13 14:00	03/20/13 08:30
60140781002	**GW-074935-031813-CM-DUP**	Water	03/18/13 13:30	03/20/13 08:30
60140781003	**GW-074935-031813-CM-MW-1**	Water	03/18/13 13:25	03/20/13 08:30
60140781004	**GW-074935-031813-CM-MW-2**	Water	03/18/13 13:15	03/20/13 08:30
60140781005	**GW-074935-031813-CM-MW-3**	Water	03/18/13 13:00	03/20/13 08:30
60140781006	**GW-074935-031813-CM-MW-4**	Water	03/18/13 12:40	03/20/13 08:30

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SAMPLE ANALYTE COUNT

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60140781001	**TB-074935-031813-CM-001**	EPA 5030B/8260	PRG	9
60140781002	**GW-074935-031813-CM-DUP**	EPA 5030B/8260	PRG	9
60140781003	**GW-074935-031813-CM-MW-1**	EPA 5030B/8260	PRG	9
60140781004	**GW-074935-031813-CM-MW-2**	EPA 5030B/8260	PRG	9
60140781005	**GW-074935-031813-CM-MW-3**	EPA 5030B/8260	PRG	9
60140781006	**GW-074935-031813-CM-MW-4**	EPA 5030B/8260	PRG	9

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PROJECT NARRATIVE

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 03, 2013

General Information:
6 samples were analyzed for EPA 5030B/8260. 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.

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.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

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

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

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

QC Batch: MSV/52673

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/52699

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Sample: TB-074935-031813-CM-001 **Lab ID: 60140781001** Collected: 03/18/13 14:00 Received: 03/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/29/13 14:26	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/29/13 14:26	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 14:26	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/29/13 14:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		03/29/13 14:26	460-00-4	
Dibromofluoromethane (S)	99	%	80-120		1		03/29/13 14:26	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	80-120		1		03/29/13 14:26	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		03/29/13 14:26	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 14:26		

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Sample: GW-074935-031813-CM-DUP **Lab ID: 60140781002** Collected: 03/18/13 13:30 Received: 03/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**11.4**	ug/L	2.0	0.20	2		04/01/13 12:24	71-43-2	
Ethylbenzene	**89.1**	ug/L	2.0	0.46	2		04/01/13 12:24	100-41-4	
Toluene	**188**	ug/L	2.0	0.30	2		04/01/13 12:24	108-88-3	
Xylene (Total)	**575**	ug/L	6.0	0.82	2		04/01/13 12:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		2		04/01/13 12:24	460-00-4	
Dibromofluoromethane (S)	101	%	80-120		2		04/01/13 12:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	80-120		2		04/01/13 12:24	17060-07-0	
Toluene-d8 (S)	100	%	80-120		2		04/01/13 12:24	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	2		04/01/13 12:24		

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Sample: GW-074935-031813-CM-MW-1 **Lab ID: 60140781003** Collected: 03/18/13 13:25 Received: 03/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**12.0**	ug/L	2.0	0.20	2		04/01/13 12:38	71-43-2	
Ethylbenzene	**87.1**	ug/L	2.0	0.46	2		04/01/13 12:38	100-41-4	
Toluene	**195**	ug/L	2.0	0.30	2		04/01/13 12:38	108-88-3	
Xylene (Total)	**581**	ug/L	6.0	0.82	2		04/01/13 12:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		2		04/01/13 12:38	460-00-4	
Dibromofluoromethane (S)	98	%	80-120		2		04/01/13 12:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	80-120		2		04/01/13 12:38	17060-07-0	
Toluene-d8 (S)	100	%	80-120		2		04/01/13 12:38	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	2		04/01/13 12:38		

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Sample: GW-074935-031813-CM-MW-2 **Lab ID: 60140781004** Collected: 03/18/13 13:15 Received: 03/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/29/13 15:09	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/29/13 15:09	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 15:09	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/29/13 15:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		03/29/13 15:09	460-00-4	
Dibromofluoromethane (S)	102	%	80-120		1		03/29/13 15:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	80-120		1		03/29/13 15:09	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		03/29/13 15:09	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 15:09		

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Sample: GW-074935-031813-CM-MW-3 **Lab ID: 60140781005** Collected: 03/18/13 13:00 Received: 03/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/29/13 15:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/29/13 15:24	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 15:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/29/13 15:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		03/29/13 15:24	460-00-4	
Dibromofluoromethane (S)	100	%	80-120		1		03/29/13 15:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	80-120		1		03/29/13 15:24	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		03/29/13 15:24	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 15:24		

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ANALYTICAL RESULTS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Sample: GW-074935-031813-CM-MW-4 **Lab ID: 60140781006** Collected: 03/18/13 12:40 Received: 03/20/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/29/13 15:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/29/13 15:38	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 15:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/29/13 15:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		03/29/13 15:38	460-00-4	
Dibromofluoromethane (S)	100	%	80-120		1		03/29/13 15:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	80-120		1		03/29/13 15:38	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		03/29/13 15:38	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 15:38		

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QUALITY CONTROL DATA

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

QC Batch: MSV/52673 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60140781001, 60140781004, 60140781005, 60140781006

METHOD BLANK: 1161713 Matrix: Water
Associated Lab Samples: 60140781001, 60140781004, 60140781005, 60140781006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/29/13 13:13	
Ethylbenzene	ug/L	ND	1.0	03/29/13 13:13	
Toluene	ug/L	ND	1.0	03/29/13 13:13	
Xylene (Total)	ug/L	ND	3.0	03/29/13 13:13	
1,2-Dichloroethane-d4 (S)	%	104	80-120	03/29/13 13:13	
4-Bromofluorobenzene (S)	%	103	80-120	03/29/13 13:13	
Dibromofluoromethane (S)	%	101	80-120	03/29/13 13:13	
Toluene-d8 (S)	%	101	80-120	03/29/13 13:13	

LABORATORY CONTROL SAMPLE: 1161714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.9	99	73-122	
Ethylbenzene	ug/L	20	19.9	100	76-123	
Toluene	ug/L	20	20.4	102	76-122	
Xylene (Total)	ug/L	60	60.7	101	76-122	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

QC Batch: MSV/52699
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60140781002, 60140781003

METHOD BLANK: 1162833
Matrix: Water
Associated Lab Samples: 60140781002, 60140781003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	04/01/13 09:43	
Ethylbenzene	ug/L	ND	1.0	04/01/13 09:43	
Toluene	ug/L	ND	1.0	04/01/13 09:43	
Xylene (Total)	ug/L	ND	3.0	04/01/13 09:43	
1,2-Dichloroethane-d4 (S)	%	102	80-120	04/01/13 09:43	
4-Bromofluorobenzene (S)	%	104	80-120	04/01/13 09:43	
Dibromofluoromethane (S)	%	104	80-120	04/01/13 09:43	
Toluene-d8 (S)	%	98	80-120	04/01/13 09:43	

LABORATORY CONTROL SAMPLE: 1162834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.6	108	73-122	
Ethylbenzene	ug/L	20	20.9	105	76-123	
Toluene	ug/L	20	21.6	108	76-122	
Xylene (Total)	ug/L	60	63.7	106	76-122	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Dibromofluoromethane (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALIFIERS

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

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.

BATCH QUALIFIERS

Batch: MSV/52673

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/52699

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CHARLES ET AL NO. 1
Pace Project No.: 60140781

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60140781001	**TB-074935-031813-CM-001**	EPA 5030B/8260	MSV/52673		
60140781002	**GW-074935-031813-CM-DUP**	EPA 5030B/8260	MSV/52699		
60140781003	**GW-074935-031813-CM-MW-1**	EPA 5030B/8260	MSV/52699		
60140781004	**GW-074935-031813-CM-MW-2**	EPA 5030B/8260	MSV/52673		
60140781005	**GW-074935-031813-CM-MW-3**	EPA 5030B/8260	MSV/52673		
60140781006	**GW-074935-031813-CM-MW-4**	EPA 5030B/8260	MSV/52673		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60140781

60140781

Optional
Proj Due Date:
Proj Name:

Client Name: COP CRA NM

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

Tracking #: 8023 6946 6364 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 ☑ Zplk

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

Cooler Temperature: 0.6

Date and initials of person examining contents: 3/20/13 BD

Temperature should be above freezing to 6°C

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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	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: Pace Trip Blank lot # (if purchased): 030413-3	☑Yes ☐No ☐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: 3/21/13

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

Start: 12:30	Start:
End: 12:35	End:
Temp:	Temp:

AT

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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: 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:	Kelly Blanchard, Angela Bown, Cassie Brown
Purchase Order No.:	4517146301
Project Name:	Charles et al No.1
Project Number:	074935

Section C Invoice Information:

Attention:	ENFOS
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 25

REGULATORY AGENCY

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

Site Location STATE: NM

Section D Required Client Information

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

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

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	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~GW-074935-031813-MW-1~~																				
2	~~GW-074935-031813-MW-2~~																				
3	~~GW-074935-031813-MW-3~~																				
4	~~GW-074935-031813-MW-4~~																				
5	~~GW-074935-031813-DUP~~																				
6	TB-074935-031813-CM-001	WT	G			3/18/13	1400		3				X						X		3DG9H 001
7	GW-074935-031813-CM-DUP	WT	G			3/18/13	1330		3				X						X		002
8	GW-074935-031813-CM-MW-1	WT	G			3/18/13	1325		3				X						X		003
9	GW-074935-031813-CM-MW-2	WT	G			3/18/13	1315		3				X						X		004
10	GW-074935-031813-CM-MW-3	WT	G			3/18/13	1300		3				X						X		005
11	GW-074935-031813-CM-MW-4	WT	G			3/18/13	1240		3				X						X		006
12																					

60140781

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	CRA	3/19/13	1600		3/20/13	8:30

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CALE KANACK

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/19/13

*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

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July 01, 2013

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

RE: Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 15, 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
Cassie Brown, COP Conestoga-Rovers & Associa
Jason Ploss, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

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: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60147049001	**GW-074935-061413-JK-MW 1**	Water	06/14/13 09:20	06/15/13 11:40
60147049002	**GW-074935-061413-JK-MW 2**	Water	06/14/13 09:10	06/15/13 11:40
60147049003	**GW-074935-061413-JK-MW 3**	Water	06/14/13 09:30	06/15/13 11:40
60147049004	**GW-074935-061413-JK-MW 4**	Water	06/14/13 09:05	06/15/13 11:40
60147049005	**GW-074935-061413-JK-DUP**	Water	06/14/13 08:00	06/15/13 11:40
60147049006	**TRIP BLANK**	Water	06/14/13 08:00	06/15/13 11:40

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SAMPLE ANALYTE COUNT

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60147049001	**GW-074935-061413-JK-MW 1**	EPA 5030B/8260	PRG	9
60147049002	**GW-074935-061413-JK-MW 2**	EPA 5030B/8260	PRG	9
60147049003	**GW-074935-061413-JK-MW 3**	EPA 5030B/8260	PRG	9
60147049004	**GW-074935-061413-JK-MW 4**	EPA 5030B/8260	PRG	9
60147049005	**GW-074935-061413-JK-DUP**	EPA 5030B/8260	PRG	9
60147049006	**TRIP BLANK**	EPA 5030B/8260	PRG	9

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PROJECT NARRATIVE

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: July 01, 2013

General Information:
6 samples were analyzed for EPA 5030B/8260. 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.

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.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

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

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

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

QC Batch: MSV/54513

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/54523

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Sample: GW-074935-061413-JK-MW 1 **Lab ID: 60147049001** Collected: 06/14/13 09:20 Received: 06/15/13 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**174**	ug/L	5.0	0.30	5		06/25/13 06:56	71-43-2	
Ethylbenzene	**668**	ug/L	5.0	0.90	5		06/25/13 06:56	100-41-4	
Toluene	**1410**	ug/L	20.0	3.4	20		06/25/13 21:07	108-88-3	
Xylene (Total)	**3260**	ug/L	60.0	8.4	20		06/25/13 21:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		5		06/25/13 06:56	460-00-4	
Dibromofluoromethane (S)	101	%	80-120		5		06/25/13 06:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	80-120		5		06/25/13 06:56	17060-07-0	
Toluene-d8 (S)	102	%	80-120		5		06/25/13 06:56	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	5		06/25/13 06:56		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Sample: GW-074935-061413-JK-MW 2 **Lab ID: 60147049002** Collected: 06/14/13 09:10 Received: 06/15/13 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/25/13 07:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/25/13 07:11	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/25/13 21:21	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/25/13 21:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%	80-120		1		06/25/13 07:11	460-00-4	
Dibromofluoromethane (S)	102	%	80-120		1		06/25/13 07:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	80-120		1		06/25/13 07:11	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		06/25/13 07:11	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/25/13 07:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Sample: GW-074935-061413-JK-MW 3 **Lab ID: 60147049003** Collected: 06/14/13 09:30 Received: 06/15/13 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/25/13 07:25	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/25/13 07:25	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/25/13 07:25	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/25/13 07:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		06/25/13 07:25	460-00-4	
Dibromofluoromethane (S)	94	%	80-120		1		06/25/13 07:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	80-120		1		06/25/13 07:25	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		06/25/13 07:25	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/25/13 07:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Sample: GW-074935-061413-JK-MW 4 **Lab ID: 60147049004** Collected: 06/14/13 09:05 Received: 06/15/13 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/25/13 21:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/25/13 21:36	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/25/13 21:36	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/25/13 21:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		06/25/13 21:36	460-00-4	
Dibromofluoromethane (S)	102	%	80-120		1		06/25/13 21:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	80-120		1		06/25/13 21:36	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		06/25/13 21:36	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/25/13 21:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Sample: GW-074935-061413-JK-DUP **Lab ID: 60147049005** Collected: 06/14/13 08:00 Received: 06/15/13 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**189**	ug/L	5.0	0.30	5		06/25/13 21:51	71-43-2	
Ethylbenzene	**742**	ug/L	5.0	0.90	5		06/25/13 21:51	100-41-4	
Toluene	**2020**	ug/L	25.0	4.2	25		06/26/13 12:16	108-88-3	
Xylene (Total)	**4170**	ug/L	75.0	10.5	25		06/26/13 12:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	114	%	80-120		5		06/25/13 21:51	460-00-4	
Dibromofluoromethane (S)	100	%	80-120		5		06/25/13 21:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	80-120		5		06/25/13 21:51	17060-07-0	
Toluene-d8 (S)	108	%	80-120		5		06/25/13 21:51	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	5		06/25/13 21:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Sample: TRIP BLANK **Lab ID: 60147049006** Collected: 06/14/13 08:00 Received: 06/15/13 11:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/25/13 19:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/25/13 19:54	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/25/13 19:54	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/25/13 19:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		06/25/13 19:54	460-00-4	
Dibromofluoromethane (S)	102	%	80-120		1		06/25/13 19:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	80-120		1		06/25/13 19:54	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		06/25/13 19:54	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/25/13 19:54		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

QC Batch: MSV/54513 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60147049001, 60147049002, 60147049003

METHOD BLANK: 1210012 Matrix: Water
Associated Lab Samples: 60147049001, 60147049002, 60147049003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/25/13 02:34	
Ethylbenzene	ug/L	ND	1.0	06/25/13 02:34	
Toluene	ug/L	ND	1.0	06/25/13 02:34	
Xylene (Total)	ug/L	ND	3.0	06/25/13 02:34	
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/25/13 02:34	
4-Bromofluorobenzene (S)	%	105	80-120	06/25/13 02:34	
Dibromofluoromethane (S)	%	96	80-120	06/25/13 02:34	
Toluene-d8 (S)	%	103	80-120	06/25/13 02:34	

LABORATORY CONTROL SAMPLE: 1210013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.0	95	73-122	
Ethylbenzene	ug/L	20	19.1	95	76-123	
Toluene	ug/L	20	18.8	94	76-122	
Xylene (Total)	ug/L	60	57.8	96	76-122	
1,2-Dichloroethane-d4 (S)	%			106	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			103	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

QC Batch: MSV/54523 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60147049001, 60147049002, 60147049004, 60147049005, 60147049006

METHOD BLANK: 1210238 Matrix: Water
Associated Lab Samples: 60147049001, 60147049002, 60147049004, 60147049005, 60147049006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/25/13 19:25	
Ethylbenzene	ug/L	ND	1.0	06/25/13 19:25	
Toluene	ug/L	ND	1.0	06/25/13 19:25	
Xylene (Total)	ug/L	ND	3.0	06/25/13 19:25	
1,2-Dichloroethane-d4 (S)	%	99	80-120	06/25/13 19:25	
4-Bromofluorobenzene (S)	%	100	80-120	06/25/13 19:25	
Dibromofluoromethane (S)	%	102	80-120	06/25/13 19:25	
Toluene-d8 (S)	%	97	80-120	06/25/13 19:25	

LABORATORY CONTROL SAMPLE: 1210239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.3	97	73-122	
Ethylbenzene	ug/L	20	20.3	102	76-123	
Toluene	ug/L	20	19.1	95	76-122	
Xylene (Total)	ug/L	60	61.2	102	76-122	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			96	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			102	80-120	

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QUALITY CONTROL DATA

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

QC Batch: MSV/54549
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60147049005

METHOD BLANK: 1211007 Matrix: Water
Associated Lab Samples: 60147049005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	ND	1.0	06/26/13 09:49	
Xylene (Total)	ug/L	ND	3.0	06/26/13 09:49	
1,2-Dichloroethane-d4 (S)	%	100	80-120	06/26/13 09:49	
4-Bromofluorobenzene (S)	%	103	80-120	06/26/13 09:49	
Dibromofluoromethane (S)	%	94	80-120	06/26/13 09:49	
Toluene-d8 (S)	%	100	80-120	06/26/13 09:49	

LABORATORY CONTROL SAMPLE: 1211008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	19.1	95	76-122	
Xylene (Total)	ug/L	60	59.4	99	76-122	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1211009 1211010

Parameter	Units	60147058011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	4740	4000	4000	8870	8780	103	101	51-147	1	32	
Xylene (Total)	ug/L	1560	12000	12000	13000	13200	96	97	49-145	1	31	
1,2-Dichloroethane-d4 (S)	%						99	99	80-120			
4-Bromofluorobenzene (S)	%						99	103	80-120			
Dibromofluoromethane (S)	%						99	104	80-120			
Toluene-d8 (S)	%						104	101	80-120			

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

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.

BATCH QUALIFIERS

Batch: MSV/54513

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/54523

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 CHARLES ET AL NO 1
Pace Project No.: 60147049

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60147049001	**GW-074935-061413-JK-MW 1**	EPA 5030B/8260	MSV/54513		
60147049001	**GW-074935-061413-JK-MW 1**	EPA 5030B/8260	MSV/54523		
60147049002	**GW-074935-061413-JK-MW 2**	EPA 5030B/8260	MSV/54513		
60147049002	**GW-074935-061413-JK-MW 2**	EPA 5030B/8260	MSV/54523		
60147049003	**GW-074935-061413-JK-MW 3**	EPA 5030B/8260	MSV/54513		
60147049004	**GW-074935-061413-JK-MW 4**	EPA 5030B/8260	MSV/54523		
60147049005	**GW-074935-061413-JK-DUP**	EPA 5030B/8260	MSV/54523		
60147049005	**GW-074935-061413-JK-DUP**	EPA 5030B/8260	MSV/54549		
60147049006	**TRIP BLANK**	EPA 5030B/8260	MSV/54523		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60147049

60147049

Client Name: CoP-CRA NM

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 8011 3631 7381 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: 4.2

Date and initials of person examining contents: 6/15/13

Temperature should be above freezing to 6°C

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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	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: Pace Trip Blank lot # (if purchased): 050613-3	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	3 of 3 TB 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: _____

Temp Log: Record start and finish times when unpacking cooler. if >20 min, recheck sample temps.	
Start: 1243	Start:
End: 1247	End:
Temp:	Temp:

Project Manager Review: AAF Date: 6/17/13

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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: 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:	Kelly Blanchard, Angela Bown, Cassie Brown
Purchase Order No.:	4517146301
Project Name:	Charles et al No.1
Project Number:	074935

Section C Invoice Information:

Attention:	ENFOS
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 25

REGULATORY AGENCY

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

Site Location STATE: NM

Section D Required Client Information

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

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

Requested Analysis Filtered (Y/N)

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60147049
1	GW-074935-061413-JK-MW 1					6-14-13	920			✓		30694 01
2	GW-074935-061413-JK-MW 2					↓	910			✓		02
3	GW-074935-061413-JK-MW 3					↓	930			✓		03
4	GW-074935-061413-JK-MW 4					↓	905			✓		04
5	GW-074935-061413-JK-DUP					↓	—			✓		05
6	TRIP BLANK					↓	—			✓		30694 (TB) 06

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature] CRA	6-14-13	1530	E Brockett / Pace	8/15	1140	4.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JOSH KIRCHNER

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/14/13

*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

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

September 30, 2013

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

RE: Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 14, 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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CERTIFICATIONS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

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: 074935 Charles et al No. 1
Pace Project No.: 60153140

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60153140001	**GW-074935-091313-CM-MW-1**	Water	09/13/13 11:55	09/14/13 08:20
60153140002	**GW-074935-091313-CM-MW-2**	Water	09/13/13 11:45	09/14/13 08:20
60153140003	**GW-074935-091313-CM-MW-3**	Water	09/13/13 11:25	09/14/13 08:20
60153140004	**GW-074935-091313-CM-MW-4**	Water	09/13/13 11:30	09/14/13 08:20
60153140005	**GW-074935-091313-CM-DUP**	Water	09/13/13 12:00	09/14/13 08:20
60153140006	**TB-074935-091313-CM-001**	Water	09/13/13 15:30	09/14/13 08:20

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SAMPLE ANALYTE COUNT

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60153140001	**GW-074935-091313-CM-MW-1**	EPA 5030B/8260	PRG	8
60153140002	**GW-074935-091313-CM-MW-2**	EPA 5030B/8260	PRG	8
60153140003	**GW-074935-091313-CM-MW-3**	EPA 5030B/8260	PRG	8
60153140004	**GW-074935-091313-CM-MW-4**	EPA 5030B/8260	PRG	8
60153140005	**GW-074935-091313-CM-DUP**	EPA 5030B/8260	PRG	8
60153140006	**TB-074935-091313-CM-001**	EPA 5030B/8260	PRG	8

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PROJECT NARRATIVE

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: September 30, 2013

General Information:
6 samples were analyzed for EPA 5030B/8260. 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.

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.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

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

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

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

QC Batch: MSV/56423

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/56498

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Sample: GW-074935-091313-CM-MW-1 **Lab ID: 60153140001** Collected: 09/13/13 11:55 Received: 09/14/13 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**41.4**	ug/L	1.0	0.060	1		09/19/13 21:17	71-43-2	
Ethylbenzene	**123**	ug/L	1.0	0.18	1		09/19/13 21:17	100-41-4	
Toluene	**3240**	ug/L	50.0	8.5	50		09/24/13 00:37	108-88-3	
Xylene (Total)	**4340**	ug/L	150	21.0	50		09/24/13 00:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		09/19/13 21:17	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120		1		09/19/13 21:17	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		09/19/13 21:17	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 21:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Sample: GW-074935-091313-CM-MW-2 **Lab ID: 60153140002** Collected: 09/13/13 11:45 Received: 09/14/13 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/19/13 21:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/19/13 21:32	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/24/13 00:21	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/24/13 00:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		09/19/13 21:32	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	80-120		1		09/19/13 21:32	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		09/19/13 21:32	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 21:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Sample: GW-074935-091313-CM-MW-3 **Lab ID: 60153140003** Collected: 09/13/13 11:25 Received: 09/14/13 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/19/13 21:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/19/13 21:47	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 21:47	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/19/13 21:47	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/19/13 21:47	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	80-120		1		09/19/13 21:47	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/19/13 21:47	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 21:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Sample: GW-074935-091313-CM-MW-4 **Lab ID: 60153140004** Collected: 09/13/13 11:30 Received: 09/14/13 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/19/13 22:02	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/19/13 22:02	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 22:02	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/19/13 22:02	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		09/19/13 22:02	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120		1		09/19/13 22:02	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		09/19/13 22:02	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 22:02		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Sample: GW-074935-091313-CM-DUP **Lab ID: 60153140005** Collected: 09/13/13 12:00 Received: 09/14/13 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**37.2**	ug/L	1.0	0.060	1		09/19/13 22:17	71-43-2	
Ethylbenzene	**126**	ug/L	1.0	0.18	1		09/19/13 22:17	100-41-4	
Toluene	**3300**	ug/L	50.0	8.5	50		09/24/13 00:53	108-88-3	
Xylene (Total)	**4430**	ug/L	150	21.0	50		09/24/13 00:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		09/19/13 22:17	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	80-120		1		09/19/13 22:17	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/19/13 22:17	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 22:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Sample: TB-074935-091313-CM-001 **Lab ID: 60153140006** Collected: 09/13/13 15:30 Received: 09/14/13 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/19/13 22:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/19/13 22:32	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/23/13 22:30	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/23/13 22:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/19/13 22:32	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	80-120		1		09/19/13 22:32	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/19/13 22:32	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 22:32		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

QC Batch: MSV/56423 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60153140001, 60153140002, 60153140003, 60153140004, 60153140005, 60153140006

METHOD BLANK: 1256402 Matrix: Water
Associated Lab Samples: 60153140001, 60153140002, 60153140003, 60153140004, 60153140005, 60153140006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/19/13 21:02	
Ethylbenzene	ug/L	ND	1.0	09/19/13 21:02	
Toluene	ug/L	ND	1.0	09/19/13 21:02	
Xylene (Total)	ug/L	ND	3.0	09/19/13 21:02	
1,2-Dichloroethane-d4 (S)	%	94	80-120	09/19/13 21:02	
4-Bromofluorobenzene (S)	%	104	80-120	09/19/13 21:02	
Toluene-d8 (S)	%	98	80-120	09/19/13 21:02	

LABORATORY CONTROL SAMPLE: 1256403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.1	105	73-122	
Ethylbenzene	ug/L	20	20.9	105	76-123	
Toluene	ug/L	20	21.2	106	76-122	
Xylene (Total)	ug/L	60	63.4	106	76-122	
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			96	80-120	

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QUALITY CONTROL DATA

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

QC Batch: MSV/56498 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60153140001, 60153140002, 60153140005, 60153140006

METHOD BLANK: 1258662 Matrix: Water
Associated Lab Samples: 60153140001, 60153140002, 60153140005, 60153140006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	ND	1.0	09/23/13 22:14	
Xylene (Total)	ug/L	ND	3.0	09/23/13 22:14	
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/23/13 22:14	
4-Bromofluorobenzene (S)	%	103	80-120	09/23/13 22:14	
Toluene-d8 (S)	%	102	80-120	09/23/13 22:14	

LABORATORY CONTROL SAMPLE: 1258663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	20	19.5	98	76-122	
Xylene (Total)	ug/L	60	62.1	104	76-122	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALIFIERS

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

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.

BATCH QUALIFIERS

Batch: MSV/56423

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/56498

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 Charles et al No. 1
Pace Project No.: 60153140

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60153140001	**GW-074935-091313-CM-MW-1**	EPA 5030B/8260	MSV/56423		
60153140001	**GW-074935-091313-CM-MW-1**	EPA 5030B/8260	MSV/56498		
60153140002	**GW-074935-091313-CM-MW-2**	EPA 5030B/8260	MSV/56423		
60153140002	**GW-074935-091313-CM-MW-2**	EPA 5030B/8260	MSV/56498		
60153140003	**GW-074935-091313-CM-MW-3**	EPA 5030B/8260	MSV/56423		
60153140004	**GW-074935-091313-CM-MW-4**	EPA 5030B/8260	MSV/56423		
60153140005	**GW-074935-091313-CM-DUP**	EPA 5030B/8260	MSV/56423		
60153140005	**GW-074935-091313-CM-DUP**	EPA 5030B/8260	MSV/56498		
60153140006	**TB-074935-091313-CM-001**	EPA 5030B/8260	MSV/56423		
60153140006	**TB-074935-091313-CM-001**	EPA 5030B/8260	MSV/56498		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60153140

60153140

Optional
Proj Due Date:
Proj Name:

Client Name: COP CRANM

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

Tracking #: 8030 2502 9666 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 ☑ ZPLS

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

Cooler Temperature: 1.1

Date and initials of person examining contents: 9/14/13 BA

Temperature should be above freezing to 6°C

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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	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: Pace Trip Blank lot # (if purchased): 080513-38FP	☑Yes ☐No ☐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: AMF Date: 9/16/13

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

Start: 1130	Start:
End: 1135	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: / of /

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	COP CRA NM	Report To:	Christine Mathews	Attention:	ENFOS
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.:	4517653459	Pace Quote Reference:	
Phone: (505)884-0672	Fax: (505)884-4932	Project Name:	Charles et al No.1	Pace Project Manager:	Alice Flanagan
Requested Due Date/TAT:	standard	Project Number:	074935	Pace Profile #:	5514, 25

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Requested Analysis Filtered (Y/N)

Section D Required Client Information

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

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

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	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074935-09133-CM-MW-1	WT	G			9/13/13	1155		3				X						X		3pcaH 001
2	GW-074935-09133-CM-MW-2	WT	G			9/13/13	1145		3				X						X		002
3	GW-074935-09133-CM-MW-3	WT	G			9/13/13	1175		3				X						X		003
4	GW-074935-09133-CM-MW-4	WT	G			9/13/13	1130		3				X						X		004
5	GW-074935-09133-CM-DUP	WT	G			9/13/13	1200		3				X						X		005
6	TB-074935-09133-CM-001	WT				9/13/13	1530		3				X						X		006
7																					
8																					
9																					
10																					
11																					
12																					

001531 40

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] /CRA	9/13/13	1600	[signature] /PACE	9/14/13	0820	1.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/13/13

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

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

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December 30, 2013

Jeff Walker
COP Conestoga-Rovers & Associa
6121 Indian School Rd. NE
Ste 200
Albuquerque, NM 87110

RE: Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Dear Jeff Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 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
Christine Matthews, CRA

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

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: 074935 Charles et al No. 1
Pace Project No.: 60159748

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60159748001	**GW-074935-121313-CM-MW-1**	Water	12/13/13 16:45	12/17/13 09:00
60159748002	**GW-074935-121313-CM-DUP**	Water	12/13/13 16:50	12/17/13 09:00
60159748003	**GW-074935-121313-CM-MW-4**	Water	12/13/13 17:15	12/17/13 09:00
60159748004	**GW-074935-121313-CM-MW-2**	Water	12/13/13 17:00	12/17/13 09:00
60159748005	**GW-074935-121313-CM-MW-3**	Water	12/13/13 16:25	12/17/13 09:00
60159748006	**TB-074935-121313-CM-001**	Water	12/13/13 17:30	12/17/13 09:00

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SAMPLE ANALYTE COUNT

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60159748001	**GW-074935-121313-CM-MW-1**	EPA 5030B/8260	PRG	8
60159748002	**GW-074935-121313-CM-DUP**	EPA 5030B/8260	PRG	8
60159748003	**GW-074935-121313-CM-MW-4**	EPA 5030B/8260	JTK	8
60159748004	**GW-074935-121313-CM-MW-2**	EPA 5030B/8260	JTK	8
60159748005	**GW-074935-121313-CM-MW-3**	EPA 5030B/8260	JTK	8
60159748006	**TB-074935-121313-CM-001**	EPA 5030B/8260	JTK	8

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PROJECT NARRATIVE

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: December 30, 2013

General Information:
6 samples were analyzed for EPA 5030B/8260. 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.

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.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits 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.

QC Batch: MSV/58453

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Sample: GW-074935-121313-CM-MW-1 **Lab ID: 60159748001** Collected: 12/13/13 16:45 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**5.3**	ug/L	5.0	5		12/25/13 01:50	71-43-2	
Ethylbenzene	**122**	ug/L	5.0	5		12/25/13 01:50	100-41-4	
Toluene	**188**	ug/L	5.0	5		12/25/13 01:50	108-88-3	
Xylene (Total)	**681**	ug/L	15.0	5		12/25/13 01:50	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	5		12/25/13 01:50	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	80-120	5		12/25/13 01:50	17060-07-0	
Toluene-d8 (S)	95	%	80-120	5		12/25/13 01:50	2037-26-5	
Preservation pH	**1.0**		0.10	5		12/25/13 01:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Sample: GW-074935-121313-CM-DUP **Lab ID: 60159748002** Collected: 12/13/13 16:50 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**7.1**	ug/L	5.0	5		12/25/13 02:04	71-43-2	
Ethylbenzene	**148**	ug/L	5.0	5		12/25/13 02:04	100-41-4	
Toluene	**258**	ug/L	5.0	5		12/25/13 02:04	108-88-3	
Xylene (Total)	**843**	ug/L	15.0	5		12/25/13 02:04	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	5		12/25/13 02:04	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	80-120	5		12/25/13 02:04	17060-07-0	
Toluene-d8 (S)	104	%	80-120	5		12/25/13 02:04	2037-26-5	
Preservation pH	**1.0**		0.10	5		12/25/13 02:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Sample: GW-074935-121313-CM-MW-4 **Lab ID: 60159748003** Collected: 12/13/13 17:15 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/18/13 20:37	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/18/13 20:37	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 20:37	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/18/13 20:37	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		12/18/13 20:37	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		12/18/13 20:37	17060-07-0	
Toluene-d8 (S)	103	%	80-120	1		12/18/13 20:37	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 20:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Sample: GW-074935-121313-CM-MW-2 **Lab ID: 60159748004** Collected: 12/13/13 17:00 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/18/13 20:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/18/13 20:52	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 20:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/18/13 20:52	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		12/18/13 20:52	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		12/18/13 20:52	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		12/18/13 20:52	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 20:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Sample: GW-074935-121313-CM-MW-3 **Lab ID: 60159748005** Collected: 12/13/13 16:25 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/18/13 21:08	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/18/13 21:08	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 21:08	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/18/13 21:08	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		12/18/13 21:08	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		12/18/13 21:08	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		12/18/13 21:08	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 21:08		

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ANALYTICAL RESULTS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Sample: TB-074935-121313-CM-001 **Lab ID: 60159748006** Collected: 12/13/13 17:30 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/18/13 21:23	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/18/13 21:23	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 21:23	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/18/13 21:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	1		12/18/13 21:23	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	80-120	1		12/18/13 21:23	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		12/18/13 21:23	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 21:23		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

QC Batch: MSV/58453 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60159748003, 60159748004, 60159748005, 60159748006

METHOD BLANK: 1308054 Matrix: Water
Associated Lab Samples: 60159748003, 60159748004, 60159748005, 60159748006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/18/13 18:19	
Ethylbenzene	ug/L	ND	1.0	12/18/13 18:19	
Toluene	ug/L	ND	1.0	12/18/13 18:19	
Xylene (Total)	ug/L	ND	3.0	12/18/13 18:19	
1,2-Dichloroethane-d4 (S)	%	95	80-120	12/18/13 18:19	
4-Bromofluorobenzene (S)	%	105	80-120	12/18/13 18:19	
Toluene-d8 (S)	%	100	80-120	12/18/13 18:19	

LABORATORY CONTROL SAMPLE: 1308055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.1	111	73-122	
Ethylbenzene	ug/L	20	21.0	105	76-123	
Toluene	ug/L	20	21.6	108	76-122	
Xylene (Total)	ug/L	60	64.3	107	76-122	
1,2-Dichloroethane-d4 (S)	%			91	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			103	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

QC Batch: MSV/58559
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60159748001, 60159748002

METHOD BLANK: 1311119 Matrix: Water
Associated Lab Samples: 60159748001, 60159748002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/24/13 21:07	
Ethylbenzene	ug/L	ND	1.0	12/24/13 21:07	
Toluene	ug/L	ND	1.0	12/24/13 21:07	
Xylene (Total)	ug/L	ND	3.0	12/24/13 21:07	
1,2-Dichloroethane-d4 (S)	%	104	80-120	12/24/13 21:07	
4-Bromofluorobenzene (S)	%	102	80-120	12/24/13 21:07	
Toluene-d8 (S)	%	99	80-120	12/24/13 21:07	

LABORATORY CONTROL SAMPLE: 1311120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	73-122	
Ethylbenzene	ug/L	20	18.9	95	76-123	
Toluene	ug/L	20	19.5	97	76-122	
Xylene (Total)	ug/L	60	58.3	97	76-122	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1311121 1311122

Parameter	Units	60160130005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	19.5	19.7	98	98	48-150	1	31	
Ethylbenzene	ug/L	ND	20	20	18.7	18.0	94	90	50-147	4	31	
Toluene	ug/L	ND	20	20	19.3	18.4	96	92	51-147	5	32	
Xylene (Total)	ug/L	ND	60	60	55.2	55.2	92	92	49-145	0	31	
1,2-Dichloroethane-d4 (S)	%						100	105	80-120			
4-Bromofluorobenzene (S)	%						101	94	80-120			
Toluene-d8 (S)	%						102	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

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.

BATCH QUALIFIERS

Batch: MSV/58453

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 Charles et al No. 1
Pace Project No.: 60159748

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60159748001	**GW-074935-121313-CM-MW-1**	EPA 5030B/8260	MSV/58559		
60159748002	**GW-074935-121313-CM-DUP**	EPA 5030B/8260	MSV/58559		
60159748003	**GW-074935-121313-CM-MW-4**	EPA 5030B/8260	MSV/58453		
60159748004	**GW-074935-121313-CM-MW-2**	EPA 5030B/8260	MSV/58453		
60159748005	**GW-074935-121313-CM-MW-3**	EPA 5030B/8260	MSV/58453		
60159748006	**TB-074935-121313-CM-001**	EPA 5030B/8260	MSV/58453		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO#: 60159748

60159748

Client Name: CoP CRA NM

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 5689 1279 1241 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-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JN 12/17/13 1140

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: LA / Lot # of added preservative:
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 111313		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: AAA Date: 12/17/13

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

Start: 1135	Start:
End: 1140	End:
Temp:	Temp:

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	COP CRA NM	Report To:	Christine Mathews	Attention:	ENFOS
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.:	4517653459	Pace Quote Reference:	
Phone:	(505)884-0672 Fax: (505)884-4932	Project Name:	Charles et al No.1	Pace Project Manager:	Alice Flanagan
Requested Due Date/TAT:	standard	Project Number:	074935	Pace Profile #:	5514, 25

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 GRAB DATE	COLLECTED COMPOSITE START GRAB 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: 8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~GW-074935-121313-CM-MW-2~~	WT	X	12/13/13	1625				3											
2	GW-074935-121313-CM-MW-1	WT	X	12/13/13	1245				3				X					X		3(0691H) 001
3	GW-074935-121313-CM-DUP	WT	X	12/13/13	1650				3				X					X		002
4	GW-074935-121313-CM-MW-4	WT	X	12/13/13	1715				3				X					X		003
5	GW-074935-121313-CM-MW-2	WT	X	12/13/13	1700				3				X					X		004
6	GW-074935-121313-CM-MW-3	WT	X	12/13/13	1625				3				X					X		005
7	~~GW-074935-121313-CM~~																			
8	TB-074935-121313-CM-001			12/13/13	1730				3				X					X		3(0691H) 006
9																				
10																				
11																				
12																				

60159748

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)
	[signature] / CRA	12/16/13	0930	[signature] / Pace	12/17/13	900	2.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/16/13

*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